

## **LEARY SAYS SUBJECTS IN '60s PRISON DRUG TEST WERE ...**

WP 1/1/94 11:00 PM Leary Says Subjects in '60s Prison Drug Test Were Informed By Gustav Niebuhr Washington Post Staff Writer Timothy F. Leary, the former psychology professor who was once nationally famous as an advocate of psychedelic drugs, said that he had the informed consent of a group of Massachusetts prisoners to whom he gave a hallucinogenic drug in an experiment 30 years ago. "My God, whenever you do any kind of drug research . . . you have to give the patient every kind of (information)," said Leary, who was a Harvard University lecturer when he and others administered the drug psilocybin to inmates at Concord State Prison in 1961-62. The experiment was intended to see if the drug, which has properties similar to LSD, would reduce inmates' criminal behavior. "This was not a researcher from Harvard who went in, dumped a lot of drugs on people and walked away," he said. Reached at his home in Beverly Hills, Calif., Leary, 73, made the remarks in response to an article in yesterday's Boston Globe, which quoted former state prison officials as saying that the prisoners involved might not have been fully told of the drug's effects, including flashbacks. Leary discussed the prison experiment, as well as other experiments using student volunteers, in autobiographies in 1967 and 1982. The article noted recent disclosures that government and academic researchers conducted radiation experiments on hundreds of people in the 1940s and 1950s, some apparently without their knowledge. Richard Doblin, a doctoral student at Harvard's Kennedy School of Government, said he has studied prison records of the experiment, which indicate that the 34 inmates involved "definitely knew" they were going to receive "a psychoactive drug." He said the records show the inmates received between one and four doses of the drug during the experiment. Doblin said he received a letter from one of the participants, who said that he was aware he was taking a mind-altering drug. "I haven't talked to any of the others, but from the written documents, it describes how they were informed about what was going on," Doblin said. He added: "I think any kind of claim that Leary acted as unethically as people who gave radiation (to unknowing subjects) is unwarranted." After Harvard fired Leary in 1963, amid controversy over his use of student volunteers in LSD experiments, his career took many colorful turns. He founded the League for Spiritual Discovery to promote the "religious" use of LSD and, in 1969, had a marijuana conviction overturned by the Supreme Court. He was later convicted again on marijuana charges, escaped to Algeria, then returned and served three years in prison. Asked to describe himself now, Leary said he has "always been a dissident philosopher from the school of Socrates." Copyright 1994 The Washington Post

## **HK POLICE GIVEN ANTI-NUCLEAR PILLS, SAYS NEWSPAPER**

RTw 1/1/94 10:06 PM HONG KONG, Jan 2 (Reuter) - Hong Kong marine police on remote islands near a Chinese nuclear power station have been issued with anti-radiation tablets to be given to the public in case of an accident, a newspaper reported on Sunday. The Sunday Morning Post said a confidential government memo had told police to hand out the tablets immediately after receiving warning of a radiation leak from the Daya Bay plant, due to open soon. A police spokeswoman declined to comment on the report. Last month the government published its contingency plan for coping with a disaster at Daya Bay, a Sino-Hong Kong joint venture sited just over the border in southern China. The 14-page booklet details evacuation plans for the inhabitants of sparsely populated islands and coastal areas within 20 km (12 mile) of the plant. The Sunday Morning Post said the potassium iodine tablets helped to fight absorption of radioactive iodine, one of the gases most likely to leak in an accident. It quoted police on remote Ping Chau island, 12 km (eight miles) from the plant, as saying they had been issued with the tablets this week along with colleagues stationed on two other islands. Few people live permanently on the islands, but thousands of picknickers and campers visit at weekends. Nuclear fuel was loaded at the French-designed Daya Bay plant last May and test generation has begun. It has been plagued by problems since construction began in 1987. The project provoked mass protests in Hong Kong due to safety worries after the 1986 Chernobyl disaster and its completion has been delayed from 1992. The plant, to supply power to south China and Hong Kong, is 25 percent owned by Hong Kong electricity company China Light and Power Co while the rest is held by China. REUTERCOPYRIGHT 1994 Reuters Information Services, Inc. All rights reserved.

## **CLINTON WEIGHS NEXT STEP ON RADIATION TESTS**

RTw 1/1/94 9:42 AM HILTON HEAD, SC, Jan 1 (Reuter) - President Clinton said Saturday he supports Energy Secretary Hazel O'Leary's release of documents disclosing secret Cold War radiation tests on people and said the next step is to decide what to do with the information. "We've got to meet now to assess where we are with the information and where to go next," Clinton told reporters. "I think the secretary of energy has done a good job releasing the documents and I strongly support what's been done," he added. "When I get back at the beginning of the week we are going to have to sit down and decide what to do next." Clinton is on vacation at this resort island and spoke briefly to reporters before a game of golf. It was the first time the president had spoken publicly on the disclosure that secret government radiation

tests were conducted on as many as 800 Americans, including mentally retarded children, during the 1940s and 1950s. Last week the president ordered a White House conference of the four government agencies involved in the experiments. Representatives from the Defence and Energy departments, the National Aeronautics and Space Administration and the Veterans Administration were to meet at the White House on Monday. Clinton told reporters he was not sure whether he would personally attend the session because of meetings he plans to hold on his upcoming trip to Moscow. "I certainly will get a briefing on it," he said. "I am very interested in it." O'Leary has called for compensation for those who were tested, some unwillingly, but a White House official said last week the administration was not at the point of discussing compensation for the test subjects. Defence Secretary Les Aspin ordered the military last Thursday to check all files back to the 1940s to see whether it was involved in conducting radiation tests on people without their knowledge. The Energy Department has estimated 600 to 800 people were subjected to medical radiation tests by the Atomic Energy Commission, mainly in the 1940s and 1950s, and is trying to locate surviving subjects. Some members of Congress are calling for legislation to help the subjects of the tests. But the extent of damages is yet to be established. Frost as well as Senator Edward Kennedy and Representative Ed Markey, both Massachusetts Democrats, called for congressional hearings on the burgeoning scandal over the government experiments. The Justice Department has opposed compensating people exposed to harmful radiation levels, but O'Leary has said Attorney General Janet Reno this week told her she was willing to work on the issue. O'Leary has said she has discussed helping the victims with Budget Director Leon Panetta. REUTERCopyright 1994 Reuters Information Services, Inc. All rights reserved.

### **CLINTON-RADIATION TESTS**

APn 1/1/94 8:23 AM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. HILTON HEAD ISLAND, S.C. (AP) -- President Clinton praised his energy secretary today for opening up government files on Cold War-era radiation tests on humans. Clinton said Hazel O'Leary "has done a good job releasing the documents and I strongly support what's been done... I think it was the appropriate thing to do to release the information." "We're going to have to sit down and decide what to do next" about the tests that began in the 1940s, the president said. The White House has summoned staff from four federal agencies to a meeting Monday to coordinate the release of all information on the tests. "That's our next step," Clinton said. "We've got to meet now and assess where we are, where the information is and where to go next." O'Leary has said as many as 800 experiments were done involving up to 600 people. The president commented while vacationing on this resort island.

### **OFFICIALS MEET MONDAY TO DISCUSS RADIATION EXPERIMENTS**

UPn 12/31/93 1:42 PM By HELEN THOMAS UPI White House Reporter WASHINGTON (UPI) -- Administration officials will gather at the White House Monday to look into the government-sponsored radiation experiments performed on Americans during the Cold War, a spokesman said Friday. A White House spokesman reached at Hilton Head, S.C., where President Clinton is on vacation, said Clinton will not be involved in the meeting that will draw representatives from several Cabinet departments. The official said the "purpose of the meeting is to coordinate the process," in determining what happened in the post-World War II era when the Atomic Energy Commission conducted experiments on the effects of radiation at a number of schools, hospitals, prisons and other facilities. One aspect of the review will be the issue of declassifying documents relating to the experiments, which has already begun under the direction of Energy Secretary Hazel O'Leary. O'Leary also said earlier that compensation should be considered for the victims. Defense Secretary Les Aspin said he is inquiring into whether the military subjected anyone to radiation tests without their consent. The Pentagon said its search would include all records of the military services and the Defense Nuclear Agency going back to the 1940s. The Washington Post reported that Rep. Edward J. Markey, D-Mass. is feeling vindicated concerning a report he issued in 1986, "American Nuclear Guinea Pigs: Three Decades of Radioactive Experiments on U.S. Citizens." In the report, Markey, chairman of a subcommittee on energy and power, denounced the experiments as "repugnant" and "bizarre," and said they were conducted on the terminally ill, on prison inmates and hundreds of others who might have been unable to give informed consent. Copyright 1994 The United Press International

### **PREGNANT WOMEN SAID AMONG U.S. NUCLEAR SUBJECTS**

RTw 12/31/93 10:22 AM BOSTON, Dec 31 (Reuter) - Twenty-three pregnant women were injected with radioactive iron in the 1950s as part of a controversial U.S. government medical research programme whose scope is only now becoming known, a Boston newspaper reported Friday. Others subjected to tests involving nuclear material included mentally retarded teen-agers, older civilians and soldiers, according to recently published accounts that have prompted

President Clinton to assemble a top-level government task force to find out how extensive the programme was. The Boston Globe said at the height of the Cold War doctors at the city's Lying-In Hospital, now part of Brigham and Women's Hospital, shot a radioactive form of iron into 23 pregnant women in order to learn about the blood of the subjects and their fetuses. It said the research involved Dr Constantine Maletskos and was funded by the U.S. Atomic Energy Commission and the Office of Naval Research. The Globe said Maletskos and other researchers wrote articles about their testing in various scientific publications, including the American Journal of Obstetrics and Gynecology and the journal of Radiation Dosemetry. In one 1955 article, the researchers said the dosage of radiated iron given seven times to each of the 23 women was "on average less than that due to natural sources," the Globe reported. Earlier this week Maletskos acknowledged participating in the research, but the 72-year-old doctor told the Boston Herald in Friday's editions he would have no more to say. "I have had four days of it, and I just have been beaten down. I am just plain tired of it," he was quoted as saying. Boston dailies also said that as late as 1965 elderly people in good health were fed radioactive paint chips at New England Deaconess Hospital by scientists, including Maletskos, seeking to find out how long the body retains radioactive materials. In addition, the newspapers said: - Massachusetts General Hospital patients were given radioactive iodine by doctors who said at the time they didn't know what the results would be. - Prior to 1953, the Walter E. Fernald State School supplied mentally retarded patients as research subjects to Beth Israel Hospital. Beth Israel, Brigham and Women's, and Massachusetts General are all now affiliated with Harvard Medical School. "They used us. I remember I pitched a fit at them because I didn't like needles," Charles Dyer, 53, of Salem, Massachusetts, told the Globe. Dyer was the second former inmate at Fernald to complain years later of abhorring needles used by Harvard University and Massachusetts Institute of Technology medical scientists as part of nuclear medicine tests aimed at nutrition studies. With some scientists familiar with the early Cold War medical experiments defending the practices to varying degrees, other medical experts are stepping up the criticism. "All radiation exposure, even for adults 18 and over, whether healthy or not, cannot be considered minimal risk," said Maria Sundquist, assistant manager of a Massachusetts General Hospital board that reviews clinical research. The early researchers have said that levels of dosages of radioactive iron, iodine and other elements given to mentally retarded people and other subjects carried little or no risk of harmful health effects. But as the scope of the research continues to widen -- with the number of those fed radioactive food at the Fernald school now put at 123 -- the Massachusetts Department of Mental Retardation ordered a search of records at all such facilities for evidence of even more nuclear medicine testing. REUTERCopyright 1994 Reuters Information Services, Inc. All rights reserved.

### **RESEARCHER SAYS HE'S TIRED OF QUESTIONS**

UPne 12/31/93 9:00 AM BOSTON (UPI) -- A researcher who took part in radiation experiments in the early days of nuclear medicine says he has been beaten down by questions about the testing and is tired of answering the queries. Constantine Maletskos earlier defended the tests, saying the low levels of radiation were harmless. Copyright 1994 The United Press International

### **ENERGY SECRETARY: DELAY IN DECLASSIFYING RADIATION ...**

UPsw 12/30/93 6:25 PM Energy Secretary: Delay in declassifying radiation documents By JULIANA GRUENWALD WASHINGTON (UPI) -- The Bush administration was told it could release documents revealing the extent of U.S. radiation experiments involving human subjects but apparently did not act to do so, Energy Secretary Hazel O'Leary said Thursday. Documents recently declassified by the Clinton administration show that some 800 people may have been subjected to radiation and nuclear tests, conducted between the 1940s to the 1960s, without their consent. O'Leary told United Press International that during Bush's administration, the department's Office of Classification, now primarily concerned with declassification, advised department officials by the summer of 1992 that with the end of the Cold War and the collapse of the Soviet Union, documents once thought too vital to national security to make public could be declassified. "That advice was available," coming from people "whose jobs were to classify" such information, O'Leary said during a telephone interview. "It certainly appears no one acted upon" that advice. A woman at the former president's office in Houston said neither he nor his representatives had a response to O'Leary's comments. After a directive from President Clinton last spring for departments to be more open in what information they make public, O'Leary announced Dec. 7 that the Energy Department had directed officials to begin declassifying 32 million pages of documents about the experiments and U. S. nuclear testing. When she made the announcement, O'Leary said the department wanted to "come clean" and satisfy the demands of scientists, health groups and others who had been asking for the information for years. She said Thursday that the department was making an effort to "right the wrongs" of the past. Dr. Ruth Faden, a medical ethicist at Johns Hopkins, is leading the team that is researching the reams of documents. Among the recent revelations: -- Hundreds of pregnant women were given radiation-laced drinks in the 1940s by Vanderbilt University researchers studying

metabolism; --Prisoners in Washington and Oregon were exposed to radiation during experiments without their knowledge; --University researchers in Massachusetts fed dozens of mentally retarded teenagers cereal with radioactive milk or radioactive iron supplements between 1946 and 1956. Most of the experiments were supervised by the Atomic Energy Commission, the Energy Department's predecessor. "I've shared very publicly my own shock and repulsion" to the experiments, O'Leary said. Earlier, she had said if people were "wronged" by such experiments or forced to participate without their consent, they deserved compensation. O'Leary is discussing the compensation issue with officials from Defense and Justice departments, the Office of Budget and Management and the White House. Rep. Martin Frost, D-Texas, has called for congressional hearings to investigate the reports of the experiments. Frost said he talked to O'Leary and she supports his actions. Rep. Ed Markey, D-Mass., also has said he will look into the matter. When asked if government-sponsored experiments done with dangerous materials on unknowing individuals was different from experiments conducted by the Nazis during World War II, O'Leary said she didn't "think it well serves us to make (such) comparisons." "I think we can jump to very extreme and purple language," she said. She added that it's "not acceptable" that U.S. officials didn't apply tighter standards that the country believes it has, standards that the Nazis didn't have when conducting their tests on humans, but that it is something that would not happen today. Copyright 1994 The United Press International

### **ASPIN ORDERS RADIATION TESTING CHECK**

RTw 12/30/93 5:56 PM (Eds: Recasts with Aspin announcement, previous Boston) WASHINGTON, Dec 30 (Reuter) - Defence Secretary Les Aspin ordered the military Thursday to check all files back to the 1940s to see whether it was involved in conducting radiation tests on people without their knowledge. "I am concerned about reports that human beings may have been used in conducting radiation tests without their knowledge," Aspin said. "I want to make sure we explore all avenues to uncover any information held by the Department of Defence that may shed light on these allegations." The Energy Department has estimated 600 to 800 people were subjected to medical radiation tests by the Atomic Energy Commission mainly in the 1940s and 1950s and is trying to locate surviving subjects. Energy Secretary Hazel O'Leary said this week she believes wronged victims are entitled to compensation, but said the administration does not yet have a position on the issue. Earlier Thursday, Representative Martin Frost, a Texas Democrat, said he will introduce legislation to help subjects of the tests. Frost said he does not yet know the cost of his bill, or where the money will come from. "We're looking at a range of questions," he said, including determining how many of the estimated 600 to 800 subjects of medical experiments should be compensated. Frost as well as Senator Edward Kennedy and Representative Ed Markey, both Massachusetts Democrats, also called for congressional hearings on the burgeoning scandal over the government experiments. The Boston Globe reported Thursday that tests on mentally retarded residents at Walter E. Fernald State School were more widespread than previously believed, continuing into the 1960s. Frank Masse, director of radiation protection at the Massachusetts Institute of Technology, which helped direct the experiments, told the Globe that at least 61 children at the school were injected with radioactive isotopes to see how the body absorbs various minerals. On Sunday the newspaper reported that radiation testing at the school had continued from 1946 to 1956 and involved 49 teen-agers who were fed radioactive cereal and milk. The reports indicated that the researchers, from MIT and Harvard University, working with support from the federal government, had not obtained consent forms from the patients or their guardians. Masse told the Globe that MIT officials in the 1940s and 1950s were proud of their work with radioactive isotopes, but blamed school administrators for failing to ensure that the patients' parents and guardians were informed of the tests and had given their consent. "This was a huge new tool. There was no fear. Today's fear of radiation was not present," he was quoted as saying. Masse said MIT's use of Fernald residents continued into the 1960s, requiring them to drink a solution containing radioactive iodine in research centering on the thyroid gland. He said the panel ensured that all test subjects were at least 20 years old and had demonstrated problems with thyroid function. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

### **TEXAS CONGRESSMAN SEEKS HEARINGS ON RADIATION EXPER...**

UPn 12/30/93 12:13 PM Texas congressman seeks hearings on radiation experiments DALLAS (UPI) -- Rep. Martin Frost, D-Texas, has called for congressional hearings to investigate reports that up to 800 people were subjected to government-sponsored radiation experiments after World War II. Frost said Wednesday he has written John Dingell, D-Mich., chairman of the House Energy and Commerce Committee requesting the hearings. "We are outraged by disclosures that Americans, without their informed consent, were used as guinea pigs by government scientists," Frost said. "That's the kind of thing Nazi Germany did during World War II." One man who lives in Frost's district, Elmer Allen, was injected with plutonium in tests at a San Francisco hospital. One of those injections occurred July 18, 1947, three days before his leg was amputated for what doctors described as pre-existing bone cancer. Allen and 17 other patients were not

told the nature of the experiment, his family says. Allen died in 1991 at age 80. His family later contacted Frost. Frost also said he has written legislation that would provide compensation for families of those involved in the tests. Frost said he talked to Energy Secretary Hazel O'Leary and she supports his actions. O'Leary said this week that victims should be compensated and there should be full disclosure of the experiments. Copyright 1994 The United Press International

### **HIGH RADIOACTIVE LEVELS DETECTED AT FRENCH COMPANY**

RTw 12/30/93 9:28 AM GRENOBLE, France, Dec 30 (Reuter) - Radioactivity 200 times greater than normal has been found by experts in the grounds of a French company which specialises in deactivating nuclear installations, local government officials said on Thursday. A spokesman for the Radiacntrôle company, a subsidiary of state-owned Generale des Eaux, said it had no explanation for the contamination of a 50 square metre (59 square yard) area in an industrial estate outside Pierrelatte near Grenoble. An aide to the local prefect (government representative) said radium levels at the site were found to be 200 times above the normal level for the area. The Radiacntrôle spokesman said the company had launched an investigation into the radiation, which was detected on December 21 but made public only on Thursday. He added that a nearby building was used to stock radioactive material but it was inspected regularly and no trace of excessive radioactivity had been found. REUTERCopyright 1994 Reuters Information Services, Inc. All rights reserved.

### **ATOMIC TESTS ON RETARDED CONTINUED INTO 1960S**

RTw 12/30/93 9:22 AM BOSTON, Dec 30 (Reuter) - Radiation experiments on mentally retarded residents at a school in Massachusetts were more widespread than previously believed and continued into the 1960s, the Boston Globe reported Thursday. Frank Masse, director of radiation protection at the Massachusetts Institute of Technology, which helped direct the experiments, told the Globe that at least 61 children at the school were injected with radioactive isotopes to see how the body absorbs various minerals. On Sunday the newspaper reported that radiation testing at the school had continued from 1946 to 1956 and involved 49 teen-agers who were fed radioactive cereal and milk. The reports indicated that the researchers, from MIT and Harvard University, working with support from the federal government, had not obtained consent forms from the patients or their guardians. In what is becoming a major scandal over U.S. involvement in radiation experiments, Energy Secretary Hazel O'Leary said Tuesday her department would locate surviving subjects of the tests and said they may be due government compensation. In recent months reports of radiation testing on Americans have cited experiments from conducting nuclear tests over populated areas to injecting patients, including newborn babies, with plutonium and radioactive iodine. Masse told the Globe that MIT officials in the 1940s and 1950s were proud of their work with radioactive isotopes and would have had no reason to hide it. "This was a huge new tool. There was no fear. Today's fear of radiation was not present," he was quoted as saying. He blamed administrators at the Walter E. Fernald State School for failing to make sure the patients' parents and guardians were fully informed about the experiments and had given their consent. Masse said MIT's use of Fernald residents continued into the 1960s, requiring them to drink a solution containing radioactive iodine in research centering on the thyroid gland. But unlike the 1946 to 1956 experiments using radioactive iron and calcium, the thyroid tests were reviewed by an outside panel before the experiment began, he said. He said the panel ensured that all test subjects were at least 20 years old and had demonstrated problems with thyroid function. Masse said the 1946-56 nutrition experiments involved so little radiation they might still win approval from a review board today. State officials are investigating experiments that took place at Fernald and trying to track down survivors. O'Leary has said she will send a staff member to help investigate the Fernald experiments. Senator Edward Kennedy, a Massachusetts Democrat, said he plans to hold hearings into government-sponsored radiation testing. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

### **UKRAINE TIGHTENS CONTROL OVER NUCLEAR MATERIALS**

RTw 12/30/93 7:33 AM KIEV, Dec 30 (Reuter) - Ukraine has moved to tighten control over its nuclear material amid widespread concern about attempts to smuggle radioactive substances abroad. Interfax-Ukraine news agency said on Thursday the security service and interior ministry had been put in charge of investigating cases of missing or stolen radioactive materials and of monitoring security procedures at Ukraine's five nuclear power stations. The increased controls were ordered by the former Soviet republic's president, Leonid Kravchuk. Last week Ukrainian police seized from smugglers in Odessa 300 grams (10 ounces) of highly radioactive material with an estimated value of \$1.2 million. In October officials announced that an undisclosed quantity of nuclear fuel had been stolen from the Chernobyl nuclear power station, scene of the world's worst nuclear accident in 1986. Earlier this month the government set up a special

body to try to prevent the illegal export of strategic and potentially strategic materials from Ukraine, following news reports that nuclear materials were being smuggled out. REUTERCopyright 1994 Reuters Information Services, Inc. All rights reserved.

### **THE 'GLOW-IN-THE-DARK' FARMER'S TALE**

WP 12/29/93 11:00 PMBy Michael D'Antonio By the time I met him, Tom Bailie had long feared Hanford. The government's sprawling atom bomb complex covered 560 square miles across the Columbia River from his farm in Eastern Washington. Sickly as a child - at one point he was even confined to an iron lung - Bailie grew up to discover he was sterile. Relatives suffered cancer and miscarriages at a startling rate. But no one dared ask out loud if Hanford, with nine nuclear reactors and enormous plutonium processing facilities, was to blame. Ten years ago, when Bailie, now 46, finally began to voice his fears, he was punished by the very community he was trying to protect. For four decades the Atomic Energy Commission and later the Department of Energy insisted that Hanford was safe. The people of the Columbia Basin believed. They scorned Tom Bailie as a traitor and a threat to their sales of wheat, apples and other crops worth millions of dollars. The fact that the government said that Hanford was safe made it easy to dismiss Bailie. He was shunned and physically assaulted. At one point he was forced off a dark country road by a swerving car with a gun-wielding passenger. Others who dared ask if the government was telling the truth about nuclear weapons facilities scattered across the country also endured humiliation and intimidation. Worse, they suffered from illnesses that they suspected were caused by the bomb factories. But with no proof, the Tom Bailies in Washington, Utah, Colorado, Ohio, New Mexico and other states that were home to the bomb factories, were exiled to the lunatic fringe. Tom Bailie's neighbors called him the "glow-in-the-dark farmer." To them he was a troublemaker, an outcast, a liar. But as the truth has emerged in a stream of declassified documents, Bailie and others who once dared to ask questions are being sadly vindicated. Today neighbors know that Bailie and all the other so-called lunatics were right. It was the government that had lied. As documents released by the Department of Energy show, during the 1940s and '50s more than 1,000 civilians were subjects in secret medical experiments involving radioactive substances. At the same time, entire communities, including Tom Bailie's lush valley, were being blanketed by radiation released from the nation's atomic bomb factories. In some cases the emissions were accidental. In other instances the pollution was deliberate. The most infamous intentional release of radiation occurred during Hanford's "Green Run," in which radiation was released so scientists could test devices to measure emissions from Russian nuke factories. The Green Run loosed more than 8,000 curies on Bailie and his neighbors. (In comparison, Three Mile Island involved about 17 curies.) In all, Hanford has put more than 1 million curies of radiation into the Columbia Basin environment. (During one year Hanford released more radiation than Three Mile Island every day.) The public was never told about the hazards, even though Hanford's own scientists raised the matter with government officials several times. About a quarter of a million people lived beneath clouds of radioactivity that emanated from Hanford. Among them were 20,000 children who got a big enough dose to well exceed the level deemed to be a health threat. Tom Bailie, who as a child ate radioactive fish and consumed milk from cows that fed on pastures laced with Iodine 131, is now counted among the most irradiated civilians in the Western world. Though Hanford is by far the worst, other major weapons facilities have also endangered civilian populations. Thousands who were neighbors of these plants are already suffering or reasonably fear that they will come down with radiogenic illnesses. They also fear the hazards left behind by the now-dormant bomb factories. More than 60 of Hanford's high-level waste tanks are known to be leaking, and a couple have the potential to explode and scatter more radiation. The cost of cleaning up the waste left behind at Hanford and across the weapons complex may well be triple the \$200 billion savings and loan bail-out. A scarred environment is not the only legacy of the Cold War. The health of thousands of American citizens has been threatened. More than 1,000 Hanford downwinders are suing for medical care and compensation. At other sites, atomic workers and landowners have filed similar suits. And Energy Secretary Hazel O'Leary, displaying impressive leadership, has already suggested that victims of secret atomic medical experiments should be compensated. But none of the sick and troubled people I have met in my exploration of atomic America would say that compensation is his primary concern. Tom Bailie put it best the last time I saw him. We stood beside his truck on a ridge overlooking a vast orchard, the river and, in the distance, the hulking carcasses of Hanford's retired reactors. Bailie paused for a moment to ponder what kind of justice he sought. "I think someone, maybe even the president, ought to apologize," Bailie told me. "I want him to say, 'Something very wrong was done here to these people, and we're sorry.'" Michael D'Antonio is author of "Atomic Harvest: Hanford and the Lethal Toll of America's Nuclear Arsenal." Copyright 1994 The Washington Post

### **ENERGY SECRETARY ADVOCATES COMPENSATION FOR RADIATI...**

UPn 12/29/93 4:16 PM Energy Secretary advocates compensation for radiation victims WASHINGTON (UPI) -- Energy Secretary Hazel O'Leary favors compensation for people who were exposed to radiation in tests conducted by federal

researchers after World War II, a spokesman said Wednesday. An Energy Department spokesman said O'Leary's "personal viewpoint" was that people may be due compensation if they had been "dealt with wrongly." Reports indicate that many of the research subjects were exposed to radiation without their knowledge or consent. O'Leary told a newspaper interviewer Tuesday that researchers knowingly exposed to radiation up to 800 people in the experiments. "For people who were wronged...it would seem that some compensation is appropriate," O'Leary told The Washington Post. "Let the Congress and the American people determine the level that would be appropriate." A government hotline set up to collect information about human radiation testing has received more than 1,000 calls since it began last Thursday, an Energy Department spokesman said. The tests, which began in the 1940s and continued through the 1960s, were administered by the Atomic Energy Commission, the Energy Department's predecessor. In Massachusetts, officials are looking into reports that 49 retarded boys at a state school were fed radioactive food to test the human digestive system. Officials at hospitals in California, Illinois, Tennessee and elsewhere began searching records for information on other tests involving human subjects and radiation testing. A series of articles that appeared in the Albuquerque Tribune last month documented cases where dozens of people, including prisoners, mental patients and pregnant women, were injected with plutonium. Other documented radiation experiments were conducted on blacks at Vanderbilt University in Tennessee and on prisoners in Oregon and Washington state. The Washington Post also reported that radiation was deliberately injected into the atmosphere in New Mexico, Tennessee and Utah from 1948 to 1952, according to a report from the General Accounting Office. The tests were to determine how far and fast radioactive particles would spread. O'Leary also said she has appointed a non-governmental panel of experts to determine what ethical violations occurred, and a team of researchers to study classified documents determine the extent of the experiments. Copyright 1994 The United Press International

### **RADIATION TESTING PROMPTS NATIONWIDE REACTION**

UPn 12/29/93 3:49 PM By United Press International Individuals who fear they were exposed to harmful radiation, facilities involved in secret research and government officials are all scurrying to learn the scope of the U.S. government's use of human guinea pigs for nuclear testing in the 1940s through the 1960s. The Energy Department received more than 1,000 telephone calls on its "human experimentation hotline," set up last week after the human testing was disclosed. About one-third of the callers believed they were in some way involved in the secret tests, while others called in with concerns about routine radiation exposure such as during medical procedures, a department spokesman said Wednesday. Energy Secretary Hazel O'Leary said that the estimated 800 victims of the testing should be compensated for it. "She has indeed raised the issue," an Energy Department spokesman said Wednesday in reference to comments O'Leary made to the Washington Post. "She made it very plain it is her personal viewpoint" that if after the department gathers data that shows people had been "dealt with wrongly" or misled into participating in such experiments, "than it seems some compensation could well be due." Congress, however, would have to authorize any federal compensation, he said. A Vanderbilt University official said the school should not be held liable for its involvement in radiation testing of pregnant women in the 1940s. "The experiment was done with the best possible controls. I don't feel Vanderbilt has any liability or responsibility to the patients," said James C. Ross, vice chancellor of Vanderbilt's School of Medicine. A University of Chicago official said the question of any compensation would be left to the federal government, which sponsored the radiation research. Also in Chicago, Quaker Oats Co. officials were trying to locate papers that might reveal the company's involvement in a 1946 study in Waltham, Mass., in which 18 mentally retarded teenagers were served cereal with radioactive milk or iron supplements. The study, by Massachusetts Institute of Technology and Harvard University scientists, was intended to show how nutrients were absorbed and processed by the human body. "We have...been going through files hoping to find something that dates back to 1946 to shed light on what was our level of support. We have not found anything that provides the information," said spokesman Ron Bottrell. Another report said a University of Chicago scientist injected three cancer patients with radioactive plutonium to see how the body handled the contaminant. All three died within a year. In California, the University of California, San Francisco, issued a statement pledging cooperation with the Energy Department's investigation into the Cold War-era human testing. A researcher was believed to have injected radioactive strontium into eight cancer patients between 1941 and 1944. One patient recovered after developing lymphoma, a form of cancer. A 13-year-old boy was reported to have received a fatal dose of the element and died three months after his 12th injection. Copyright 1994 The United Press International

### **RADIATION SUBJECT REMEMBERS BLOOD TESTS**

RTw 12/29/93 3:18 PM BOSTON, Dec 29 (Reuter) - A man used as a human guinea pig for secret radiation experiments at a school for the mentally retarded says he was never told he was being subjected to atomic testing, according to a published report Wednesday. The former patient, Louis Frankowski, 53, told the Boston Globe he remembers belonging to a "science club" at the Walter E. Fernald State School, but said club members were never told they

were participating in radiation experiments. School records show Frankowski was one of at least 49 mentally handicapped teen-agers at the school who were fed a variety of radioactive substances by researchers at Harvard University and the Massachusetts Institute of Technology between 1946 and 1956. The "Fernald Science Club," the Globe said, "meant participation in a Massachusetts Institute of Technology and Harvard University nutrition study involving radioactive milk and iron supplements." "They didn't tell me about radioactivity," said Frankowski, who now works in a factory near Boston. "If they did, I would have remembered." He told the newspaper he has no health problems traceable to radiation exposure, which some physicians knowledgeable about the tests have said was minimal. Previous reports have indicated the researchers did not obtain consent forms from the patients or their guardians. On Sunday, the Globe reported the first accounts of the tests in which mentally retarded teen-agers were fed radioactive milk and cereal by Massachusetts researchers. In what is becoming a major scandal over U.S. involvement in the experiments conducted during the 1940s and 1950s, Energy Secretary Hazel O'Leary vowed Tuesday to locate surviving subjects of the tests and said they may be due government compensation. Frankowski said he recalled belonging to the so-called science club, but not getting a club badge or going to a special dinner for male patients December 22, 1952. The Globe says Fernald records list his name as attending the meal at the Massachusetts Institute of Technology. Gerald Ryan, state Department of Mental Retardation spokesman, said there are lists of names and correspondence identifying Fernald patients who belonged to the club. "That's our understanding at this point," Ryan said. "They are the ones who participated in this specific experiment," which involved ingesting radiation-laced milk to trace mineral metabolism. The Globe previously raised questions about the degree of informed consent Harvard and MIT researchers allowed Fernald school inmates and their families who took part in medical tests involving radiated products in 1946-56. The paper quotes another unidentified former Fernald inmate, who worked in the school's blood laboratory, as saying, "They didn't tell you anything. You were a retard." Frankowski, who had cerebral palsy and was committed to the school in 1950 by his father, said Dr Clemens Benda, Fernald chief physician in the 1950s, directed school aides to use his blood. "He (Benda) just wanted to see what type of blood you had, if you had negative or Type O or Type B," Frankowski said. "I didn't like doing it," he said. "They gave you candy every time they took blood out of you." REUTERCopyright 1994 Reuters Information Services, Inc. All rights reserved.

### **BELARUS-RADIOACTIVE TREES**

APn 12/29/93 1:24 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. GOMEL, Belarus (AP) -- Some Christmas trees in the former Soviet republic of Belarus reportedly have been found to be radioactive, apparently because of the 1986 disaster at the Chernobyl nuclear power plant. The Belinform agency said Wednesday that many people preparing for the Russian Orthodox Christmas on Jan. 7 now prefer to buy artificial trees to avoid radiation dangers. A tree bought by one man from a roadside salesman contained "unacceptably high levels of radiation," it said. The man later tested the fir tree with a home dosimeter, and the device "went off the wall." Gomel was among the cities affected by fallout from Chernobyl, the world's worst nuclear accident. And trees, according to Belarus' Forest Institute, are one of the main repositories of radioactive elements. In the former Soviet Union, fir trees were usually put up to mark New Year's Day, following a tradition established by the officially atheist state. But in recent years, many people have begun buying them to celebrate the Russian Orthodox Christmas.

### **U OF C INJECTED PATIENTS WITH PLUTONIUM**

UPce 12/29/93 10:20 AM CHICAGO (UPI) -- The University of Chicago has defended its participation in a 1945 study in which it surreptitiously injected three terminal patients with huge doses of radioactive plutonium. University of Chicago Hospitals spokeswoman Susan Phillips said Tuesday ethical standards for medical research in the 1940s were vastly different. These days, she said, hospitals do not do research on patients without their knowledge and consent. The 1945 study at the university was part of federal research into the body's excretion of plutonium. The federal government needed the information to set worker safety standards for employees building atomic bombs as part of the Manhattan Project. According to a report in the Albuquerque Tribune, 18 patients nationwide were injected with doses of radiation ranging from 57 to 844 times the amount a person would normally receive in a lifetime. The University of Chicago is not the only local institution that apparently took part in secret radioactivity studies on humans. The Boston Globe has reported that Quaker Oats Co. helped fund a study in the late 1940s and 50s in which retarded boys were surreptitiously fed radioactive cereal. A Quaker spokesman said he's not sure whether the company merely provided cereal or allocated a direct grant for the research. The study was conducted by scientists from Harvard University and the Massachusetts Institute of Technology. The two revelations come as the federal government prepares to reveal details of similar studies. U.S. Energy Department officials said earlier this month they are reviewing documents on plutonium studies involving hundreds of



human subjects. According to the published report, researchers at the University of Chicago and three other hospitals injected patients with plutonium and monitored their blood urine and feces to see how much of the radioactive substance remained in their bodies. All three Chicago patients -- a 68-year-old man with chin cancer -- a 56-year-old woman with breast cancer and a young adult male with Hodgkin's disease -- died within a year. Other patients submitted to followup tests at the Argonne National Laboratory in the 1970s, but were never told what the study was about, according to Argonne spokesman Dave Baurac. Copyright 1994 The United Press International

## **U.S. SHOULD PAY VICTIMS, O'LEARY SAYS; ENERGY ...**

WP 12/28/93 11:00 PM U.S. Should Pay Victims, O'Leary Says; Energy Chief Admits 800 Were Deliberately Exposed to Radiation By Gary Lee Washington Post Staff Writer Energy Secretary Hazel R. O'Leary yesterday acknowledged that federal researchers deliberately exposed up to 800 people to radiation in Cold War-era experiments and she recommended financial compensation for victims who suffered damage. "For people who were wronged . . . it would seem that some compensation is appropriate," O'Leary told The Washington Post. "Let the Congress and the American people determine the level that would be appropriate." O'Leary's comments come amid fresh reports that dozens of radiation tests were conducted on Americans, including one 10-year experiment in which more than 30 mentally retarded teenagers in Massachusetts were fed radiation-enriched cereal and other foods. A series of articles published in the Albuquerque Tribune last month documented cases in which dozens of people, including prisoners, mental patients and pregnant women, were injected with radiation-rich plutonium in government-backed tests. The articles sparked renewed interest in the extent to which federal scientists used humans as guinea pigs, often without their knowledge. The Atomic Energy Commission, a forerunner of the Energy Department, oversaw most of the experiments. O'Leary is leading the administration's probe of the reports. O'Leary has appointed a nongovernment panel of ethics experts to determine what ethical violations were committed during the tests and a team of researchers to study classified documents to determine the extent of the experiments. The panel is expected to release its findings in six months. While some of the tests resulted in strides in science, O'Leary said, the circumstances under which some of them took place were not acceptable. "I am appalled by what was done," she said. "Clearly standards were used that should never have been approved." Preliminary estimates suggest that the number of radiation victims should not exceed 800, O'Leary said. A hot line number for callers who believe that were victims of federal radiation experiments has drawn more than 800 calls in two days, a department official said. A third of the callers identified themselves as victims, the official said, while the others wanted to express their disapproval of the experiments. "People are outraged," the official said. "They should be outraged." At the time the experiments were taking place, the federal researcher in charge of radiation experiments warned that conducting the tests could bring comparisons to Nazi experiments on concentration camp prisoners. In a 1950 memo released by department officials and quoted Monday in the New York Times, Shields Warren, a senior Atomic Energy Commission official, said that the medical experiments might have "a little of the Buchenwald effect." Experiments conducted at the Buchenwald concentration camp, including the release of deadly bacteria, killed hundreds of prisoners. Energy Department researchers fielding the calls will research all cases of those who identify themselves as victims, according to officials. To handle the unexpected flood of responses, the department yesterday increased the number of operators handling calls. The number is 1-800-493-2998. An accounting of the number of unwitting victims and the health effects they suffered must be conducted before an estimate can be made of how much damages the federal government might have to pay, O'Leary explained. The government already is making payments to the families of hundreds of people who developed cancer while living downwind of the Nevada nuclear test site during the 1940s and 1950s. Under Energy Department direction, officials are declassifying 32 million pages of documents about the experiments. According to a report in last Sunday's Boston Globe, researchers fed dozens of retarded youths radioactive milk with their cereal at the Massachusetts-based Fernald School from 1946 to 1956. The youths also were given meals laced with radioactive iron. The tests, designed to explore the human digestive system, were funded by the Atomic Energy Commission and Quaker Oats, and conducted by scientists from Harvard University and the Massachusetts Institute of Technology. Letters informing the parents of the experiments did not mention they would involve radiation exposure, the Globe said. In some cases, the youths were given the radiation equivalent of 50 chest X-rays, the newspaper added. Massachusetts' authorities are investigating the reports to determine whether the subjects suffered adverse health effects. Officials are trying to locate the victims, who would be in their 50s and 60s, a spokesman for the Massachusetts Department of Mental Retardation said. Other documented cases of radiation experiments were conducted on African-Americans at Vanderbilt University in Tennessee and on prisoners in Oregon and Washington state. In a dozen secret tests conducted in New Mexico, Tennessee and Utah between 1948 and 1952, radiation was deliberately injected into the atmosphere, according to a General Accounting Office report released two weeks ago. The tests were part of an attempt to determine how far and fast the released radioactive particles spread. The Albuquerque newspaper articles identified five of 18 patients who were injected with plutonium to determine how quickly the body would dissolve the

cancer-causing element. According to the newspaper, the injections, which took place between 1945 and 1947, involved doses of more than 0.3 microcurie, far above levels now considered safe. They were conducted in federal laboratories at different locations. Federal researchers familiar with the radiation experiments pointed out in interviews yesterday that the Cold War included a race between the Soviet Union and the United States for scientific advances, particularly in the field of the effects of radiation on humans. "This is not meant to excuse what was done," said one scientist, who asked not to be identified. "But it may help explain the context in which it took place." Congressional aides said that hearings on the radiation tests will be held soon after Congress reconvenes. Copyright 1994 The Washington Post

## **NUCLEAR UKRAINE**

APn 12/28/93 11:00 PM Copyright 1994. By MARTA KOLOMAYETS Associated Press Writer KIEV, Ukraine (AP) -- Yevhen Loboda, an engineer at the Chernobyl nuclear power plant for 22 years, earns less than the teen-agers who rush out at intersections to wash car windows in Kiev. His monthly pay is worth about \$10, enough to buy 2 1/4 pounds of meat or a tank of gasoline at official prices. Even so, that is nearly triple what the average nuclear worker makes, so he could consider himself lucky. Many of his colleagues are fleeing Ukraine in search of better fortune, leaving the country's 14 old, unsafe nuclear reactors in the hands of people who are increasingly overworked as well as underpaid. "If I were younger, I would have no qualms about leaving here and going to work in Russia," said Loboda, 46. "Their atomic workers are treated much better." Yuri Zorichev of Rosenergoatom, a company that operates Russia's nuclear power plants, said the average wage there was the equivalent of about \$160 a month. Ukraine, a nation of 51.7 million, has a severe energy shortage. Most cities turn off the electricity one day a week for three hours. Kiev's street lights are dimmer. The shortage is a further drag on the slumping economy. Because of a harsh winter and Russia's decision to raise the prices of oil and natural gas by 25 percent to the full world level, Ukraine has turned to nuclear power. Parliament voted Oct. 21 to reverse its earlier decision to close the Chernobyl plant, 90 miles northeast of Kiev, and lifted a moratorium on building new atomic plants. Ukraine bore the brunt of the damage from the explosion and fire at one of Chernobyl's four reactors in April 1986. Although the official death toll is only 31, Ukraine's Chernobyl Ministry says at least 50,000 people have died of ailments related to the world's worst commercial nuclear accident. More than 2.8 million, including 600,000 children, have cancers, thyroid problems or other illnesses attributable to the accident and 100,000 people lost their homes in the contaminated region, according to the ministry. Many Ukrainians are uneasy about relying on nuclear energy, which supplies one-third of their electricity. International experts say the 14 working reactors are unsafe, and environmental groups have urged that they be shut down. Ukraine is doubly dependent since Russia supplies nearly all of its nuclear fuel and the natural gas it uses to generate power. "We inherited this nuclear system from Moscow, and now we're dependent on Russia," said Yuriy Kostenko, Ukraine's environment minister. "Our reactors are not very effective, not very safe." Kostenko said he favored replacing the old reactors with modern units from Canada, but the chances of buying hugely expensive reactors are slim in view of the economic crisis. "Ukraine's economic state does not allow it to have such grand nuclear ambitions and plans," said Hanna Tsvitkova, an expert with Greenpeace, the international environmental group. "To modernize nuclear plants, Ukraine needs money it doesn't have." Ukraine does not even have the money to modernize the old plants, which could cost billions, or pay decent wages to their staffs. "Today, our top experts defect and Russia gladly accepts them," said Valery Bronikov, director of the Zaporizhzhia nuclear plant, which has five working reactors and plans to have a sixth operating soon. "We used to have seven shifts," he said. "Now, we are reduced to four. How will we be able to put the sixth block on line?" According to Greenpeace, 1,100 nuclear plant workers -- including 147 of Loboda's most experienced colleagues at Chernobyl -- left their jobs for Russia or other work in the first nine months of 1993. Despite the difficulties and dangers, Ukrainian officials are optimistic about nuclear power. "Atomic energy was neglected by Ukraine, but only the nuclear plants can solve our country's energy problems at the highest levels," said Mykhailo Umanets, president of the State Committee on Nuclear Energy. Loboda believes, however, that unless Ukraine's economy improves quickly, life will only get worse for workers at the nuclear plants. "For the most part, only the experts -- the highly qualified -- leave for jobs in Russia," he said. "The rank and file don't go." "Today, already we have problems keeping the supervisors of the shifts and division heads at their jobs. We are already dealing with shortages in personnel. But I think in the spring, it will be a lot worse." End Adv for Wed PMs Dec 29

## **UCSF TO COOPERATE WITH PROBE INTO HUMAN EXPERIMENTS**

UPn 12/28/93 9:19 PM SAN FRANCISCO (UPI) -- The University of California's San Francisco Hospital said Tuesday it would cooperate with investigators probing reports that some of its patients were used as human guinea pigs in U.S. government-sponsored radiation experiments in the 1940s. The university's news office issued a statement pledging it will "certainly comply" with requests for information about the experiments at the hospital, revealed Tuesday in several published reports. The reports claim that a now-deceased researcher injected eight cancer patients with radioactive

materials between 1941 and 1944. One of the patients, a 13-year-old boy suffering from skull cancer, received 18.9 millicuries of radioactive strontium in 12 injections in 1941-42, an exposure now regarded as fatal. The boy died three months after the final injection but the cause of his death was listed as "exhaustion" and "intracranial pressure," according to the reports. The researcher's records also show radioactive materials were injected into seven other people, including one who recovered from a form of lymphoma. State authorities in Waltham, Mass. are investigating claims that 49 retarded boys at a state school were fed radioactive food to test the human digestive system in a post-World War II experiment. Investigators said they were trying to track down the patients to see if any died or suffered ill effects from the U.S. Atomic Energy Commission-sponsored tests that began in 1946 and ran through 1956. The U.S. government set up a hotline last week to collect information about human radiation testing during the 1950 and 1960s, and received more than 300 calls during the first four days. Copyright 1994 The United Press International

## **RADIATION SCIENTISTS SLOW TO ACCEPT CONSENT RULES**

RTw 12/28/93 5:12 PM By Andrew Stern CHICAGO, Dec 28 (Reuter) - Barely years after the Nazis committed atrocities in the name of science, U.S. researchers conducted experiments on unwitting or misinformed subjects, and only recently has there been a significant change in the scientific community. "We tried and hung people in Germany for crimes that had echoes in this country," said Arthur Caplan, an expert on medical ethics, on recent disclosures that children were fed radioactive cereal and human guinea pigs were injected with plutonium without their consent. At the end of the Nuremberg trials for Nazi war criminals, American judges helped write the Nuremberg Code, which called on scientists to adhere to humanitarian principles in any experiments using human subjects. "To be fair, those codes of ethics were in response to Nazi atrocities and were not taken seriously in America by scientists," Caplan of the University of Minnesota said. "Nevertheless, given the revelations about plutonium studies, we were in our rhetoric and in our formal statements hypocritical," he said. Rules enacted since World War Two sharpened the scrutiny over scientific research by requiring that human subjects be informed and grant their consent to be studied, that health risks be minimal and that independent review boards oversee the experiments. But the scientific community was very slow to accept those rules. The revelations that unwitting human subjects were injected with plutonium in the 1940s and 1950s prompted U.S. Energy Secretary Helen O'Leary Tuesday to recommend that Congress offer compensation to the victims' families. The scientists who conducted the experiments said they were unaware of the dangers, but a memo brought to light this week showed that officials at the Atomic Energy Commission knew the risks and ramifications. "The dangers of radiation were known then. We didn't do X-rays on pregnant women and it had been well-recognized that workers who painted radium watch dials often contracted cancer," said Dr John Glasson, chairman of the American Medical Association's council on ethical and judicial affairs. "There's a lot more consciousness of the principle of informed consent (now) than there was 30 to 40 years ago," Glasson said. The Boston Globe disclosed Sunday that 19 retarded children in Fernald, Mass, had radioactive materials added to their breakfast cereal to track the progress of the materials through their digestive systems. Neither they nor their parents were told. From 1959 to 1966, retarded children at Willowbrook on Staten Island, N.Y. were deliberately infected with a hepatitis virus without their knowledge. In the so-called Tuskegee Study, which continued for four decades until 1972, black men infected with syphilis were lied to and told they were receiving treatment, when in fact public health researchers were studying the disease's progress. Many experiments that used humans as guinea pigs were often scientifically flawed and poorly planned, and produced useless results, Caplan said. It was not until Harvard researcher Henry Beecher described a dozen unethical experiments in a 1966 New England Journal of Medicine article that the scientific community responded. But medical atrocities continued in the public and private realm, experts said. Harvey Wachsman, a doctor, attorney and author of the forthcoming book "Lethal Medicine," detailed the case of a Dayton, Ohio, obstetrician who disfigured hundreds of women during the 1970s and 1980s by operating on their genitals. "He thought he was experimenting, improving on God's work by making them more sexually attractive and putting an end to wife-beating," Wachsman said. "These women couldn't have sex, they had pain. Some had the nerves to their bladders cut." In most such cases, the legal statute of limitations has expired and victims and their families have no recourse unless Congress or the courts open a legal window, or the offending company or hospital offers compensation, Wachsman said. He has secured a legal exemption for the women in the Ohio case. In cases where the human subjects are soldiers, as in the often disastrous U.S. Army experiments with the hallucinogenic drug LSD, there is no legal recourse unless Congress acts. In the era of AIDS, federal regulations that call for independent scientific review boards and which often require animal tests before human trials, have become controversial as the race to find a cure has created a vocal group advocating quicker approval of drugs and testing on humans. REUTERCOPYRIGHT 1994 REUTERS INFORMATION SERVICES, INC. All rights reserved.

## **UKRAINE DENOUNCES ``MISINFORMATION'' ABOUT CHERNOBYL**

RTna 12/28/93 2:06 PM KIEV, Ukraine (Reuter) - Ukraine denounced "misinformation" about the Chernobyl nuclear power plant Tuesday, accusing scientists of issuing unnecessarily alarming reports of a new radioactive threat. Oleh Nasvit, an official at Ukraine's Chernobyl Ministry, denounced a statement from Russian scientist Valery Kopeykin that unforeseen health threats were yet to emerge from the 1986 Chernobyl disaster, the world's worst nuclear accident. "Remember the boy who cried wolf? Valery Kopeykin is this boy," Nasvit told a news conference. Kopeykin said earlier this month that radioactive americium, a byproduct of plutonium, was migrating rapidly from the Chernobyl area and threatening to pollute ground water. Kiev, with a population of 3.5 million, is located some 80 miles from the Chernobyl atomic power station. Deputy Chernobyl Minister Borys Prister, flanked by nine ministry officials and scientists, said he had called the news conference to clear up "misinformation." "We knew about americium from the very beginning -- how much was expelled from Chernobyl, and how much is on the ground," Prister said. He said cesium and strontium, which build up in human bones, were much more cause for alarm. Ivan Los, a physician, said the americium posed no dangers and demanded no immediate action. "If all the plutonium and americium was swept from the 19-mile zone (surrounding the Chernobyl station) and it entered the organisms of all Ukrainians, it would have the same effect as watching television for four hours," Los said. REUTERCOPYRIGHT 1994 Reuters Information Services, Inc. All rights reserved.

### **NRC BLAMES TURBINE FAILURE FOR FERMI FIRE**

UPce 12/27/93 5:18 PM NEWPORT, Mich. (UPI) - The Nuclear Regulatory Commission says a shattered turbine apparently sparked a fire that is expected to cripple the Fermi Two nuclear power station for at least the next several months. But NRC spokesman Jan Strasma says quick-thinking plant operators shut down the reactor in plenty of time to prevent radiation from leaking after the Christmas Day mishap. The fire occurred in the generator section of the plant, about 20 miles southwest of Detroit, and was extinguished by workers. The reactor is in a separate area and was never threatened. Two NRC inspectors have been assigned to monitor recovery work at the plant, the only nuclear plant owned by Detroit Edison. A Detroit Edison spokeswoman said the cost of the plant damage had not been determined. But she said it would be months before the reactor would be able to generate electricity again. Strasma said a special team of NRC investigators will arrive next week to study the circumstances surrounding the accident and the operators' response. A preliminary probe determined that the plant operators "responded very well" to the accident, Strasma said. He said Fermi Two's safety record "has been average to above average" in the past. An alert was sounded at the plant when the low-pressure turbine began vibrating and then shut down, the NRC report said. A part of the turbine that broke off was thrown through a casing and landed 75 feet away, it said. Strasma said it's unclear how the fire started and whether oil or another material burned before workers snuffed it out. But he said there was evidence that some generator-cooling hydrogen gas had burned. Copyright 1994 The United Press International

### **MUCH OF RUSSIA ENVIRONMENTAL DISASTER--MINISTER**

RTw 12/27/93 7:57 AM MOSCOW, Dec 27 (Reuter) - About 15 percent of Russia's territory can be considered an environmental disaster zone, Itar-Tass news agency quoted Environment Minister Viktor Danilov-Danilyan as saying on Monday. The minister told Tass that some 100,000 people lived on land where radiation levels were too high. Half of Russia's 222 million hectares (550 million acres) of arable land was unsuitable for farming and only one fifth of industrial waste was adequately treated, he said. Ecological problems have become a major issue in Russia since once-secret data on the issue were made public during the reforms of former Soviet leader Mikhail Gorbachev in the second half of the 1980s. Secret nuclear tests and accidents at nuclear research stations polluted hundreds of rivers and vast areas of land with radiation in the Soviet era. Planners neglected environmental safety in favour of rapid industrialisation. Danilov-Danilyan described the current situation in the environment as "very grave" and said no improvement could be expected before 1995. REUTERCOPYRIGHT 1994 Reuters Information Services, Inc. All rights reserved.

### **BRF--KAZAKHSTAN-REACTOR FIRE**

APn 12/27/93 3:42 AM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. ALMA ATA, Kazakhstan (AP) -- A short circuit sparked a fire in the control unit of a fast breeder reactor in Kazakhstan, but officials said no significant amount of radiation was released. The BN-350 reactor, which is fueled by a mixture of uranium and plutonium, is reportedly used to power a water desalinization plant on the Caspian Sea near the town of Aktau. It began operating in 1972. The ITAR-Tass news agency said today that the fire broke out Friday during routine maintenance work. The reactor was restarted after the work was completed, it said.

## **UPDATING NUCLEAR STRATEGY**

WP 12/23/93 11:00 PM SLOWLY THE Pentagon is coming to terms with the disappearance of the Soviet strategic missile threat. In one adjustment, the United States proposes to loosen the 1972 Anti-Ballistic Missile (ABM) Treaty to permit a more effective defense against threats from other countries with lesser nuclear arsenals. In another, defense officials are exploring ways to alter the chilling fact that Russia and America continue to maintain, on a hair trigger, Cold War-sized nuclear forces trained on each other. The ABM Treaty change now contemplated is meant to keep intact the ban on a continental defense against long-range nuclear missiles. Thus it leaves intact the theory of mutual assured destruction on which this treaty rests. The proposed treaty change would permit, however, a better defense of specific American and allied targets against shorter-range missiles. The latter are the weapons that the North Koreans and Iraqs might yet acquire. The change is directly responsive to the new international environment. But there is a flurry over how to make it. The Clinton administration means not to alter the treaty by amendment, which would require Senate consent. Instead, it intends to seek the Russians' approval for a new reading, one permitting theater defense, in the reasonable expectation that Russians share the American fear that nuclear weapons will fall into less responsible hands. The change has stirred the passionate corps of ABM Treaty proponents, who fear that even a modest fix will unravel the whole structure. The change also troubles those in the Senate who regard the treaty as a benchmark in Congress's struggle with the executive over foreign policy powers. That the still-huge Russian and American strategic forces remain on a hair trigger is something that cries out for review. The modest idea now being considered in the administration is to retarget these forces. Both countries' missile-aim points would be shifted to remote, supposedly people-free places, like oceans. No real deterrence capability would be lost: The old aim points could be restored by computer within the flight time of a long-range missile launched against an American target. But some symbolic comfort might be gained and the atmosphere improved for further review. The United States spent decades acquiring the weapons and developing the strategies to protect American interests in the Cold War. Caution as well as institutional momentum will militate against these being quickly changed. But there really is no more important subject than this one and no more important government business than revising American nuclear policy to make it relevant to the new world we live in. Copyright 1994 The Washington Post

## **UKRAINE PLUNGES FROM BRIGHT PROSPECT TO BASKET CASE**

UPn 12/23/93 9:20 AM UPI 1993 Yearender (1,000) release at will By ROMA IHNATOWYCH KIEV (UPI) -- For awhile, early in 1993, it seemed as if Europe's second-largest nation might turn out to be a post-Soviet success story. Prime Minister Leonid Kuchma's reformist government was in power and the country's economy appeared to be stabilizing. Ukraine's transitional currency, the karbovanetz, was getting stronger, inflation was down and privatization was under way with the first small-scale auction of businesses taking place in February. Talks with Russia over the disputed Black Sea Fleet were progressing. The only major irritant seemed to be Ukraine's unwillingness to ratify the Strategic Arms Reductions Talks, START I, disarmament accord. Then, just a few months later, everything came crashing down. A leadership crisis pitted the country's conservative president, Leonid Kravchuk, against the reformist Kuchma in a struggle for supreme power that effectively paralyzed governance in the nation of 52 million people. The crisis began when Kuchma sought an extension of the six-month emergency powers granted him by Parliament to rescue the economy. Kravchuk, meanwhile, asked Parliament to increase his own authority at the expense of the prime minister's, prompting Kuchma to announce his resignation. Parliament's reaction only added to the confusion. Legislators rejected Kuchma's resignation, but refused to grant him emergency powers. They also rebuffed the president's request for prerogatives. The result was a lame-duck prime minister in office virtually against his will, and a president who kept a covetous eye on his powers. The political deadlock continued until September, when Parliament finally consented to Kuchma's resignation. But the economy had entered a downward spiral that continued until the end of the year. The political horse-trading in Kiev, as well as plummeting living standards, pushed coal miners in the eastern Donbass region into a political strike that closed down most of the country's 224 coal mines for 10 days and almost brought the economy to a standstill. Lawmakers had no choice. They met the miners' demands for a referendum on confidence in the government. The plebiscite was scheduled for Sept. 26, but when it looked like Parliament was backing away from its pledge, the strike threats resumed and reluctant lawmakers agreed to early parliamentary and presidential elections. Ukraine is now set to vote for a new Parliament on March 27, to be followed by a presidential poll June 26. With its economy in tatters, Ukraine almost lost its share of the former Soviet Black Sea Fleet. Ukraine initially agreed to divide the fleet equally with Russia, but when the two countries' presidents met in the Crimea in September, Kravchuk consented to hand over the entire fleet to Moscow to offset Ukraine's huge oil and gas debts to Russia. Returning to Kiev amid cries of "traitor," Kravchuk tried to backpedal by making the agreement contingent upon parliamentary ratification. Parliament refused. In the fall, economic and political

problems were temporarily pushed out of the spotlight as a group of cult followers known as the White Brotherhood announced that the end of the world would take place on Nov. 14. Kiev was hit with cult fever as members of the sect flocked downtown and declared they would stage a mass suicide. Within weeks, police rounded up and detained more than 800 White Brothers, including the cult's two leaders. The end of the world came and went, leaving Ukraine to deal with a host of other problems. Undoubtedly the biggest headache for Ukraine was START I. After months of delay, Parliament finally gave its blessing to the document in late November. However, the ratification -- contingent on 13 conditions -- did not bring the country any closer to ridding itself of its 176 strategic nuclear missiles. The conditions included security guarantees from other nuclear powers, financial compensation for weapons transferred to Russia, and more aid. The United States offered \$175 million to help with disarmament, a far cry from the \$2.8 billion Ukraine said it needs to dismantle all the weapons. In recent talks between Ukraine, Russia and the United States over compensation, negotiators failed to come to a decisive agreement. Ukraine's economy ended the year in catastrophe. Inflation was hitting 90 percent a month, production was collapsing and the country did not even have enough funds to pay for fuel imports from Russia. With the resulting fall in energy supplies, Ukraine reduced central heating, limited television to evening broadcasts and halted electricity exports to the West. The most unpopular decision was to keep the Chernobyl nuclear plant running and to cancel a moratorium on developing six other reactors throughout the country. These measures, plus a recent five-fold price hike, left Ukrainians disillusioned and angry. Labor unions were threatening a nationwide strike if their salaries were not raised to keep pace with price rises. The average salary in Ukraine is \$7 a month, compared to \$85 in neighboring Russia. Ukrainians, who enjoyed a relatively high standard of living in Soviet times, now eye their eastern neighbors with envy. The government's plans to get the country out of its economic mess were outlined in a new backward-looking program passed by Parliament in December. The program is a combination of statist and free-market measures that include price controls, a fixed exchange rate for the karbovanetz, limits on central bank credits, fewer export controls, more import tariffs and a strong push for privatization. Ukraine's leaders promise things will get better in 1994. Opposition leaders and reformers are pinning their hopes on a more democratic parliament being voted in next March. Only then, they say, will optimism about Ukraine's future be justified. release at will Copyright 1994 The United Press International

### **RADIOACTIVE TESTS WERE CONDUCTED IN IOWA CITY**

UPce 12/22/93 8:57 AM IOWA CITY, Iowa (UPI) -- A Tennessee scientist said University Hospitals in Iowa city was one of five U.S. hospitals which conducted radioactive iodine experiments on infants in the 1950s. Lester Van Middlesworth of the Tennessee College of Medicine said the tests were also conducted at hospitals in Memphis, Tenn., Detroit, Omaha, Neb., and Little Rock, Ark. Van Middlesworth said in the Memphis study, in which he took part, mothers of newborns were told the radioactive iodine injections were important in the evaluation of the thyroid function of the child. Dr. Peter Kirchner, professor of radiology at the University of Iowa College of Medicine, said such research was performed in Iowa City in the 1950s, but he has no way of knowing the cancer risk to the children involved because he does not know the dosage level of the radioactive iodine that was used. Dr. Kirchner said low radiation levels present little likelihood of causing cancer but it is logical to think that the radiation level in the tests was high enough to raise concern. Copyright 1994 The United Press International

### **GLENN WANTS DISCLOSURE OF CURRENT RADIATION TESTING**

UPma 1/7/94 7:30 AM WASHINGTON (UPI) -- Sen. John Glenn, D-Ohio, is calling for an investigation to determine if any secret testing is still being conducted on citizens without their consent. Glenn, chairman of the Governmental Affairs Committee, said he will hold hearings beginning Jan. 17 into deliberate, but secret, government radiation tests conducted during the 1940s. Glenn said while disclosure of past radiation abuses is important, it's vital to learn whether any similar testing is continuing. He said disclosure should include any secret tests involving chemicals or drugs without the informed consent of the participants. "I am calling for a government-wide review of all testing programs -- from drug tests at the Food and Drug Administration to military tests at the Department of Defense," Glenn said. "We know that radiation tests, presumably with informed consent, continue within the government," Glenn said. "But do we know, with 100 percent certainty, the testing without consent does not continue to this day?" The former astronaut noted the government has strict rules on the use of humans in scientific experiments, but he says he wants assurance those regulations are being followed. Glenn said he would support some form of compensation to those who suffered health problems because of the radiation testing. Copyright 1994 The United Press International

### **RESEARCHERS DEFEND RADIATION TESTS**

UPn 1/7/94 6:40 AM BOSTON (UPI) -- The scientist who approved radiation testing on mental patients at a Massachusetts state school without their consent said the current controversy over the experiments is "ridiculous." Robley D. Evans, who headed the radioactivity center at Massachusetts Institute of Technology after World War II, said parents of teenage test subjects were not told about the radiation part of the experiments because the amounts used were "trivial." Recent disclosures over radiation tests on teens at the Fernald State School in Waltham, Mass., have touched off a federal and state search of records to see how extensive such tests were and whether patients suffered any harm because of them. Evans said in Friday's Boston Herald the controversy over the tests is "absolutely much ado about nothing and it's inflammatory." Evans defended the research done by MIT and Harvard, and blamed the media for blowing the experiments out of proportion. Advocates for the mentally retarded have called the tests unethical and "equal to war crimes." Copyright 1994 The United Press International

### **THE RADIATION TASK FORCE**

WP 1/6/94 11:00 PM OFTEN WHEN THE federal government appoints a task force to study some problem, delay appears to be the objective. This seems not to be the case with the federal task force on radiation assembled by the White House this week. Spurred by stories - some of them around for a long time - of government-financed radiation-tolerance experiments on human beings carried out from the '40s to the '70s, the Clinton administration has taken the problem in hand and set a schedule for action. The work may take many months or even years, but a straight course has been set. The task force will be made up of representatives from the departments of Energy, Health and Human Services, Justice, Defense and Veterans Affairs, the National Security Council, Office of Management and Budget and NASA. The CIA was not represented at the initial meeting on Monday but will also be included. The panel, which will meet weekly on a staff level, will be responsible for compiling information on all the experiments, locating the individuals who were the subjects of tests, determining whether the subjects had been fully informed of the risks and had given informed consent and assessing what damages, if any, they have suffered. Policy matters concerning the kind of damages that merit compensation and the form the compensation might take will also be studied. For example, while some scientists say very few actual injuries resulted from the studies, should subjects be compensated nevertheless because they were misled? Should even those who gave informed consent be paid if they suffered physical or emotional damage? It is being said that tests were conducted in a different era, without malice, by scientists struggling to learn more about radiation and its potential harm for human beings and so forth. But the facts suggest a more rigorous ethical examination of the cases is in order. Some terrible things were done here by people who knew better. The choice of subjects among the retarded, prisoners and the terminally ill is particularly suspect. The history of experiments in Nazi Germany, so clearly remembered in the '40s and '50s, should have signaled caution. And the spirited protests of at least one prominent scientist who was an expert in the field is evidence that ethical questions were raised at the time. Some of those who participated in the experiments are long dead. But others are owed a debt by their country. Acknowledging that debt is the first step. The task force has an enormous moral responsibility to sort out what happened so that Americans can face the truth and learn from it and the government that encouraged and countenanced these acts can, where possible, make amends. Copyright 1994 The Washington Post

### **NUCLEAR SAFETY RULES OBSERVED, UKRAINE INSISTS**

WP 1/6/94 11:00 PM Reuter PERVOMAYSK, Ukraine, Jan. 6 - Military specialists in Ukraine say safety precautions are being fully observed in the initial dismantling of the country's nuclear arsenal but that they still need help from abroad to complete the job. The specialists, escorting reporters today on a tour of the Pervomaysk missile base south of Kiev, said suggestions that nuclear warheads on Ukraine's 176 SS-19 and SS-24 strategic missiles were not being handled safely are unfounded. They added that dismantling work now underway proves Ukraine is serious about becoming a nonnuclear state despite international criticism of conditions imposed on the process by the Ukrainian parliament. "The base strictly observes all safety demands," said Col. Viktor Shvets, deputy commander of the installation. "All missiles are kept in perfectly safe conditions; nuclear and ecological safety is observed to the very highest degree." Shvets emphasized that the first stages in the dismantling of the former Soviet republic's 1,700 strategic and cruise-missile warheads are "being carried out by Ukraine using its own resources but that Ukraine is in no condition to deal with full-scale disarmament on its own." So far, warheads from 20 of Ukraine's 130 aging SS-19 missiles have been removed, while 20 of the more modern SS-24s - all of which are deployed at Pervomaysk - have been taken off military alert. Russia, which inherited most of the former Soviet Union's vast nuclear strike force, has repeatedly accused Ukraine of failing to observe safety precautions with the missiles and suggested that lapses could cause a "second Chernobyl." Russian officers regularly inspect the missiles at Ukrainian bases. Moscow has also led global criticism of claims put forth by the Ukrainian parliament with its ratification of the international START I nuclear disarmament treaty. The legislators, concerned about any rekindling of

Russian territorial ambitions, declared that the pact does not oblige Ukraine to give up all its warheads immediately and demanded substantial compensation and security guarantees from the West. Copyright 1994 The Washington Post

### **PLASTIC WATCHES MAY POSE RADIATION THREAT**

RTna 1/6/94 12:33 PM (Eds: Release at 7:59 p.m. EST Jan 6) LONDON (Reuter) - Wearers of watches with plastic cases and luminescent dials may be at risk of being exposed to radioactivity, The Lancet medical journal said Friday. A team of Austrian researchers found that the tritium level in 108 wearers of such watches was on average about 10 times higher than that of non-wearers. Tritium is used in watches as a source of permanent light on watch faces. Wearers of watches with metal cases are not at risk because tritium cannot penetrate metal. The researchers have suggested it should be obligatory to label watches that pose an above average radiation risk. REUTERCopyright 1994 Reuters Information Services, Inc. All rights reserved.

### **BRITAIN-CHERNOBYL-BOY**

APn 1/5/94 11:21 AM Copyright 1994 The Associated Press. All rights reserved.The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. LONDON (AP) -- A 6-year-old boy who was born with severe deformities after the Chernobyl nuclear disaster arrived in London for medical treatment Wednesday. Igor Bovlic was born in the Ukraine village of Bragin, 43 miles from Chernobyl, 11 months after the 1986 disaster. He was born with no right arm, stunted legs and feet turned outward. Igor's mother abandoned him soon after birth and he has been raised at a children's hospital in Minsk, Belarus. Victor Mizzi, chairman of the Chernobyl Children Life Line, which brought Igor to Britain, said there were many more children in hospitals throughout the former Soviet Union "with every kind of deformity imaginable." Mizzi said Dr. Tamara Murashoba, from a children's hospital in Minsk who traveled with Igor, believed Igor's handicaps were caused by radiation. The doctor said the mother lived in the area around the Chernobyl plant and was exposed to contamination throughout her pregnancy, Mizzi said. Igor will be fitted with an artificial arm during his three-month stay in Britain. Doctors at London's Guys Hospital also will examine his feet to see if surgery can help. The nuclear reactor at Chernobyl exploded April 26, 1986, releasing a radioactive cloud across much of the former Soviet Union and Europe. The official death toll was 32, but Ukrainian doctors and environmentalists say at least 250 people died. Doctors have warned that deaths from cancer and radiation-related diseases could run to 10,000. In 1991, 12 Soviet children suffering from leukemia were brought to Britain for treatment. The children's parents lived near the Chernobyl plant when it exploded.

### **NASA, VA INVESTIGATE RECORDS FOR HUMAN RADIATION TESTS**

UPsw 1/5/94 7:57 AM HOUSTON (UPI) - The Johnson Space Center and the Houston Veterans Affairs Medical Center are checking records to determine if the facilities were involved in radiation testings on humans. VA officials in Washington said the Houston hospital was one of 14 medical facilities nationwide in the 1940s and 1950s equipped with radioisotope equipment. The instruments could have been used for experiments but officials say that does not mean any testing was done. Neither the VA Medical Center in Houston or NASA's Johnson Space Center in Clear Lake had official knowledge Tuesday that they participated in such tests, but both have agreed to check their records. "We are doing an intensive search of our records and haven't turned up anything yet," JSC spokesman Brian Welch said. "If we do, it's our intent to talk about it with the American people." The space agency has an interest in the health effects of radiation exposure to astronauts, and it also experimented with a nuclear-powered rocket three decades ago as a potential transportation system for astronauts to Mars. NASA also has used highly radioactive plutonium to generate electricity aboard unmanned deep space probes. On Monday, the Clinton administration announced a government-wide search for records of victims of secret radiation research. Copyright 1994 The United Press International

### **SECRECY'S RADIOACTIVE LEGACY**

WP 1/4/94 11:00 PM By Jessica Mathews Disclosures of secret radiological releases and medical tests carried out decades ago are coming so thick and fast, and yet with so little detail, that the principal result is confusion. If outrage is warranted, where should it be directed? Among the general public, there were at least four types of exposure without knowledge and consent. Perhaps 1,000 people were involved in medical tests. Lumped together in the recent revelations are experiments of probably little or no risk, which used radioactive tracers to study various body systems, and experiments



on the effects of radiation, which apparently involved doses known at the time to be dangerous. In the former category are the experiments in which retarded boys at the Fernald State School were fed radioactive iron and calcium; in the latter, injections of plutonium into 18 patients and radiation of prisoners' genitals. There is insufficient evidence to judge how great the medical risks were, or were then thought to be, or whether any of these experiments promised sufficiently large scientific payoffs to justify human experimentation. The apparent violations of the Nuremberg Code, which requires voluntary consent and protection of subjects from "even remote possibilities of injury, disability, or death," and of the Hippocratic standard, "first, do no harm," will have to be weighed against the fact that full and informed consent was more the exception than the rule in medicine at the time. Nonetheless, one aspect of these experiments makes the "Buchenwald touch," cited in a 1950 memo by an internal dissenter, shudderingly apt. They were all done on people the Atomic Energy Commission considered disposable: prisoners, mental patients, indigents, blacks, pregnant (unmarried?) women who were soon to give up their children for adoption. Whatever researchers believed the risks to be, they chose Fernald School for their experiments, not Exeter. In the second category were deliberate secret releases of radioactivity at Hanford, Oak Ridge, Los Alamos and Dugway (Utah), carried out by the military and the AEC in the course of studying radioactive fallout and the feasibility of radiological weapons. By today's standards the tens of thousands of curies released are very large; by contemporaneous standards (see below) they were not. The effects on the general population were apparently not even estimated. It remains to be seen whether researchers can reconstruct them. A third category, which has gotten little attention, will likely prove to have the most expensive consequences and to have been the most egregious wrongdoing. These were the routine releases (including regular accidents) from Hanford, Oak Ridge and perhaps other sites that resulted from almost unbelievably slipshod handling of radioactivity. Near Hanford, in just the worst three years, a quarter of a million people were exposed to nearly 700,000 curies. That's 100 times more than one of the secret tests that have been capturing headlines. Oak Ridge may have been as bad. The environmental cleanup is going to take decades. In part, these releases can be attributed to ignorance of the dangers of radiation and in part to the real and perceived urgency of the Soviet threat. But only in part. The rest was appalling management made possible by the impregnable secrecy in which the AEC and the military operated. Finally, there were the atmospheric bomb tests. They belong on the list not only because of the effects on those immediately downwind but because they were part of the AEC's long crusade to convince Americans that radioactivity was beneficent, friendly stuff. At one low point, the commission actually proposed to measure fallout in "sunshine" units. For decades it and its successors ridiculed and legally stonewalled anyone who questioned the risks or sought compensation. Energy Secretary Hazel O'Leary is the first to voluntarily break this long, sorry pattern of denial and deceit. "I looked at the history of the Energy Department with the downwinders," she explained. "It doesn't occur to me that is the posture I want to be in." Notwithstanding the revelations that were coming from outside DOE, her straightforward embrace of what is right took considerable courage and good judgment. O'Leary has handed the administration a *fait accompli*. It now has no choice but to make the whole story - not just the medical tests - public. It's going to be an unpleasant process. Secrets held tightly for decades will have to be pried loose, careers will be reevaluated in hindsight, valid and invalid lawsuits will proliferate. There will be overreaction and grandstanding to the juicy bits. Rebuilding trust in government is a slow, thankless process - but better than the alternative. The most valuable lessons should come from a hard look at the role secrecy played. Inside the nuclear agencies it corrupted decision-making, suppressing well-founded opposition, cutting off policy makers from outside experts and brushing aside critics like the Public Health Service. Over the years secrecy bred arrogance and, ultimately, callousness. No agency was ever more sure it knew what was best than the AEC - or more wrong. There are still plenty of secrets the government needs to keep. How to do so without paying a cost measured in lives and a several-hundred-billion-dollar cleanup is part of what can be learned. The writer is a senior fellow of the Council on Foreign Relations. Copyright 1994 The Washington Post

## **RADIATION HARM LAWSUITS COST U.S. \$47 MILLION**

WP 1/4/94 11:00 PM Reuter The United States paid more than \$47 million to law firms over three years to defend nuclear defense contractors against legal suits brought by people claiming radiation harm, according to a federal government memorandum made public by a nuclear activist organization yesterday. The Department of Energy acknowledged existence of the internal memo obtained by the Military Production Network, a Boston-based organization that represents groups in communities near 17 nuclear weapons industry sites. The legal fees attracted new attention since Energy Secretary Hazel R. O'Leary suggested the government should pay compensation to people who underwent government radiation testing, some without their knowledge, in the Cold War era. The memo said the money was paid to about 20 law firms and corporate legal departments to defend against class-action suits by workers and residents claiming radiation harm. The fees went to defend suits against contractors at facilities at Fernald, Mound and Portsmouth in Ohio; Rocky Flats, Colo.; Oak Ridge, Tenn.; Los Alamos, N.M., and Hanford, Wash. An Energy Department spokesman, Phil Kief, acknowledged the memorandum was written by the department's general counsel, Robert Nordhaus. Kief said the payments "were too much, too big." He said "the contracts provide for reimbursement of legal fees but they can be less.

That's what we're looking at in the contract review." Since World War II, the government has owned the nuclear facilities that are operated by private firms, including some of the nation's biggest industries. "It's an outrage for DOE (Department of Energy) to waste millions of taxpayers' dollars defending those who contaminated our communities, environment and plant workers," said Lisa Crawford of Fernald, who is head of an organization affiliated with the Military Production Network. Of the legal fees paid over three years, the largest amount - nearly \$20 million - went to law firms defending suits involving the Hanford nuclear facility. The contractors involved in the lawsuits at the facilities include General Electric, United Nuclear, Rockwell International, Dow Chemical, Martin Marietta and Westinghouse. Nordhaus was not immediately available for comment yesterday, but the New York Times reported yesterday that he felt some of the fees seemed questionable. Copyright 1994 The Washington Post

## **NUCLEAR INSPECTOR SUES PLANT OWNER OVER CANCER**

RTw 1/4/94 10:53 PM SAN DIEGO, Calif, Jan 4 (Reuter) - A former inspector for the Nuclear Regulatory Commission who has been diagnosed as having terminal cancer sued the owners of the nuclear plant Tuesday where she says she contracted the deadly disease. The case of Rung Tang, 44, is believed to be the first in the United States in which a nuclear worker has claimed cancer was caused by exposure at a nuclear power plant, lawyers on both sides of the case said. Tang has sued the Southern California Edison Co, principal owner of the San Onofre Nuclear Generating Station south of San Clemente, California, claiming she was exposed unnecessarily to radiation while serving there as an inspector from June 1985 to December 1986. She is also suing San Diego Gas and Electric Co, which owns 20 percent of the plant; Bechtel Corp, manufacturers of the plant's reactors; Westinghouse Electric Corp and Combustion Engineering Inc, producers of the plant's radioactive fuel and fuel rods. According to the lawsuit, Tang was diagnosed with myelogenous leukaemia, a rare and terminal cancer in November, 1992. Her lawyers say the cancer is linked to radiation exposure. She is asking for punitive damages. In opening arguments at the trial Tuesday, Tang's lawyer, Suzelle Smith, said, "What went wrong at San Onofre?" Smith then told the jury that radioactive material and byproducts were not contained adequately at the plant and that equipment, vehicles and clothing issued to workers were contaminated. In addition, Smith said, microscopic contaminants known as "fuel fleas," because of their propensity to attach to humans and clothing, were present in non-contained areas, and plant officials failed to monitor and report dangerous radiation levels. Smith also told the jury that more than 100 nuclear fuel rods were corroded, resulting in radiation levels at least 10 times normal. In her opening arguments, Smith also claimed that plant officials knew as early as 1983 that problems existed but refused to correct them for economic reasons. Lawyers for the defendants were to deliver their responses to the allegations in opening arguments Wednesday. REUTERCOPYRIGHT 1994 Reuters Information Services, Inc. All rights reserved.

## **CIA SAYS IT SEARCHING FOR FILES ON RADIATION TESTS**

RTw 1/4/94 2:59 PM (Eds: recasts with CIA comment, updates, adds background) By Jim Wolf WASHINGTON, Jan 4 (Reuter) - The Central Intelligence Agency said Tuesday it was searching its files for data on secret Cold War-era radiation experiments on Americans after an expert on government secrecy said many files may have been destroyed. "If the CIA has destroyed its records of this activity, then we will never get to the bottom of this story," said Steven Aftergood of the Federation of American Scientists, a private research group. Citing a 1975 report on domestic misdeeds of the CIA, Aftergood said he believed that the agency may have destroyed many of the relevant documents and that the full extent of radiation tests, many on people who did not give their consent, may never be known. CIA spokesman David Christian said, however: "We're searching our files for material relevant to the attempt to get to the bottom of the radiation testing issue," an agency spokesman said. In another development, the chairman of the House Committee on Natural Resources urged President Clinton Tuesday to release information on how U.S. nuclear weapon tests may have affected residents of the Marshall Islands. Representative George Miller, a California Democrat, said in a letter to Clinton that of particular concern was the March 1, 1954, "Bravo" test on Bikini Atoll. The test had a yield of 15 megatons, far greater than any previous test, and radioactive fallout was blown over a wide area, including the inhabited Marshall Islands' atolls of Rongelap and Utirik. A commission led by Vice President Nelson Rockefeller reported in 1975 that the CIA had conducted radiation tests, by implication on unsuspecting subjects, as part of a much larger CIA programme to study possible means of controlling human behaviour. Many of the records of these experiments, at least those involving unwitting subjects of drug testing, were ordered destroyed in 1973, the Rockefeller Commission reported. Christian, the CIA spokesman, could not immediately say whether any files on radiation experiments had been destroyed, pending the search now under way. He said the CIA would take part "as fully as appropriate" in an inter-agency task force set up Monday to uncover details of experiments carried out in the decades after World War Two. Besides studying the effects of hallucinogenic drugs such as LSD, the CIA explored "the effects of radiation, electric-shock, psychology, psychiatry, sociology and harassment substances," the Rockefeller Commission reported. The commission's report is not entirely

clear on which CIA files were destroyed. It says: "Unfortunately, only limited records of the testing conducted in these drug programmes are now available. All the records concerning the programme were ordered destroyed in 1973, including a total of 152 separate files." The CIA was conspicuous by its absence from a White House meeting Monday of departments and agencies involved in disclosing the government's response to disclosure of radiation experiments. Christian said the CIA had not attended because it had not been invited. George Stephanopoulos, a senior White House adviser, said earlier Tuesday that President Clinton's national security adviser, Tony Lake, "has talked to the director of the CIA, Jim Woolsey, about their participation" in the government-wide disclosure programme. "We're going to be working with the CIA and we expect their participation," he said on the NBC "Today" show. In a separate interview, Stephanopoulos seemed to suggest there may be resistance to full disclosure by some federal agencies. "We're going to demand full disclosure and we think we're going to get it," he said on the ABC programme "Good Morning America." Clinton made his first visit to CIA headquarters in Langley, Virginia, Tuesday. There was no immediate word on whether he had discussed the matter with Woolsey, who briefed him on U.S. intelligence capabilities. The meeting at the White House Monday included representatives of the departments of Energy, Health and Human Services, Justice, Defence and Veterans Affairs, as well as the National Security Council, the Office of Management and Budget and the National Aeronautics and Space Administration. REUTERCOPYRIGHT 1994 Reuters Information Services, Inc. All rights reserved.

### **CASH-STRAPPED RUSSIAN ATOMIC PLANT FACES CLOSURE**

RTna 1/4/94 2:20 PM MOSCOW (Reuter) - A Russian nuclear plant built to the same design as the one at Chernobyl faces closure because it has no money to buy uranium fuel, Itar-Tass reported Tuesday. The Sosnovy Bor atomic plant, 60 miles from St Petersburg, may have to shut down in two weeks because of failure to recover some \$30 million owed to it, the news agency said, quoting local sources. "The plant, which has a reputation for being reliable and profitable, is running out of nuclear fuel through no fault of its own," Tass said. Four reactors are in service at Sosnovy Bor of the type that caught fire at Chernobyl in the Ukraine in 1986 and spewed radiation over much of Europe in the world's worst nuclear disaster. An accident at Sosnovy Bor in March 1992, when radioactive iodine and inert gases escaped into the environment after a loss of pressure in a reactor channel, caused international concern. The Russian state nuclear agency recently revealed government plans to go ahead with a project for a new nuclear reactor with enhanced safety features at Sosnovy Bor. Since the Chernobyl accident, environmental groups have put pressure on Russia to modernize its nuclear facilities and improve safety. REUTERCOPYRIGHT 1994 Reuters Information Services, Inc. All rights reserved.

### **WHITE HOUSE STILL WANTS ``FULL INSPECTIONS''**

RTw 1/4/94 12:31 PM (Eds: fixes typo in lead para) WASHINGTON, Jan 4 (Reuter) - The White House said Tuesday it still wanted full inspections of North Korean nuclear sites but would not say if this included two nuclear waste dumps that could reveal how much plutonium Pyongyang has produced. White House spokeswoman Dee Dee Myers said the Clinton administration wanted inspections of North Korea's seven declared nuclear sites but declined to say whether they also insisted on examination of the two dumps. "We've always been specific about the seven, and not been specific beyond that," she told reporters outside her office. "The seven facilities are included, and beyond that I'm not willing to get into it." A senior U.S. official said Monday the United States was close to a deal on inspections of North Korea's weapons programme that could be wrapped up this week. But Myers continued to sidestep questions about a deal, saying there was "no timetable for an announcement." The senior official who spoke Monday was vague about whether the Clinton administration was willing to temporarily put aside the issue of the two nuclear waste dumps while it makes progress on inspecting the other seven sites. "We're willing to see ways in which you can begin to work into those issues and make sure you can get into a discussion," the official said. The United States has been leading an effort to persuade North Korea to open its nuclear facilities to international inspection. The CIA believes Pyongyang has produced one and possibly two nuclear weapons. REUTERCOPYRIGHT 1994 Reuters Information Services, Inc. All rights reserved.

### **COLD-WAR TESTS PROMPT A DEBATE; ETHICS EXPERTS ...**

WP 1/3/94 11:00 PM Cold-War Tests Prompt a Debate; Ethics Experts Differ on Morality of U.S. Radiation Experiments By Gustav Niebuhr Washington Post Staff Writer As the Clinton administration debates what to do for people exposed to radiation in Cold War experiments, people who devote their professional lives to weighing ethical issues said that the government may be morally bound to compensate those tested, if it is shown that injuries resulted. But in interviews yesterday, Protestant, Roman Catholic and Jewish ethicists and theologians voiced widely differing responses to reports of the experiments, ranging from outright anger to a measured warning that past medical work cannot easily be judged by current standards. "So much of medical ethics has been developed around the right of consent. If you do carry out

procedures that would be hazardous without getting people's consent, then you do have some obligation to them," said Preston Williams, a professor of theology at Harvard Divinity School who teaches ethics and public policy. If the people in the experiments suffered physical or psychological injury, they may well deserve financial compensation, he said. Late last month, government officials disclosed that federal researchers exposed as many as 800 people to various doses of radiation in medical tests in the 1940s and 1950s. In some cases, the subjects of those experiments may not have fully understood the risks, officials said. Among those tested were terminally ill patients, prison inmates and mentally retarded children. Last week, Energy Secretary Hazel R. O'Leary said test survivors might deserve compensation. But White House adviser George Stephanopoulos said Sunday that no such decision has been made. Caution is in order, said the Rev. Albert Moraczewski, a Dominican priest at the Pope John XXIII Bioethics Center in Boston who holds a doctorate in pharmacology. "There are a lot of nuances to determine whether a person was being treated unjustly at that time." He added: "We have to be careful of judging previous generations by our standards." He recommended that officials consider the medical ethical standards of the time, whether the experiments were expected to benefit the people involved and how much those people were told about the tests. "As a former pharmacologist, I'd want to know what drug levels, what dose levels, how much radiation was used," said Moraczewski. LeRoy McCarthy, a professor of Christian ethics at Georgetown University, said the government must answer two questions: Did the people in the experiments consent to be tested, and were they harmed? If anyone was harmed, regardless of whether the individual agreed to be tested, "the federal government has a moral obligation" to pay to treat the injuries, he said. "If they weren't told about the exposure to radiation and didn't consent to it and weren't harmed, I think that's a very interesting and difficult question," McCarthy said. "I think the federal government would owe those people an apology for a gross breach of the most basic rule (of medical ethics) from the end of World War II forward." Rabbi Alex Schindler, president of the Union of American Hebrew Congregations, which represents 900 synagogues in Reform Judaism, called the experiments an "outrage" and said those tested deserve financial compensation. He said that "restitution is a moral imperative in a case like this" and added that "steps have to be taken so this can never, ever happen again." "To any Jew who went through this period of the second World War, this has fearsome echoes of experimentation without permission on human beings on the grounds that it will advance human welfare," Schindler said, referring to Nazi medical experiments on concentration camp inmates. Ronald Cole-Turner, a professor of theology and ethics at Memphis Theological Seminary, said the experiments apparently resulted from the "legitimate fear" of nuclear war in the 1950s. He said they may have demonstrated radiation's dangers to the researchers, thus helping make use of nuclear weapons less likely. "If we learned that, then humanity is greatly in the debt of these individuals" who were tested, he said. "It would make sense to compensate them for their experience and what we learned at their expense." But he also said he was disturbed by the subjects in some of the experiments. "From what I understand, they tended to pick upon those who were weakest, those who were least powerful, those who were least protected." Glenn Bucher, a social ethicist who is president of Graduate Theological Union in Berkeley, Calif., cited the same concern. He compared the experiments with the discharge of radiation into the atmosphere by federally run nuclear weapons plants in western states in the 1950s. "These are a whole series of judgment calls about places and people," he said, adding that these are indicative of "the blinders with which human beings view other human beings." Copyright 1994 The Washington Post

## **RADIATION BACKGROUNDER**

APn 1/3/94 3:31 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By H. JOSEF HEBERT Associated Press Writer WASHINGTON (AP) -- In the three weeks since Energy Secretary Hazel O'Leary revealed there had been government-approved radiation tests on human beings, details have been surfacing around the country. Energy Department officials say they are still gathering information about specific cases dating back to the early days of the Cold War. But even before O'Leary's remarks, the Albuquerque Tribune wrote extensively about 18 people who in the 1940s were injected with highly radioactive plutonium to determine how it works its way through the body. While news of these tests had been made public in the mid-1980s, the Tribune for the first time identified five of the victims and interviewed relatives. The patients ranged from 4 years to 69 at the time of the tests, said the newspaper. Each was said at the time to have been suffering from terminal illness, but they lived for years afterward. The last died in 1991. Relatives maintained that the victims were never told of potential danger from the injections. The tests were conducted at hospitals associated with the University of Rochester, the University of Chicago and the University of California and at a military hospital at Oak Ridge, Tenn. Last week, the Boston Globe reported that dozens of retarded teen-agers were fed radioactive milk and cereal as part of a series of tests at the Fernald State School in Waltham, Mass., over a decade beginning in 1946. The tests were conducted by researchers from Harvard University and the Massachusetts Institute of Technology. One of the researchers, Constantine Maletskos, said the radiation levels were low enough that the youngsters

were not harmed. The Globe cited documents that showed 17 of the boys were exposed to between 544 and 1,024 millirems of radioactive iron over the course of seven meals. A person receives on average about 300 millirems of radiation from natural sources annually. Other experiments disclosed in recent days included: --A researcher at the University of Tennessee injected seven newborn infants with radioactive iodine in 1953 in hopes of finding a medical test for thyroid disease. The researcher has said he felt the infants were in no danger from the tests financed by the Atomic Energy Commission. --Researchers at Vanderbilt University in the 1940s gave 751 pregnant women radiation pills to determine the effects of radioactive iron on fetal development. A follow-up study showed a high rate of cancer among the children, according to a 1969 report. --Researchers from 1963 to 1970 exposed the testicles of more than 120 inmates at state prisons in Oregon and Washington to high levels of radiation from X-ray machines to determine whether they would become temporarily sterile. The researchers said the inmates knew of the risks, but critics contend they were never clearly told that radiation might cause cancer. --Nearly 200 leukemia and other cancer patients were exposed to high levels of cesium and cobalt isotopes during experiments at the Oak Ridge National Laboratory in Tennessee. The tests were halted in 1974, according to The New York Times. --At least 11 people were fed radiation-contaminated fish from the Columbia River in the early 1960s as part of government experiments near the Hanford nuclear weapons facility to determine whether radioactivity accumulated in humans when eating fish.

### **CONGRESSMAN SAYS U.S. RADIATION TESTS WENT INTO 1970S**

RTw 1/3/94 10:16 AM By Michael Posner WASHINGTON, Jan 3 (Reuter) - A congressional energy expert said Monday secret radiation experiments were conducted on Americans into the 1970s, years later than indicated in previous reports of secret Cold War testing. Representative Edward Markey, a Massachusetts Democrat who is chairman of a House Energy subcommittee, said the testing went on "into the 1970s" and added that fact was included in a report on radiation tests he issued in 1986 that he said "fell on deaf ears." President Clinton has called a meeting in the White House later Monday to coordinate the government's investigation of the secret testing that Energy Secretary Hazel O'Leary said was conducted on up to 800 Americans, including mentally retarded teen-agers, in the 1940s and 1950s. Other reports have said the test subjects included pregnant women, the elderly and soldiers, some without their informed consent. White House spokeswoman Dee Dee Myers said Clinton might "drop by" the meeting but was not scheduled to attend. Representatives from the Defence and Energy departments, the Veterans Administration and the National Aeronautics and Space Administration would participate in the session, Myers said. White House chief of staff Thomas McLarty was also scheduled to attend. "They'll discuss a number of issues," Myers said, adding that they would "talk about documents, and where they are on declassification." She said it was the first such meeting on the growing controversy, and she did not think it would produce any formal recommendations because it was just at the "staff" level. There would have to be consultations with agency heads first, Myers said. Steven Aftergood, of the Federation of American Scientists, told Cable News Network the CIA had conducted a similar experimental testing programme which he said "was more secret and more lethal" than the testing done by the now defunct Atomic Energy Commission. He did not elaborate. Markey, also speaking in a CNN interview, said the CIA and health officials should be brought into the White House meeting to conduct a thorough evaluation. O'Leary and other officials have said compensation should be considered for those who underwent testing. REUTERCopyright 1994 Reuters Information Services, Inc. All rights reserved.

### **EC SET TO BACK PHARE/TACIS-LINKED NUCLEAR GROUPING**

RTec 1/3/94 8:32 AM BRUSSELS, Jan 4 (Reuter) - The European Commission plans to approve the creation of a consortium of nuclear power companies to carry out nuclear safety studies funded by the PHARE and TACIS programmes of assistance to central and eastern Europe. The European Fuel Cycle Consortium was set up by France's Cogema and British Nuclear Fuel Ltd and has since been joined by Belgonucleaire, GNS and Enusa, said a statement in EC Official Journal C/351 of December 30, which was released on Monday. "The object of the grouping fits in with the Community's assistance programmes for the countries of eastern Europe and the former Soviet Union," the statement said. "Its object is to study, assess the safety and the environmental consequences and to recommend generic solutions relating to irradiated nuclear fuel management, and to the design and operation of the industrial facilities of the nuclear fuel cycle." The Commission said it had got the member companies of the consortium to agree that a general obligation not to compete could be waived if one of them received an individual tender invitation from the Commission for a particular job. It said that the work to be handled by the consortium would involve contracts worth about 10 million Ecus in funds from the PHARE and TACIS programmes. "...the Commission proposes to take a favourable view of the agreement notified," said the statement. Third parties had a month from December 30 to submit their views on the proposal, the Commission added. REUTERCopyright 1994 Reuters Information Services, Inc. All rights reserved.

## **HIGH RADIOACTIVE LEVELS DETECTED AT FRENCH COMPANY**

RTw 12/30/93 11:01 AM (Eds: adds environment ministry statement) GRENoble, France, Dec 30 (Reuter) - Radioactivity 200 times greater than normal has been found by experts in the grounds of a French company which specialises in deactivating nuclear installations, local government officials said on Thursday. A spokesman for the Radiacntrle company, a subsidiary of state-owned Generale des Eaux, said it had no explanation for the contamination of a 50 square metre (59 sq yd) area in an industrial estate outside Pierrelatte near Grenoble in southeastern France. An aide to the local prefect (government representative) said radium levels at the site were found to be 200 times above normal for the area. The Radiacntrle spokesman said the company had launched an investigation into the radiation, which was detected on December 21 but made public only on Thursday. A nearby building was used to stock radioactive material, he added, but it was inspected regularly and no trace of excessive radioactivity had been found. The environment ministry in Paris criticised the company, saying it had taken too long to disclose the radiation. "It appears managers of the Radiacntrle company were slow to tell the authorities about the discovery of the contamination," the ministry said in a statement. The ministry said the radiation levels were abnormal but not immediately dangerous. Both judicial and administrative investigations were under way, it added. REUTERCOPYRIGHT 1994 Reuters Information Services, Inc. All rights reserved.

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### **BACK TALK**

THE TOP TOPICS ON 100 RADIO TALK SHOWS ACROSS THE COUNTRY AND WHAT MOST CALLERS SAID:

NANCY KERRIGAN. Beating up a skater? This country has gone psychotic.

RADIATION TESTS. The government has become the enemy of the people.

LICENSE FEE ON GUN DEALERS. It's a conspiracy by the increasingly fascistic government to disarm the American people.

### **COMINGS & GOINGS**

HELLO: In 1995, 50 years after the Enola Gay dropped the first A-bomb on Hiroshima, the forward fuselage of the restored B-29 bomber will go on display for the first time at the Smithsonian Air and Space Museum.

GOODBYE: Late last month, the federal government announced that it will no longer regulate manufacturers of fallout shelters and home radiation monitors.

FEVER LINE The cold war may be over, but the possibility of nuclear attack still scares some Amricans, according to surveys.

Copyright, 1994, U.S. News & World Report All rights reserved. U.S.NEWS & WORLD REPORT, JANUARY 17, 1994Energy Secretary Hazel O'Leary is at the center of the unfolding drama of the federal government's nuclear experiments on humans during the cold war. Last week she spoke with U.S. News's Matthew Cooper. Excerpts:ON FIRST HEARING THE NEWS. I guess my first impression was disbelief. I went from that to horrified resignation. And then as some of my colleagues reminded me, I had a regularly scheduled exercise class, and when I got back to my office I heard more details. The background of my shock relates to my parents' being physicians. They always talked about how you had to obtain consent. You had to relate to the patient the potential horrors of each procedure.DID RACE MAKE O'LEARY SENSITIVE TO GOVERNMENT ABUSES? Yes. As a child of prejudice [growing up in segregated Newport News, Va.] it never occurred to me until I was 12 or 13 that thegovernment [sanctioned prejudice]. Then it did.ON COMPENSATION FOR VICTIMS. I read a line in a news story from someone at the White House that I was ``freelancing" [when she suggested compensating victims of nuclear testing]. Look, I'm a lawyer, and I was very careful in my wording. I understand that the analysis revolves around the issue of consent. You have to ask whether there was consent and whether a harm was done and at the end of that also whether the consent was voluntary. Then I made it clear that it was my personal opinion that at that point something would have to be done.THE GOOD SIDE OF EXPERIMENTATION. First of all my own family has benefited from human experimentation. My [late] husband [Jack O'Leary, who died of eye cancer] got four years of extra life because of human [cancer] research.

## **REAGAN-RADIATION**

APn 1/14/94 1:31 PM Copyright 1994 The Associated Press. All rights reserved.The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By H. JOSEF HEBERT Associated Press Writer WASHINGTON (AP) -- Former President Reagan's energy secretary says Cold War

radiation tests on humans, divulged by Congress in the mid-1980s, were "not up on the screen" as a high priority for his agency. Energy Department documents show the Reagan administration sought to play down the experiments, arguing against compensation or follow-up exams for the human subjects. The department argued there was "no scientific reason" to believe the subjects suffered long-term harm and that follow-up studies would "violate privacy," according to documents obtained by The Associated Press. "I was satisfied with our answer. There had not been enough work done to establish that there was a problem," then-Energy Secretary John Herrington said Thursday in a telephone interview from California. "We're finding out that it's something that needs more scrutiny, and I think it does," said Herrington, now a private lawyer and vice chairman of the state Republican Party. Herrington added that the ongoing Cold War also played a part in the decision not to launch the type of extensive disclosure of past radiation testing now begun by the Clinton administration under Energy Secretary Hazel O'Leary. "The department was much more concerned with security and secrecy than today and rightly so," he said. The impetus seven years ago was a congressional report that -- based largely on DOE files -- singled out 31 radiation experiments involving humans, including the injection of plutonium to 18 civilians in the 1940s and radiation experiments on genitals of more than 100 prisoners in the Northwest. In a Feb. 10, 1987, letter to Rep. Edward Markey, D-Mass., chairman of the subcommittee that wrote the report, Herrington maintained that the concerns "appear to have been based on misunderstandings of ... the principles of human experimentation." Herrington wrote, "There is no scientific reason to expect that any of the subjects who are not already being monitored will incur any harmful effects. Therefore, there is neither any reason for attempting any further follow-up studies on these subject nor to propose new legislation to compensate them." The congressional findings outlined in a 39-page report entitled "American Nuclear Guinea Pigs: Three Decades of Radiation Experiments on U.S. Citizens" barely caused a ripple among the public or inside the Reagan administration. "It fell on deaf ears," said Markey. The news media treated it as a one-day story. John Abbotts, a congressional science fellow who also worked on the Markey report, said the Energy Department's response was aimed at blunting news media interest. "Their first statements to the press were that it wasn't news because it was historical," he said. But Herrington placed some fault on Congress, including Markey who had made his opposition on nuclear issues well known. He said Markey, who shortly after the report was issued shifted committee assignments, never followed up the DOE response. "If Congress had said, 'No, we want you to do more,' we would have done more," Herrington said. A Reagan DOE staff summary responding to 17 cases cited by Markey, however, repeatedly argued against the need for follow-up or compensation, noting that in several cases the subjects lived for 20 or more years or were still alive. In one case in which 18 people were injected with plutonium in the 1940s "there is no evidence to suggest that the death of (these) subjects ... was related to plutonium exposure," the staff summary said. In another case in which prisoners in Washington and Oregon were subjected to radiation on their testicles, the DOE argued that "efforts to trace these subjects will violate (their) privacy." It said the studies showed that even the testicles of those prisoners subjected to the highest doses eventually resumed functioning. Responding to an experiment where six patients with good kidney function were injected with uranium salts in 1946-47 at the University of Rochester, the department concluded short-term harmful effects were "minimal" and "the radiation doses would not be expected to produce long-term effects." The DOE summary, however, failed to note that, as the congressional report had spelled out, one of the patients was homeless and "agreed willingly to ... special studies" because he had no place to live; four others were chronic alcoholics, including one in a "hallucinatory state." The congressional document had obtained those descriptions from earlier DOE records.

## **A SUMMARY OF MOSCOW SUMMIT DEVELOPMENT**

UPn 1/14/94 1:00 PM MOSCOW (UPI) -- The Russia summit meeting Friday. KEY ACTIONS: -- U.S., Russia agree to retarget strategic nuclear missiles away from each other by June 1, ending 50 years of nuclear tension. -- Clinton, Yeltsin urged end to nuclear tests and observe nuclear and other non-proliferation pacts. -- Leaders agree aggressive nationalism and political extremism are threats to peace and democracy. -- Reaffirm resolve to eliminate discrimination, intolerance, racial and national prejudices, xenophobia and anti-semitism. -- Take coordinated steps to boost activities of international organizations in order to improve human rights practices in the world. -- Clinton reaffirmed support for democratic reforms in Russia. -- Russia agreed to "actively participate" in "Partnership for Peace". -- Foreign ministers sign bilateral documents on aviation, health care, research into the impact of radiation on the environment and export control. WHAT THEY SAY: YELTSIN: "As regards reforms, we will be resolute and radical, and in this respect the U.S. president has agreed to support this policy." YELTSIN: "What Russia needs today is not humanitarian aid, but full-scale cooperation which will take into account the transitional character of the young market-based economy." YELTSIN: "The time will come when the 'Big Seven' (as Russia calls the Group of Seven industrial democracies) will become the Big Eight." CLINTON: "We share a dream of political freedom and economic freedom and respect for our neighbors. I want to be an equal partner because I believe that this is a very great nation and that the world, the whole world, and particularly Europe, has a real interest in seeing Russia succeed and seeing this reform movement succeed." CLINTON: "I am here as a friend and a partner. The United States has no interest in charting Russia's future." BUSINESS ACTIONS: -- Clinton

named former Treasury Secretary Michael Blumenthal chairman of the fund to help large Russian enterprises. Fund assets: Up to \$100 million. -- Clinton named Michael Gillette to direct a coordinating group that has met seven times to help support businesses with supplies of aid. -- Spring announced its has become successor to the Russian-American joint venture established in 1991 to provide computer data base access in Russia. -- U.S. to issue multiple-entry visas starting Saturday for Russian diplomats, businessmen, joint-venture employees and exchange participants. NEWSPAPER COMMENTS: TRUD: "The meeting of the Russian and American presidents began in an atmosphere of genuine partnership." NEZAVISIMAYA GAZETA: "Russia has retained the status of a great power, and not only a nuclear power, and the West, in the person of Clinton, recognized it without hesitation." ROSSIISKIE VESTI: Quotes Viktor Glukhikh, chairman, Committee for the Defence Industries of the Russian Federation. "The trend of passing over from open technological rivalry to technological partnership has become clear." KRASNAYA ZVEZDA: "The consolidation of Russia's greatness should be the main objective of the economic and socio-political reform, now under way in Russia." PRAVDA: Published a front page picture of Clinton playing the saxophone and questioned whether Clinton and Yeltsin would strike up a duet. HUMAN INTEREST: -- Yeltsin gave Clinton a porcelain statuette of the U.S. president during dinner at Yeltsin's dacha. FIRST FAMILY: -- Hillary Rodham Clinton had coffee Naina Yeltsin, wife of Russian president, visited Spaso-Perovsky Hospital of Peace and Mercy and toured sights in Red Square. FUTURE MEETINGS: -- Clinton, Yeltsin meet in Naples in mid-July when seven industrialized countries hold summit. -- Yeltsin has accepted an invitation to visit the United States this fall. Copyright 1994 The United Press International

## **NUCLEAR NIGHTMARE**

APn 1/13/94 11:32 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By DONALD M. ROTHBERG AP Diplomatic Writer WASHINGTON (AP) -- It was the age of the Doomsday Clock. Of the 30-minute war. Of fallout shelters and bombs measured in megatons. Of the strategy of Mutually Assured Destruction. It was the age of global fear. Through the decades dubbed the Cold War, the American president and his Soviet counterpart held the power to plunge the world into a war in which casualties would be measured in the hundreds of millions. With a magical suddenness, the Cold War ended and the leaders with that power renounced it and embraced. But almost as if forgotten, thousands of nuclear missiles remained in their launch silos, armed and targeted on the United States and the territory of the former Soviet Union. President Clinton and Russian President Boris Yeltsin now are pledging to end the practice of aiming missiles at each other. Let them plunge into the sea or go nowhere at all, say the two presidents. It's a symbolic act. No one pretends the missiles can't be retargeted in minutes. But it's a welcome turn after a generation of symbols that evoked images of nuclear winter, of a planet laid waste on which the survivors would envy the dead. Nuclear physicists at the University of Chicago came up with the idea of the Doomsday Clock in 1947 as a way of demonstrating how close the world was to nuclear war. After the United States tested the first hydrogen bomb, the clock was moved to two minutes before midnight, the doomsday hour. "We're going to live through a long period of constant tension with these dangerous weapons," President Kennedy told reporters in October 1961. Ironically, the clock was moved back in 1960, the year Kennedy was elected and within months crises in Berlin and Cuba moved the world closer than ever to nuclear war. During his first year in office, Kennedy ordered publication of booklets advising Americans how to build fallout shelters so that "a family can take steps to protect themselves on a minimum basis and give them -- members of the family -- some hope that if they were out of the blast area they could survive the fallout." Black and gold signs appeared in the corridors of office buildings directing people to the fallout shelter. Bureaucrats formulated elaborate evacuation plans as if millions of people could find safety outside target cities in the 30 minutes' notice they'd have that missiles were on the way. Millions of American schoolchildren of Clinton's generation participated in air raid drills in which they ducked beneath their desks and covered their heads with their hands, a futile gesture against the clouds of radiation that would circle the Earth after a nuclear exchange. For many adults who lived through that era, the most frightening recollection of their childhood was the Cuban missile crisis. For seven days in October 1962, the world held its breath as the United States and Soviet Union moved to the brink of nuclear war. In the language of the time, Khrushchev blinked and Soviet missiles were withdrawn from Cuba. The missile crisis established Kennedy's reputation as a tough Cold War leader. Never again did the superpowers come that close to a nuclear confrontation. They moved into the era of missiles with up to 10 warheads, each with the force of a million or more tons of TNT. The weapons frightened U.S. and Soviet leaders as much as they did schoolchildren and the superpowers fought their wars from a respectful distance in places like Vietnam and Afghanistan. The nuclear age spawned its own black humor. "Dr. Strangelove" was a hit movie that is rerun on television to this day. Its final image is a nuclear explosion. And then there was this song by the Chad Mitchell Trio that described a fallout shelter being sold by Hammacher Schlemmer as: "All plushy and swanky "With posh hanky panky "That affluent Yankees "Can really call home."



## **SUBJECTS IN '50S RADIOACTIVE TESTS TESTIFY; ...**

WP 1/13/94 11:00 PM Subjects in '50s Radioactive Tests Testify; Ex-Students at School for Retarded Say They Never Gave Consent By Christopher B. Daly Special to The Washington Post WALTHAM, Mass., Jan. 13 - Two former residents of a state school for the mentally retarded, exposed to radioactive tracers during nutrition tests in the 1950s, testified today that they never gave their permission and are worried about their health. The men, now in their fifties, spoke at the first congressional hearing into recent revelations of widespread use of radiation in Cold War research. They addressed a field session of the Senate Labor and Human Resources Committee, chaired by Sen. Edward M. Kennedy (D-Mass.) in a hall at Fernald State School, where they once lived. "I appreciate what you're doing for us now," said Charles Dyer of Salem, Mass., a former truck driver. "I think it's about time something was done. I never knew what was going on," he said, adding that he first learned of the tests a few weeks ago when his sister showed him a newspaper article. Austin LaRocque of Beverly, Mass., a maintenance worker, said he and two of his three children suffer from stomach ailments that doctors cannot diagnose. Since learning that he was part of the studies, he said, he wonders whether exposure to radiation was at fault. Kennedy read from a 1949 letter sent by the school's director to parents and guardians seeking consent for testing of Fernald residents. The tests, conducted by professors from Harvard University and Massachusetts Institute of Technology, used radioactive forms of calcium and iron to study how the body absorbed those nutrients when eaten with cereal. The letter said the school was considering "the selection of a group of our brighter patients . . . to receive a special diet." It did not mention radioactivity nor disclose the study's sponsors, Quaker Oats Co. and the federal Atomic Energy Commission. Dyer and LaRocque said they knew only that they were invited to join a Science Club and received special privileges for doing so. At the time, LaRocque said, he could neither read nor write and had no parents who could have signed for him. Fernald serves about 600 residents with disabilities ranging from mild to profound retardation. Also testifying was A. Bertrand Brill, professor of nuclear medicine at the University of Massachusetts Medical Center, who agreed that consent procedures in the Fernald studies were "grossly inadequate." But he defended general use of radioactive material in research and clinical medicine. Brill stressed that the Fernald studies were not of radiation but of nutrition that happened to use small amounts of radioactive tracers. Brill also said they had no military purpose and were distinct from other Cold War-era radiation tests. At one point, LaRocque turned and confronted Brill, seated near him on a panel. "Nothing personal," he said, "but if you had a son here, would you have allowed this to happen?" After a moment of stunned silence, Brill said: "Knowing what I know now, I would." Kennedy, who in the 1970s helped to write current regulations controlling government-funded research on humans and has had long-standing involvement with the mentally retarded, said later that the hearing underscored the need for swift federal action. Even more urgent than a plan for compensating victims, Kennedy said, is the need for a comprehensive effort to identify unwitting research subjects, find them and offer medical services to them and to any of their children who may have been harmed by radiation. "That's the first order of business," he said. Kennedy was joined by Rep. Edward J. Markey (D-Mass), who first uncovered some of the government's radiation testing programs in 1986 but was rebuffed by the Reagan administration. During the hearing, Markey repeatedly asked whether human radiation studies discovered in recent months were "the tip of the iceberg." He also joined Kennedy in calling for stricter safeguards in future research using humans. Copyright 1994 The Washington Post

## **NUCLEAR ACTIVISTS PRESS O'LEARY FOR FASTER REFORM**

RTw 1/13/94 8:44 PM By Michael McCarthy SEATTLE, Jan 13 (Reuter) - Nuclear activists urged Energy Secretary Hazel O'Leary Thursday to further open the Department of Energy's records on human radiation experiments and nuclear accidents. The activists, most of whom came from areas surrounding Washington state's Hanford Nuclear Reservation, made the comments at a "town meeting" O'Leary held to carry through on her promise of increased openness. O'Leary has promised a full review of the Department of Energy's rules concerning secrecy and the classification of documents. The rules were drawn up in 1946, the dawn of the Cold War. The Department of Energy (DOE) estimates there are approximately 32 million pages of documents in its files that need to be reviewed for declassification. O'Leary told the town meeting that she wanted to know what information they wanted declassified first. "We are about to shape a set of priorities so that we will be delivering in an orderly fashion those documents most valuable to you," O'Leary said. Gerald Pollet, executive director of the nuclear watchdog group Heart of America Northwest, said the department could expedite the process by immediately declassifying all records that clearly have no military significance. Such records would include documents relating to human and animal tests, accidental and deliberate releases of radioactive material from nuclear plants, accidents, and safety reviews of plants and storage facilities, Pollet said. "This is essential information," Pollet said. Gregory de Bruler of Columbia River United, which represents communities along the Columbia River downstream from the Hanford facility, said the department should have independent experts conduct the reviews. De Bruler said the government is hiring the same companies that created the nation's nuclear toxic waste dumps to evaluate the dumps' safety. "The DOE cannot have the fox guarding the chicken house," de Bruler told O'Leary. Cynthia Sarthou,

an attorney with Heart of America, called on the department to waive "sovereign immunity," a legal principle which protects the federal government from civil liability. She said citizens should be allowed to sue the DOE for radiation injuries it is responsible for and juries should be allowed to assess damages and compensation for the victims. O'Leary said that while she agreed in principle with many of the audience's recommendations, she warned it will take time for the department's culture to evolve from one of secrecy to one of openness and candor. REUTERCopyright 1994 Reuters Information Services, Inc. All rights reserved.

## **DOCTORS URGE AID FOR ALL EXPOSED TO RADIATION**

RTw 1/13/94 2:44 PM WASHINGTON, Jan 13 (Reuter) - A prominent doctors' group Thursday urged the U.S. government to launch a broad medical research and care programme for hundreds of thousands of people exposed to radiation from nuclear weapons plants, tests and other sources. "We're saying the radiation experiments on individual human subjects was just a small part of the exposure," said Daryl Kimball, policy director of Physicians for Social Responsibility. The organisation of 20,000 physicians and health professionals praised Energy Secretary Hazel O'Leary for starting the process of disclosing Cold War era nuclear medical tests done on individuals. But it said hundreds of thousands of people who may have been exposed to radiation from their work or from being downwind of weapons tests and weapons plants also should be considered subjects of unethical experiments and deserve relief. President Clinton's administration has launched an investigation of government-sponsored radiation tests done on individuals, sometimes without their knowing consent. It also is considering compensating wronged victims of these tests. "The people who were subjected to radiation experiments deserve more than monetary compensation," Kimball said. "We're suggesting a comprehensive programme of medical research and medical follow-up care to address the potential health problems in the larger number of people potentially affected." The doctors also said responsibility for radiation-related health investigations should be moved from the Energy Department to the Health and Human Services Department, and said the Energy Department should turn over records of radiation releases and worker health at nuclear weapons facilities to independent investigators. "The radiation experiments -- both individual and population-centred -- provide another example of the pernicious combination of arrogance and secrecy that has characterised the building and testing of nuclear weapons both here and in the former Soviet Union," Jack Geiger, of the organisation, said in a statement. "The experiments clearly violated the medical ethical standard established by the Nuremberg Code in 1947 and flouted basic principles of public health," he said. The doctors's organisation reported that high cancer rates have been found at more than a dozen U.S. nuclear weapons industry sites, but said the Energy Department's studies on that have been "radically incomplete." "We need a coherent, comprehensive strategy to investigate possible health effects in all community and worker populations exposed to radiation and toxins from the nuclear weapons complex," Geiger said. REUTERCopyright 1994 Reuters Information Services, Inc. All rights reserved.

## **ALLEGED RADIATION VICTIM FILES \$10 MILLION CLAIM**

RTna 1/12/94 8:52 PM SAN FRANCISCO (Reuter) - A man who alleges he was the victim of a U.S. government radiation experiment in the 1940s has filed a \$10 million damages claim with the Department of Energy, his attorney said Wednesday. Melvin Belli, a well-known San Francisco attorney, said he filed the claim Tuesday on behalf of Richard Reece, a 58-year-old Sacramento resident. Belli said he believed it was the first legal claim filed since Energy Secretary Hazel O'Leary disclosed last month that the government carried out radiation experiments on humans during the Cold War. Belli also said that he and another attorney next week plan to file a class-action suit against the government on behalf of "a lot of people" all over the United States who allege they were victims of the experiments. "We've been deluged with telephone calls from all over the United States. ... What you've seen in the newspapers is only the tip of the iceberg of these secret experiments," Belli said. In legal papers, Reece alleges that between 1945 and 1947 he was "a victim of unconsented ingestion or injections of radioactive materials as part of a program of experimentation negligently or wrongfully conducted by the United States Government in cooperation with the University of California." The documents say Reece was a mentally retarded child, 10 to 12 year old at the time, and that the program of injections was carried out at the University of California hospital in San Francisco. The documents say Reece was drafted into the Army in 1958, despite being mentally retarded, illiterate, color blind and unfit for military service. He alleges he was the victim of further experiments or monitoring in the Army. Reece says the experiments caused severe physical, mental and emotional injuries. Energy Secretary O'Leary, on a visit to Oakland Wednesday, said she was unaware of Reece's claim but she said the government was trying to work out a way to handle radiation victims. A University of California at San Francisco (UCSF) spokeswoman declined to comment on the case. UCSF Chancellor Joseph Martin earlier this week set up a committee to investigate media reports alleging that several UCSF patients received experimental radiation treatments in the 1940s as part of a secret government research program. O'Leary's revelation about government-backed radiation

experiments opened a fierce controversy and has led to calls for compensation of victims. REUTERCopyright 1994 Reuters Information Services, Inc. All rights reserved.

## **RADIATION-ETHICS**

APn 1/12/94 2:30 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By PAUL RAEBURN AP Science Editor NEW YORK (AP) -- Early in 1957, when the Soviet Union had acquired the H-bomb but hadn't yet put Sputnik in orbit, the U.S. government told its citizens that some of them would have to be sacrificed to assure America's survival. "We must gamble with the probability of radiation damage to a few individuals in order to secure the survival of the total society," C.W. Shilling of the Atomic Energy Commission said in a speech at Hunter College. "The game we are playing with Russia ... is for keeps." That response to the fears aroused by the Cold War contributed to a series of human radiation experiments in the 1940s and '50s that some scientists say were dangerous and ethically indefensible. Hundreds of pregnant women, prisoners, mentally ill and others were exposed to radiation, sometimes without even being told they were part of an experiment. The attitude toward radiation was so casual that doctors did experiments on their own, without informing their superiors. "It is probable that some clinicians were doing `ad hoc' research that was not approved either locally or centrally, and for which no formal record exists" the Department of Veterans Affairs said in a statement Saturday. The extent of that experimentation may never be known. Many of the radiation experiments, which would never be allowed today, reflect not only Cold War fears but also what was then a far different public attitude toward doctors. "Informed consent was informal," said Francis Masse, director of radiation protection programs at the Massachusetts Institute of Technology. "It used to be the doc putting his arm around your shoulder and telling you it wouldn't hurt. And you would trust the doctor and consent to it." "To hear that such things went on in the 1940s and 1950s is regrettable, but not surprising," said Dr. Robert Levine, who teaches medical ethics at the Yale University School of Medicine. Today, elaborate procedures are used to assure that patients are fully informed of an experiment's risks and benefits before they volunteer. In the postwar years, those standards were just beginning to evolve, Levine said. "What we essentially had was the so-called community standard of informed consent," he said. "That is, in getting informed consent you had to do whatever the community of practitioners considered appropriate." In other words, doctors know best. "It wasn't until 1957 that we realized other people might have an interest," Levine said. Even in the 1950s, however, some doctors strenuously objected to the Atomic Energy Commission's willingness to endanger volunteers without their knowledge. The experiments "have a little of the Buchenwald touch," Dr. Joseph Hamilton, an Atomic Energy Commission biologist, wrote to a senior commission official in 1950. The reference was to the wartime experiments conducted by the Nazis on concentration camp prisoners. Those experiments led, after World War II, to the creation of the Nuremberg Code. Its first principle says that the willing participation of informed subjects is a moral requirement for human experimentation, according to Arthur L. Caplan, director of the Center for Biomedical Ethics at the University of Minnesota. "It is indisputably clear that in terms of moral requirements you were supposed to get the knowledgeable consent of your subjects. You couldn't fool them, you couldn't deceive them, you couldn't lie to them," Caplan said. "In that sense, the experiments we're talking about fail dismally. They are clearly in violation of the standard we articulated in Nuremberg." Caplan objects to the idea that the radiation experiments should be excused because of Cold War hysteria or a different attitude toward doctors. "It is disturbing to see people try to say that standards were different," he said. "That's not true as far as informed consent goes. And it's disturbing that we allowed the Cold War to justify deceiving civilians."

## **RADIATION TESTS**

APn 1/12/94 12:38 AM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By H. JOSEF HEBERT Associated Press Writer WASHINGTON (AP) -- An outside panel of scientists will review government records on human radiation experiments to isolate any where ethical standards were violated, administration officials say. The panel, to be named by President Clinton, also may make recommendations on possible compensation to victims of experimentation, but a final plan will be up to Congress, the officials said Tuesday. Meanwhile, thousands of callers continued to clog a telephone hot line at the Energy Department, many of them with claims that they were subjected to radiation exposure during the Cold War. In recent days, there have been between 400 and 700 calls an hour to the DOE phone bank, meaning many could not get through, department spokesman Michael Gauldin said. Despite that, Gauldin said, DOE had completed interviews with 4,000 people. Of those, about one-fifth claimed to have been improperly exposed to radiation as part of experiments conducted in the three decades beginning in the 1940s. Thousands of other callers who are veterans have been referred to the Department of Veterans Affairs, which also has opened a hot line. The Advisory

Committee on Human Radiation Experiments, to be named by Clinton later this month, is expected to identify cases where radiation experiments clearly violated ethical standards, officials said. The panel probably will review hundreds of thousands of documents and interview some victims. It will include health physicists and specialists in radiology and medical ethics, Gauldin said. "We felt it was important to choose a non-governmental body to make these determination," he said. He said the civilian review group is "going to be given broad range" in analyzing the data once it is assembled and make judgments on whether the experiments were within proper ethical bounds -- both as they existed then and now. The intense public interest and the prospects of a massive search of records, some of which may have been destroyed or be hidden in government or contractor archives, has begun to show signs of overwhelming those trying to manage the program. Originally, it was only a DOE effort spurred by the determination of Secretary Hazel O'Leary to root out information about radiation experiments conducted for the old Atomic Energy Commission. But a week ago it was expanded to include other agencies, including the Veterans Affairs and Defense departments, the CIA and the National Aeronautics and Space Administration. Gauldin said the interagency working group formed to coordinate the records search is trying to more clearly define what experiments should be included in the sweep for documents and files. "We're looking for cases in which the government deliberately exposed people to radiation or deliberately released radiation," the spokesmen told reporters. "We're very concerned about being able to manage this task. It's an immense job." To more clearly focus the search, documents involving cases of accidental exposure -- including some involving accidental releases of radiation at government nuclear weapons plants -- will not be included in the review, Gauldin said. Officials are keenly aware that not all medical uses of radiation on humans was improper, he said, and some experiments -- such as those aimed at a therapeutic results -- may have been well within ethical standards. The aim is to "specifically look at how the experiments were conducted" and whether there was proper consent of the individuals involved, Gauldin said. "We're still largely in the searching process," he said, predicting it will take "months, perhaps years" to find all the records and analyze them. The Energy Department hot line number is 1-800-493-2998. It is open from 8 a.m. EST to 11 p.m. EST.

### **O'LEARY PROMISES JUSTICE, WON'T SHRED DOCUMENTS**

RTw 1/11/94 11:54 PM SAN FRANCISCO, Jan 11 (Reuter) - Energy Secretary Hazel O'Leary promised Tuesday to work closely with anti-nuclear activists and to prevent shredding of classified documents, including those related to secret radiation experiments. O'Leary spoke at an emotional, unprecedented meeting between Department of Energy officials and some of the department's long-time antagonists from California. These included anti-nuclear and environmental groups and representatives of people who believe they were exposed to government-backed radiation experiments. "It's about our future. It's about the survival of a nation. It's about the survival of our children. It's about building a world that allows us to go forward," O'Leary said. Fred Allingham, of the National Association of Radiation Survivors, presented a list of demands from the group and O'Leary immediately agreed to several of them. Allingham asked O'Leary if she would order an immediate moratorium on the shredding or other destruction of any classified documents "on past, present or future Department of Energy actions." "I commit to do that," O'Leary said. The aim of the meeting was to seek input on the Department of Energy's new openness policy and priorities for releasing some of the department's 32 million pages of classified information on nuclear weapons, testing and other issues. Several similar meetings will be held around the country. O'Leary said the Department of Energy and its opponents had to build trust to work together. She said the department's new open policy, launched last month with the disclosure that the department carried out radiation tests on humans during the Cold War, was not a public relations exercise. Delegates at the meeting, attended by officials of the Western States Legal Foundation, an outspoken critic of nuclear policy, and Physicians for Social Responsibility, praised O'Leary for adopting the new open policy. But some expressed scepticism because of their poor relations with the department in the past. One woman at the meeting -- June Stark Casey -- said she had been the victim of a radiation experiment while a student at Whitman College in Walla Walla, Washington in 1949. She said she developed severe hypothyroidism, hair loss, skin cancer, had a breast lumpectomy and lost two babies. REUTERCOPYRIGHT 1994 REUTERS INFORMATION SERVICES, INC. All rights reserved.

### **HOTLINE FOR RADIATION VICTIMS SWAMPED BY CALLS**

RTw 1/11/94 6:49 PM (Eds: new throughout, updates with higher number of victims feared) By Vicki Allen WASHINGTON, Jan 11 (Reuter) - Some 4,000 people have told the government they believe they were deliberately exposed to radiation in Cold War era government experiments, an Energy Department spokesman said Tuesday. The department, which set up a hotline in December, has been swamped with calls. It has talked with 12,000 people, and 4,000 said they were radiation test subjects, the spokesman said after a news briefing concerning efforts made by the administration to investigate the long-secret tests. Energy Secretary Hazel O'Leary estimated last month, there were up to 800 victims of such tests conducted by the Atomic Energy Commission, the Energy Department's predecessor. Since

then, the White House has formed a task force to unearth whether similar tests using human subjects were done by the Defence Department, the CIA, the National Aeronautics and Space Administration and other agencies. The Veterans' Affairs Department added to the potential tally this week, releasing documents that showed thousands of U.S. military veterans took part in radiation treatments and experiments at VA hospitals. The documents showed that the former Veterans Administration used radio-isotope techniques for treatment and research as early as 1947. The hotline, which was set up by the Energy Department in December to try to determine the extent of the testing and potential victims, has been overwhelmed by calls. Many of the calls -- about 78 percent -- have been calls from veterans and others who feared they may have been exposed to radiation from nuclear weapons tests or on their jobs, Energy Department spokesman Mike Gauldin said. About 4,000 people have called so far, he said. Others just wanted information, or wanted to express their outrage. "If people are upset and it will make them feel better to talk to somebody, then that's part of the service," he said. As new information is constantly emerging, Gauldin said it is too early to tell how many people were subjects of the nuclear tests. He said the task force will focus on government experiments that deliberately exposed humans to ionising radiation. Another department spokesman said the task force still is trying to determine "the universe" of its study. The task force also wants to know whether the subjects gave consent or knew the dangers they were facing, and whether the tests had a credible purpose. Gauldin said he could not answer questions on how the government will deal with compensating the victims. "As you know, it would be a very tricky legal and political issue," he said, which ultimately will be decided by Congress. The White House has said it will consider compensating wronged victims of the experiments, which Gauldin said appeared to have been conducted mostly between 1944 and 1974. Subjects included retarded teenagers, pregnant women, the terminally ill and prisoners. Gauldin said the department is working on a new system to take more calls on the overwhelmed hotline, and that it is "casting a wide net" to gather facts. Meanwhile the administration interagency task force has split into committees to tackle the study more efficiently. Committees will deal with ways to gather information on victims, including the hotline, legislative issues, and legal issues including developing a model for compensating victims. One committee will develop a system for retrieving records and documents, which apparently are stashed at laboratories and universities as well as in government buildings. The White House also hopes by the end of the month to name an advisory committee of people outside government, including medical and ethical experts, to review the expected mass of information and recommend remedies. REUTERCopyright 1994 Reuters Information Services, Inc. All rights reserved.

## **RADIATION-CLINTON**

APn 1/11/94 5:30 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By H. JOSEF HEBERT Associated Press Writer WASHINGTON (AP) -- President Clinton will name a civilian panel of scientists to independently review human radiation test data uncovered by a government-wide search and determine whether ethical standards were violated, administration officials said Tuesday. At the same time, the Energy Department said it had completed telephone interviews with some 4,000 people who have called a department hot line and that about one-fifth had complained of being victims of some radiation experiments. In all, more than 10,000 callers have gotten through to a bank of 36 operators. About half of them were veterans and were referred to the Department of Veterans Affairs. Thousands more people have been unable to get through, with the hot line receiving as many as 700 calls an hour, department spokesmen said. The civilian advisory panel, expected to be named later this month, will examine the hundreds of thousands of documents on reported radiation tests conducted on humans during the Cold War. It also may interview some of the victims and in some cases recommend compensation, although a final compensation scheme will have to be approved by Congress, said Energy Department spokesman Michael Gauldin. "We felt it was important to choose a non-governmental body to make these determinations," Gauldin said. He said the civilian panel is "going to be given broad range" in analyzing the data once it is assembled. It will also be given wide latitude to judge whether the experiments were within proper ethical bounds -- as they existed at the time and by today's standards. Gauldin emphasized that it would be up to Congress to determine actual compensation. He said it had not yet been determined who would be on the advisory panel, which will consist of health physicists, experts on radiology, and specialists in medical ethics. Meanwhile, there are signs that the massive record search and the intense public reaction from thousands of people who claim to have been victims is threatening to overwhelm officials trying to manage the program. Gauldin said the interagency "working group" formed a week ago to coordinate the search of records in eight agencies and departments is trying to more clearly define exactly what experiments should be included in the sweep for documents and files. "We're looking for cases in which the government deliberately exposed people to radiation or deliberately released radiation," Gauldin told reporters Tuesday. "We're very concerned about being able to manage this task. It's an immense job." Gauldin said the search of documents specifically will not include cases of accidental exposure, including some involving accidental releases of radiation at government nuclear weapons plants. The task force also has not yet clearly determined what medical experiments might

be subject to the search. Officials acknowledged, for example, that some radiation experiments conducted on humans were well within medical standards with proper medical goals, and in some cases may have had therapeutic effect. Gauldin said the records search is intended to "cast a wide net" but that researchers will "specifically look at how the experiments were conducted" and whether there was proper consent. "We're still largely in the searching process," said Gauldin, predicting it will take "months, perhaps years" to find all the records and analyze them. In addition to the Energy Department, record searches on human radiation tests have been directed at the departments of Defense, Veterans Affairs, and Health and Human Services as well as at the Central Intelligence Agency and NASA. ----- The DOE hotline number is 1-800-493-2998. It is open from 8 a.m. EST to 11 p.m. EST.

### **EARLY RADIATION TEST ESTIMATES APPEAR LOW, ...**

RTw 1/11/94 2:23 PM EARLY RADIATION TEST ESTIMATES APPEAR LOW, GOVERNMENT SAYS (Eds: new story) WASHINGTON, Jan 11 (Reuter) - Estimates that up to 800 people were deliberately exposed to radiation in Cold War-era government tests appear to be too low, an Energy Department spokesman said Tuesday. "It certainly seems to be more than the initial estimates of 600 to 800 people," department spokesman Mike Gauldin said at a news briefing. Copyright 1994 Reuters Information Services, Inc. All rights reserved.

### **VETERANS HOSPITALS USED RADIATION, DOCUMENTS SHOW**

RTw 1/11/94 11:45 AM WASHINGTON, Jan 11 (Reuter) - Thousands of U.S. military veterans took part in radiation treatments and experiments at Veterans Administration hospitals during the Cold War era, according to newly released government documents. The documents did not say whether the patients knew about or agreed to the treatments and research. The Veterans Affairs Department, which succeeded the Veterans Administration, or VA, and released the documents, said that as early as 1947 the VA was using radioisotope techniques for treatment and research. Veterans Affairs Secretary Jesse Brown has ordered VA hospitals to search their records for patients who had radiation treatments. It is part of a joint effort with the Energy and Defence Departments to disclose records about U.S. nuclear tests that may have exposed Americans to radiation without their knowledge. "I believe that every VA hospital must now act in the best interests of anyone who has ever been treated, examined or involved in research in a VA facility by aggressively conducting this review. I am committed to searching for the truth," Brown said in a statement. Brown said he found it upsetting that a 1947 VA conference decided to classify the existence of the VA's Atomic Medicine Division as "confidential" because it feared that there might be problems in connection with alleged service-connected disability claims. "I have ordered a thorough review of the records to attempt to piece together why this was done and the consequences of these actions," Brown said. The conference, called by General Paul Hawley, then chief VA medical director, agreed on a policy to use radioisotopes in VA medical research and clinical investigations if sound conservative medical practices were followed. VA annual reports show that 399 radioisotope studies or research projects were carried out in 1955 and 560 in 1956, accounting for 10 percent of all VA research projects during those years. By 1958, the VA had 48 radioisotope laboratories in operation. The documents show that radioisotopes were used for such procedures as thyroid studies, brain tumour localisation, studies on red cell survival and treatment of leukaemia, hyperthyroidism and prostate cancer. In 1953, over 5,000 patients were treated or diagnosed. REUTERCOPYRIGHT 1994 Reuters Information Services, Inc. All rights reserved.

### **NUCLEAR ENERGY POWER IN CENTRAL AND EASTERN EUROPE**

RTec 1/11/94 8:26 AM EUROPEAN DOCUMENT RESEARCH - January 11, 1994 + In a report on the status of nuclear power plants in the Central and Eastern European Countries and the Commonwealth of Independent States, the Commission reports that the European Union should "not make the quick closure of nuclear power plants a de finitive precondition for aid." The report concludes that although nuclear power plants in the CEEC/CIS do not satisfy current design and safety standards in the West, all these countries are dependent on nuclear generated electricity and immediately closing less safe nuclear power plants would be economically difficult. Instead, the report says, the Commission should "pursue nuclear safety through the actions of the PHARE and TACIS programmes." The report also recommends that the Union's financial instruments should continue to put particular emphasis on energy efficiency in all sectors, notably through economic energy pricing. Ref: COM(93) 635 final; Dec. 9; 42 pages EDR 59. This document is available immediately from European Document Research on our normal terms. For further information and for copies of EC documents, please contact EDR at Rue de Treves 61, 3eme etage, B-1040 Brussels, Belgium. Telephone (322) 230 8814, fax (322) 230 8965. END OF DOCUMENTCOPYRIGHT 1994 Reuters Information Services, Inc. All rights reserved.

## **THE RADIATION EXPERIMENTS; THE COLD WAR DIDN'T ...**

WP 1/9/94 11:00 PM The Radiation Experiments; The Cold War didn't justify what was done. By Meg Greenfield Newsweek Inc. We have an unfolding scandal to occupy us in Washington this week as well as some pretty heavy-duty foreign-policy stuff. But my mind just keeps being hauled back to the radiation story. That is the developing account of how the federal government financed various radiation-tolerance experiments on people over the years after World War II, some of the subjects of these experiments having given their consent, others having been totally unaware of what was being done to them. Related disclosures concern the federal government's failure to be truthful about the terribly harmful effects of some of its nuclear enterprises around the country, such as that in Hanford, Wash. The subject is now to be looked into by a White House task force. But well in advance of its findings a couple of truly dubious propositions seem to be settling in as conventional wisdom. One is that the events in question began to occur as many as 40 or more years ago when, it is soberly asserted, people just didn't have the capacity to understand such things, either morally or scientifically. The other is: "Hey, there was a cold war on!" This is meant to suggest that there was an eggs-and-omelets, ends-and-means problem involved here, one of those for-the-greater-good situations in which someone (else) had to be sacrificed for the sake of saving or at least helping a large number of others. The premises underlying both propositions are rot. I can accept that much less was known and understood about radioactivity in the early days of the atomic age than now. That is obvious, and it is important to distinguish between what was accidental or innocent and what was not. And I can accept too that we have as a society become more conscious of the potentially harmful consequences of any number of phenomena that used to be regarded with indifference, from smoking to polluting our rivers and streams; and so we are more keenly aware of our choices. But none of that implies total ignorance or ethical idiocy in our recent past. I hate to break this to the younger folks among us, but 40 years ago was not the moral dark ages. We could read and write and were even capable of reasoning back then. A society that was morally alert enough to grasp the profound wrongs that were being inflicted on the helpless populations under totalitarian rule would have had to boast plenty of citizens who would not have had any trouble at all in concluding - at once - that slipping poisonous matter into the breakfast food of unknowing, institutionalized retarded kids was a disgrace. You wouldn't have needed to call on the services of one of those people we nowadays call an "ethicist" to figure that out. The reason I find the retroactive justifications for what went on with many of the radiation experiments so troubling is that they go directly to the heart of our present political confusions. For as long as there has been politics there has been the question of when to go along and when to say no. Those who do not simply withdraw themselves from the compromised, daily human business of civic life in the manner of hermits or ascetics or nonplayers of some other sort have to face this. They have to decide how much to engage in and accept the morally imperfect system of trade-offs that enables a society to get its business done, and when to draw the line. They have to keep alive within themselves the belief that some things are just plain wrong and that we are individually responsible for recognizing them when they come along and acting on our conviction about them, even at a cost. It is interesting to me that much of the apologetics for what the government and nuclear experimenters did is coming from parts of the establishment that are generally notorious for their impatience with what we call "situational ethics" - at least when such ethics are promoted in grade-school textbooks or "bleeding-heart" social workers' testimony in juvenile court. In fact, the conclusion that nothing is anybody's fault and nobody could help it and it all depends, anyway, on how you were conditioned by your environment to think about it etc., has been wantonly extended from a few relevant cases into every reach of our communal life. The relativists and sophists among us can construe almost any moral monstrosity as a justifiable act of political revenge or psychological compulsion or intellectual dissent or national-security necessity or something else along those lines. The insidious reasoning about the radiation experiments should catch us up on this. It is as good an illustration as we are likely to get of how far the process of rationalizing away our moral standards has gone. I do not say that everyone at every level involved in these nuclear affairs did wrong. I do not even say that everything that occurred was wrong. But I do say that in many parts of this activity terrible wrong was done and that some individuals had the clarity to say so at that time and that many more should have. It is the case that from one age to another assumptions change, as do perceptions of moral right and wrong. We argue about this endlessly in relation, say, to slavery in America or the grotesque mistreatment of very young working children in the century that preceded ours. But from this I do not conclude that we are all helpless captives of our particular era. There were always at least some people in those earlier times who knew that wrongs were being committed, and the lesson we ought to draw from contemplating such history, in any case, is not that we might as well succumb to the prevailing assumptions of our own age, too. It is that we ought to be wondering what the moral blind spots of our own age are. It used to be said, in the years when the incredible depredations of J. Edgar Hoover's later life as head of the FBI were coming out, that the people making a big fuss about them and wishing some restitution and amends to be made were in some way or other people who liked tearing down America, who reveled in the idea that we were bad. This, of course, has it exactly backward. To protest such actions and seek remedies for them is to pronounce them aberrant, to insist by implication that this country is not like that. I feel the same way about the more witting and culpable of the radiation experiments. I hope the administration task force is unsparing in its report. Reprinted by permission; all rights reserved Copyright 1994 The Washington Post

## **NAVY RESUMES SHIPMENTS OF USED RADIOACTIVE FUEL ...**

WP 1/8/94 11:00 PM Navy Resumes Shipments of Used Radioactive Fuel to Idaho By Thomas W. Lippman Washington Post Staff Writer The Navy has resumed shipments of used radioactive fuel from nuclear-powered ships to a storage depot in Idaho, under a temporary arrangement that underscores the service's long-term problem in disposing uranium fuel. About one-third of the fleet is nuclear powered. The Navy, like the Energy Department and every commercial nuclear power plant, is struggling to cope with the nation's lack of a permanent repository to store spent fuel. The used fuel is highly radioactive and must be kept shielded for hundreds of years. Nuclear-powered ships can operate many years without refueling, but used fuel is accumulating at an accelerating rate because the fleet is shrinking and old submarines are being disassembled. In the past, the highly enriched uranium fuel was shipped to the Energy Department's Idaho National Engineering Laboratory for chemical reprocessing to extract the remaining usable uranium. But the Energy Department has a surplus of uranium and no longer reprocesses naval fuel. The Navy had continued to ship used fuel from decommissioned submarines and refueled operating ships to Idaho for storage, but last July a federal judge in Boise ordered the shipments halted until completion of an environmental impact statement, a process that can take two years or more. Adm. Bruce DeMars, director of the Navy's nuclear propulsion program, said at the time that the court order would disrupt refueling schedules, block the scheduled decommissioning of some ships and cause job loss at naval shipyards where refueling and decommissioning work is done. The Navy began storing the radioactive used fuel in dockside facilities at several shipyards, including Norfolk Naval Shipyard. In a letter to the Washington-based National Security News Service, Navy nuclear spokesman Jonathan Kiell said it was safe to do so because "conservative estimates indicate that this highly stable material could remain in its current storage configuration for more than 1 million years without releasing fission products." But governors and antinuclear activists in the states where those shipyards are located joined Idaho Gov. Cecil D. Andrus (D) in objecting to creation of de facto nuclear waste repositories in the guise of temporary facilities. Now a federal appeals court has ratified a settlement negotiated by the Navy, the Energy Department and Idaho that permits limited amounts of fuel to be shipped to Idaho, averting disruption of the Navy's work, until completion of the environmental analysis, which will consider all known alternatives. In the absence of a permanent repository for used radioactive fuel - which the Energy Department does not expect to develop before 2010 - those alternatives are limited, Energy Department and Navy officials acknowledge. One possibility is to ship it all to Idaho, but Andrus has long objected to long-term storage of radioactive wastes in his state. Another is to leave it at the shipyards, but the yards are in populous areas, such as Norfolk. A third, according to Energy Department counsel Mark Johnston, is to "consolidate it at a different site," but he acknowledged it would be difficult to find any community willing to accept the material. Copyright 1994 The Washington Post

## **ATOMIC SECRETS**

APn 1/8/94 9:00 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. NEW YORK (AP) -- The Energy Department is looking into overhauling the law that sets the framework for U.S. nuclear secrecy and which has generated at least 32 million pages of classified papers, The New York Times reported. The Atomic Energy Act, enacted in 1946 and revised in 1954, is dangerously obsolete and needs overhauling, Energy Secretary Hazel R. O'Leary told reporters last month. A variety of options for overhauling the law have been assembled into a draft study, "The Atomic Energy Act in the Post-Cold-War Era: Restoring the Balance," the Times reported in Sunday's editions. Among the options considered: -- Scrapping the practice of automatically labeling all data on certain subjects as classified. -- Requiring a systematic declassification review of all existing documents. -- Allowing secret data to be shared more easily with foreign countries to advance safety, security, arms control and nonproliferation. -- Changing the penalties for divulging weapons secrets. If many of the recommendations are authorized, the Times said, a new legal framework for nuclear topics would be created based on a commitment to openness rather than secrecy. Following the recommendations could also save millions of dollars in needless security precautions, officials told the newspaper. Any change to the law requires Congressional action, which could take months or years to accomplish. O'Leary said the power the act has given officials, while at one time necessary, has since damaged U.S. life and institutions, mostly by undermining trust in government. The Energy Department recently disclosed that 800 radiation tests had been conducted on people over the decades and that the United States had conducted 204 clandestine nuclear blasts and kept more stockpiles of weapons-grade plutonium than previously thought.

## **CONTAMINATED COMMUNITY**



APn 1/8/94 1:22 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By STEVEN K. PAULSON Associated Press Writer CANON CITY, Colo. (AP) -- As chief chemist at the Cotter Corp. uranium mill for two decades, Lynn Boughton dreamed of helping provide electricity so cheap it would be given away. Boughton no longer works for Cotter. He and his wife both have cancer and he dreams of undoing the radioactive contamination the mill left. On Monday, jury selection begins in federal court in Denver over a class action lawsuit Boughton initiated. The lawsuit seeks \$500 million in property damages from Cotter on behalf of 500 people who lived near the now-closed mill. The mill produced uranium fuel for nuclear power plants around the world for almost 30 years. Near the mill was the neighborhood of Lincoln Park, home to about 5,000 people on the southern edge of Canon City in southern Colorado. Good pay, mild winters and cheap housing made for a sweet life in Lincoln Park. In the 1990s, life looks different. Lincoln Park was declared a federal Superfund cleanup site in 1984. People believe uranium dust that blanketed the town for decades caused cancer and they want Cotter, a subsidiary of Commonwealth Edison of Chicago, to provide lifetime medical monitoring. Company officials admit the plant contaminated soil and water and say they will leave it to the federal court to determine how much. But they deny the mill caused cancer. "We have said all along there is no health hazard, and the state's figures prove that," said Rich Zeigler, a Cotter spokesman. "We have always said there was property damage." Zeigler blamed ignorance about radiation for the contamination. "I don't think anyone understood the health hazards at the time," he said. The mill was closed because of declining demand in 1987, three years after the Environmental Protection Agency put Lincoln Park on the Superfund list. Boughton said that in addition to his lymphoma and his wife's breast cancer, their next-door neighbor and her six daughters all developed breast cancer; three of them died. Sixteen of his co-workers got cancer and 10 died. He sat down to make a list and realized he knew more than 150 people with cancer, and 79 had died. Despite such statistics, the Colorado Department of Health concluded last September that Lincoln Park residents faced no greater risk of cancer than expected for an enclave that size. A report from the Colorado Central Cancer Registry for 1979-1990 showed 333 reported cancers in Lincoln Park, compared with 337.1 expected cases for an average 5,000 men and women. Boughton asserts the state statistics are misleading. His wife, Deyonj, said many suspected cases aren't even listed because families deny having the disease. "Cancer is a bad word," said Mrs. Boughton. "It's like mental illness. Many families just didn't talk about it." The issue has divided the town. Boughton left Cotter in 1979 and ran a garden center for 25 years. It went out of business last month. Boughton lost his health insurance and is in danger of losing his home. Part of the reason for a drop in customers "was our stand on this issue," Boughton said. "It's our feeling some people were boycotting us." Boughton said Canon City residents are angry because his lawsuit alerts potential tourists that a future landing site for river rafters, part of a \$2.5 million development, is planned for a spot where radioactive materials were dumped. The milling process at Cotter's mill generated about 30 tons of radioactive dust a year. "Every time the wind blew, we'd get clouds of that radioactive dust all over town," said Louis DiOrio, who worked at the plant for 18 years. He and his wife have cancer and his 29-year-old daughter has had a double mastectomy. Boughton said even if he wins his lawsuit, he was told he may get only \$3,000 in damages. "I've lost my health. That's gone. My wife and I have cancer, and we have no health insurance. Next year, we may have no home, and I probably can't sell it anyway," he said. His wife added: "We talk about Chernobyl and the dastardly things the Russians have done, but what have we done?"

## **RESEARCHERS DEFENDS RADIATION TESTS**

UPne 1/7/94 8:02 PM BOSTON (UPI) -- The Massachusetts Institute of Technology scientist who approved radiation testing on mental patients without their consent has branded the current controversy over the experiments "ridiculous." Robley D. Evans, who headed the radioactivity center at MIT after World War II, said parents of teenage test subjects were not told about the radiation part of the experiments because the amounts used were "trivial." Recent disclosures about radiation tests on teens at the Fernald State School in Waltham, Mass., touched off a federal and state search of records to see how extensive such tests were and whether patients suffered any harm because of them. Evans said in Friday's Boston Herald that the controversy over the tests is "absolutely much ado about nothing, and it's inflammatory." Evans defended the research done by MIT and Harvard and said the media had blown the experiments out of proportion. "You guys (the media) keep calling them radiation experiments, and they weren't," Evans said. "They were tracer experiments. You can use tiny amounts of radioactive materials and trace drugs or minerals in the body with substantially no effects from the radiation." Advocates for the mentally retarded have called the tests unethical. One, Dianne Quigley of the Childhood Cancer Research Institute, said that in her mind, "these studies are equal to war crimes." Evans disagreed. He said the consent forms sent to parents did not mention radiation "because it was trivial" and because to do so might cause parents and guardians to become alarmed. He said doses of radioactive materials fed to Fernald patients "were so low that they are still under the international recommendations of today." MIT President Charles Vest said in a statement he was "concerned" about the failure to inform the patients or their families about the tests, which were designed to study the

digestive process in young people. But he agreed with Evans that the tracers of radioactive iron and calcium given to the children were "well within even today's limits." Evans, now 87 and retired in the Southwest, headed MIT's radioactivity center from 1945 to 1977. In that position, he sat on an MIT committee that approved the use of radiation in studies involving mentally retarded teenagers at the Fernald school. He oversaw the distribution of radioactive isotopes from the U.S. Atomic Energy Commission and an MIT cyclotron throughout the world. Mental health advocates questioned that if the tests were harmless, why were they performed just on mental patients. Frederick Misilo of the Massachusetts Department of Mental Retardation said the tests were "barbaric." Misilo said that if there was no harm, "why didn't they do these tests on the average population? Why did they do it on a population in an enclosed segregated environment?" Copyright 1994 The United Press International

### **LITHUANIA-NUCLEAR LEAK**

APn 1/21/94 4:18 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. VILNIUS, Lithuania (AP) -- A small radiation leak at a Chernobyl-type reactor outside Vilnius led to the plant's closure this week, Swedish nuclear regulators said Friday. They said there was no immediate danger. The shutdown at the Ignalina nuclear power plant, 37 miles from Vilnius, was the third in less than five years, according to Per Bystedt, deputy head of a Swedish project to boost safety standards at Ignalina. He said plant officials turned off one of the plant's two reactors Tuesday after detecting radioactive water leaking from a cooling system. "We're talking about quite a small amount of water and it stayed inside the plant. There is no immediate hazard," said Bystedt, of Sweden's nuclear regulatory body. He said a faulty weld on a pipe was suspected as the cause of the leak. Ignalina's reactor No. 1 could be turned on within days if other faulty welds are not found, Bystedt said. The 10-year-old plant provides more than 80 percent of Lithuania's electricity. The plant's two 1,500-megawatt reactors are larger than those at Chernobyl, in the Ukraine, site of the world's worst nuclear disaster, in 1986. Bystedt said Sweden has provided \$8 million to upgrade Ignalina.

### **BRITAIN-SIMULATED NUKES**

APn 1/21/94 1:22 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By EDITH M. LEDERER Associated Press Writer LONDON (AP) -- Powerful computers, lasers and X-rays can simulate parts of a nuclear explosion, but high technology can never replace a real nuclear test, top nuclear scientists say. With the approach of next week's 39-nation negotiations on banning all nuclear tests forever, scientists are contemplating the prospect of ensuring the safety and reliability of existing nuclear stockpiles without live trials. "We will have to do that with computer simulation and non-nuclear testing, and the level of confidence is not going to be as high as it would be with nuclear testing," said John D. Immele. Immele is director of nuclear weapons technology at the Los Alamos National Laboratory in New Mexico, where the first atomic bomb was produced. At the heart of negotiations for a global test ban is a concerted effort by many industrialized and developing nations to slow the spread of nuclear weapons. Many nations view a Comprehensive Test Ban Treaty as a crucial first step to winning world approval for extending indefinitely the Nuclear Non-Proliferation Treaty. The treaty's non-nuclear members have pledged not to acquire nuclear weapons in exchange for help in developing civilian nuclear programs. "What the Non-Proliferation Treaty does is really slow down proliferation. It creates a world climate where it's really illegal to start developing nuclear weapons and a Comprehensive Test Ban strengthens that," said Dr. Patricia M. Lewis, director of the private Verification Technology Information Center of London. "Every scientist will want to proof-test everything. But the question we have to ask ourselves is, 'Is the Non-Proliferation Treaty more important than the wish list of a few weapons designers?'" As South Africa, Iraq and Israel have shown, banning nuclear tests may not block the development of a simple nuclear weapon like the one used on Hiroshima. Lewis said the last Non-Proliferation Treaty conference, in 1990, failed to produce a final document because there was no test ban. About 140 signatories are to meet in New York in March 1995 to consider extending the Non-Proliferation Treaty and giving it teeth to punish offenders. Lewis said progress on a test ban treaty will be the key to its success -- and the views of the five nuclear powers will be critical. The United States, Russia, France and Britain adhere to a moratorium on nuclear testing. China carried out a test in October and indicated it wants to conduct a few more. And a French parliamentary committee report last month called new tests "indispensable." President Clinton supports a comprehensive test ban and backs former President Bush's 1990 declaration that America will not develop new types of nuclear weapons. In the test ban talks beginning Tuesday in Geneva, nuclear safety undoubtedly will be an issue. Computer advances enable nuclear scientists to produce three-dimensional designs of nuclear weapons. Scientists can use high explosives and an intense narrow beam of X-rays to compress non-nuclear metals in a bomb chamber to simulate the start of a nuclear reaction. Using highly focused lasers, they can create plasmas which behave like the interior of a nuclear weapon. All

these advances have reduced the number of underground tests. In the United States, the number carried out dropped from 77 in 1958 to a half-dozen in the early 1990s. But as David Nowak of Lawrence Livermore National Laboratory in California said, "You can never fully simulate an underground test on a computer. "The problem is nobody has everyday experience at these kinds of temperatures and densities -- and the temperatures are many millions of degrees." Immele said the chemicals inside nuclear weapons change and can become volatile. Nuclear weapons are as complex as solid rocket motors, and as sensitive to small engineering defects, he said. "The reason I make the analogy is that everybody in the United States watched the solid rocket motor on the Challenger malfunction" in 1986, Immele said. "So the challenge we face ... is to ensure the military 20-30 years from now that the weapons they have are still reliable and still safe." Immele said his "personal preference and technical preference" would be to continue underground nuclear tests to maintain the reliability and safety of the U.S. stockpile. Other nuclear scientists echo his view. At a minimum they would like to continue safety checks with low nuclear yields.

### **MARSHALL ISLANDS-NUCLEAR**

APn 1/21/94 12:41 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. MAJURO, Marshall Islands (AP) -- The foreign minister accused the U.S. government Friday of deceiving Marshall Islanders about the effects of nuclear radiation from U.S. bomb tests to minimize compensation payments. During the 1980s, the Marshall Islands sought detailed information on the extent of radiation poisoning from U.S. nuclear tests conducted from 1946-62 on Enewetak and Bikini atolls, Foreign Minister Tom Kijiner said. The U.S. government said 239 islanders had been affected by the tests, but said it had no further information. Kijiner accused the U.S. government of minimizing the affects of the tests and cited the recent disclosure by the U.S. Department of Energy that Americans were used as unwitting "guinea pigs" for irradiation experiments. Rep. George Miller, D-Calif., has written to President Clinton and U.S. Energy Secretary Hazel O'Leary with evidence that Marshall Islanders were deliberately exposed to nuclear fallout. Miller cited Dr. Thomas Hamilton, who examined 7,000 Marshall Islanders, as saying "This was exposure without consent, a black-and-white situation in which whole islands were evaporated." The Marshall Islands has the highest rate of thyroid tumors in the world, apparently as a result of exposure to lingering radiation. Miller said in his letter that the rates on the islands may be 100 times higher than normal. Jonathan Weisgall, a Washington lawyer writing a book on the Pacific tests, contends that on March 1, 1954, U.S. scientists knew six hours in advance of the "Bravo Shot" test, the biggest American above-ground nuclear explosion, of a wind shift that would carry fallout toward Rongelap atoll. The U.S. scientists decided to detonate the blast anyway, and 200 Rongelap residents died of radiation sickness. Kijiner said he believed the U.S. government concealed the extent of its knowledge of radiation in the 1980s in order to minimize compensation for the nuclear testing. The U.S. government paid the Marshall Islands \$183.7 million in 1983.

### **EP APPROVES PROPOSAL ON IMPROVING NUCLEAR SAFETY**

RTec 1/21/94 7:31 AM EUROPEAN PARLIAMENT SESSION NEWS PRESS RELEASE DOCUMENT DATE: JANUARY 21, 1994 + Nuclear safety (A3-401/94 - Herve) + Thursday, 20 January - Following last month's debate the House approved several amendments to a Commission proposal designed to improve safety at nuclear power stations in Europe. Parliament wants to see the most dangerous stations closed down. END OF DOCUMENT Copyright 1994 Reuters Information Services, Inc. All rights reserved.

### **JUST TELL THE TRUTH; IN TRYING TO FIGHT ONE ...**

WP 1/20/94 11:00 PM Just Tell the Truth; In trying to fight one national security threat, we created another. By Jessica Mathews There's more than one ugly thing crawling beneath the rock Secretary Hazel O'Leary has lifted at the Department of Energy. Radiological experiments of no therapeutic value on uninformed patients have caught public attention, and deservedly so. But the issue must not be allowed to rest there. Radiation per se is not the issue: The CIA's tests of supposed mind-control drugs were equally heinous. Nor is medical testing. Past abuses should be examined and redressed, but today's standards of informed consent are strict and strictly observed. If anything, patients are loaded with more information than they can absorb. The question that should guide the coming deluge of congressional hearings and expert panels, because it affects present and possibly future failings, is a broader one. How, in the name of combating one national security threat, did we create another? How did we allow our system to be so twisted by the struggle against a despicable tyranny that it ended up copying some of the practices it was fighting to destroy? For decades, in pursuing the nuclear enterprise, the government abused its authority and the public trust. It killed. It lied. It later protected those lies with a phalanx of laws that made it impossible to mount a successful challenge in court and with a "born secret" classification

scheme that swept all atomic data under its aegis and kept it there indefinitely. The government demanded silence or dismissal for dissenters in its employ and wielded public scorn as a weapon against those who were not. In a 1955 brochure distributed to people in Nevada, Utah and Arizona who lived downwind of the nuclear test site, the Atomic Energy Commission promised: "It (fallout) does not constitute a serious hazard to any living thing outside the test site." Who wrote such a thing, and who countenanced its distribution? What rationale justified the deception? The same attitude extended to workers in the atomic industrial complex, to patients and to all citizens. The AEC knew, for example, that uranium miners would get lung cancer from breathing radon gas, but declined to raise the cost of uranium by ventilating the mines. Did some obscene cost-benefit analysis value miners' lives so low? Or did the AEC simply see them as unwitting, ununiformed soldiers whose lives could be legitimately sacrificed? What institutional process and mind-set produced doctors who could diagnose terminal stomach cancer, allowing an immediate "lethal textbook dose" of plutonium, four days before a biopsy showed the patient to have an ulcer? Did another patient, who received a plutonium injection in his leg and an amputation three days later, really have bone sarcoma - which chanced to go into a 40-year remission - or was false diagnosis to produce test subjects standard operating procedure? A broad review of the atomic era should cover the medical experiments, the bomb tests, management of the nuclear plants and treatment of workers, miners and the public. It must discover what role secrecy played in perverting judgment, silencing dissent and buttressing shoddy management. Would individuals and institutions have behaved differently if they had known that what they were doing would be made public in, say, 10 years? What role did secrecy play in Congress' egregious failure to exercise effective oversight? Those who were injured are owed the truth and an apology. Financial compensation will be due to some, but it should be placed, through legislation, within reasonable limits. Otherwise, fear of lawsuits will keep the government from coming clean. Getting at the truth is more important to the country - and even to those who were directly victimized - than is the payment of huge damages to a relative few. Only a thorough exhumation of the facts can unburden the Department of Energy of the past it is still protecting and purge it of the culture of secrecy that still pervades the agency. The change O'Leary has set in motion is bigger than a few political appointees can accomplish. Most of the early Cold War secrecy restrictions are still in place, and so is the attitude that years ago came to rely on them. Compartmentalized information, strict "need to know" restrictions and antagonism toward intervenors, whistle-blowers and citizens' groups are what comes naturally. Many believe that the public is so hopelessly irrational about the atom that disclosure of the facts about costs, releases, exposures and environmental contamination would sink or drastically complicate civilian nuclear energy and possibly even damage the weapons enterprise. Management by an elite, protected by secrecy, seems the only option. And so bits of the story are pried loose little by little, and the public responds with rational - and irrational - suspicion. This cycle has played no small role in the nuclear industry's troubled history, in the endless waste disposal fiasco and in the system that has, until O'Leary, automatically awarded fat annual bonuses to companies managing weapons plants no matter how poor their management or how deplorable their safety and environmental records. Laying out the whole story will, in the short run, make DOE's job even harder. But it is the only way to build a foundation of public support for nuclear power and to ensure that the mammoth cleanup of weapons plants and storage of dismantled weapons are safely and affordably handled. Most important, it is the only way to learn how to fix the system so that in the future we can keep secrets without being hurt by them. The writer is a senior fellow at the Council on Foreign Relations. Copyright 1994 The Washington Post

#### **FOR THE RECORD**

#### **FROM REMARKS BY ENERGY SECRETARY ...**

WP 1/19/94 11:00 PM For the Record From remarks by Energy Secretary Hazel O'Leary at an energy and power subcommittee hearing on government radiation experiments Jan. 18: What we are looking at is a very narrow slice of a Cold War. ... (to which people) have responded ... because of the view of the human impact of these experiments on those of us who are least able to protect themselves with a government that one would expect to accord the highest level of protection. ... (But) recall that while this was going on ... there were medical trials that led us to the development of the polio vaccine, and as one who has passed 50 I remember the fear in the hearts of parents and ... children ... when each and every summer among our playmates, there were those who were struck down or committed to the iron lung. I would also remind the public that it has been these very scientific experiments, both with nuclear medicine and its ionized isotopes, which has led us to ... the responsible lengthening of the lives of those who are victims of cancer, as was the case ... with my husband, Jack O'Leary, who willingly, voluntarily ... submitted himself to human trials when he knew he had terminal cancer for two reasons: He wanted to hold life as hard as he could, and he also wanted to leave something behind if he could not hold onto life. He did not. But he ... made himself a ... fully comprehending ... subject to human experimentation, and as we move forward to examine the past ... we must not ever lead the public to suspect or to fear that generally what is done in scientific research, especially in the area of bio-medicine, is not generally benefiting us - the quality of our lives and the length of our lives. Copyright 1994 The Washington Post

## **RADIATION TRIAL**

APn 1/19/94 12:32 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By ROBERT MACY Associated Press Writer LAS VEGAS (AP) -- Thirty years ago, Keith Prescott worked with radioactive debris in dank tunnels at the Nevada Test Site, a bit player in the escalating nuclear arms race. Now, after a 14-year odyssey through the judicial system, Prescott is having his day in court. He accuses his government of failing to protect him from radiation dangers at the nation's nuclear testing grounds. The Clinton administration's Department of Energy recently shifted to a more candid, compassionate posture toward subjects of radiation experiments decades ago. But the Justice Department has not let up in the legal battle it has waged against Prescott and 215 fellow workers, most now dead of cancer. Prescott, 67, was diagnosed in 1969 as having multiple myeloma, a bone marrow cancer. He had worked at the site for eight years. The long-delayed case went before U.S. District Judge Philip Pro on Dec. 13, and is expected to run at least another month. Prescott testified the government never warned him of radiation dangers at the site although he often felt nauseated and was afraid to breathe the air at times. The legal battle angers former Interior Secretary Stewart Udall, an attorney for the plaintiffs. He wrote Attorney General Janet Reno urging a settlement in the case, then went to Washington, D.C., last week, hoping to press the issue with her. "They just gave me the cold shoulder, they refused to meet with me," Udall said Tuesday in a telephone interview from his Santa Fe, N.M., office. "It was a big disappointment. The Justice Department has always been very hard line, and apparently the Clinton administration is afraid to change that policy." Udall accused the Justice Department of "moral myopia" and spending more money to defend the radiation case than it would have taken to settle it. A \$15 million settlement offer by the plaintiffs was rejected by the government in September. The six plaintiffs in the current lawsuit are among 216 who filed claims against the government in 1980, alleging they were exposed to cancer-causing radiation at the test site during the 1950s and '60s. The six were chosen as representative cases "on the thesis that whichever way it goes, it might help resolve the other cases," Udall said. Prescott said he never questioned government assurances that he was safe when he worked at removing debris from weapons effects tests. The tests were designed to determine whether military hardware such as missile nose cones, tanks and space satellites could survive a nuclear blast. His confidence has given way to a stinging distrust. "I don't have any faith in them whatsoever," he said in a telephone interview from his home in Francis, Utah. "I wouldn't take their word on anything anymore. They deceived us and used us as guinea pigs when there were so many precautions they could have taken, knowing what they did," he said in a raspy voice. Chris West, a spokesman for the Energy Department's Nevada Operations Office, declined to comment directly on the lawsuit. But he said extensive monitoring of workers has always been conducted at the site. "We had health-safety people re-entering the blast area along with other workers, such as miners. They had a real respect for health and safety. They weren't going to expose themselves to any hazards." A spokesman in Reno's office, Joe Krovisky, said Udall's Dec. 31 letter was being reviewed. "However, it looks like it's the same proposal Udall submitted to the department some time back," Krovisky said. "After reviewing that proposal, the department felt it was appropriate to proceed with the litigation."

## **OLD SOVIET-BUILT NUCLEAR PLANTS MUST SHUT - ...**

RTw 1/19/94 9:34 AM OLD SOVIET-BUILT NUCLEAR PLANTS MUST SHUT - FRENCH EXPERT By Sue Landau PARIS, Jan 19 (Reuter) - A top French nuclear safety expert said on Wednesday that some Soviet-style nuclear power plants in eastern Europe should be shut down within 10 years. Pierre Yves Tanguy, nuclear safety chief at Electricite de France (EDF), said older models of one type of reactor, the 440 megawatt VVERs, should be shut down by 2005 and should only run beyond 1995 if their safety was improved. "Reactors of the 230 type (of VVER 440 MW), the oldest, can never reach a safety level compatible with current standards. A complete closure of them should be scheduled... Personally, I think one must rule out this being later than 2005," he said in an annual report on nuclear safety published by EDF. The state utility runs one of the world's biggest nuclear power systems, generating 75 percent of France's electricity. France, which exports nuclear technology, has been a vocal proponent of overhauling east European plants. "Whatever date is finally fixed, any extension of some years beyond 1995 can only be acceptable if it is accompanied by a programme of safety improvements, which would inevitably include modifications," Tanguy said. The VVER is the second type of reactor built in the former Soviet Union. The plant that exploded at Chernobyl in Ukraine in 1986 was the other type, the RBMK model. There are 10 440 MW VVER type 230 reactors currently operating, including four at the Kozloduy plant in Bulgaria. Kozloduy was plagued by radioactive leaks, fires and technical problems until experts from the International Atomic Energy Agency branded it unsafe two years ago. The others are the two reactors at Bohunice in the Slovak Republic, two at Kola, north of St Petersburg, and another two at Novovoronezh in Russia. Four 440 VVER 230s at Grieswald in former East Germany were definitively shut in December 1991, and two at Armyanskaya in Armenia were temporarily closed in 1989 after an earthquake. Tanguy said both VVER and RBMK Soviet-built reactors functioned without any accidents last year. A loss of external electricity supply to one VVER 440 showed there was a

comfortable safety margin for re-cooling the nuclear core, he said. He said the work done at Kozloduy last year, which allowed two reactors to reopen, was one significant event of the year. But he warned there was still not enough safety awareness in the nuclear power plants of former Soviet bloc countries. "I do not intend to deny the positive results. I think, however... that we should not exaggerate the extent of the results obtained," he said. He said there was not yet a culture of safety in all organisations and at all levels, and concern about production remained a higher priority than safety. Advice from Western experts was not always well received, he said. Teams in the power plants yet to assimilate over a few years the safety lessons the West took 15 years to learn. But Tanguy said he was impressed by attention to safety at China's newest nuclear power plant, Daya Bay, built by French nuclear plant builder Framatome and due to open this month. REUTERCopyright 1994 Reuters Information Services, Inc. All rights reserved.

## **RADIATION**

APn 1/19/94 1:11 AM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By H. JOSEF HEBERT Associated Press Writer WASHINGTON (AP) -- As details trickle out about human radiation experiments during the Cold War, it is becoming clearer that pinning down the scope of the experiments -- and how to compensate victims -- will be difficult and time-consuming. Energy Secretary Hazel O'Leary told a congressional hearing Tuesday the government record search could take a year or more. And while she has adamantly urged compensation for some victims, she concedes determining who should be compensated and how much probably won't be easy. Mrs. O'Leary called it "a horrific slice" of the Cold War, but demurred when asked about what criteria might be used to compensate those subjected to them. Congress will have to decide on a compensation scheme. Many lawmakers agree with the Clinton administration that compensation is long overdue in some cases, such as the tests in which 18 civilians in the 1940s were deliberately injected with plutonium to see how the body reacted. "These people were harmed because it was done. They should be compensated because it was done," Dr. David Egilman, a physician at the South Shore Health Center in Braintree, Mass., told lawmakers Tuesday. He has sought for years to expose improper government experiments on humans during the Cold War. Dr. Kenneth Mossman, an expert on radiobiology from Arizona State University, said he had serious concerns about lack of proper consent in some of the cases, but that many of the experiments contributed significantly to knowledge about radiation effects on the body at a time when little was known. An experiment at Vanderbilt University in 1969 using pregnant women is "the basis for radiation risk estimates and exposure standards for today's pregnant worker," he said. And without the plutonium experiment "radiation protection of plutonium workers would have been immeasurably poorer." Even so, he told the House energy subcommittee, the government has been too slow in releasing information about the experiments and those subjected to them should be compensated. But Rep. Philip Sharp, D-Ind., the subcommittee chairman, said that in many of the cases, including the one involving plutonium injections, there has been "an absence of evidence about ongoing concern about these people" over the years -- and little scientific follow-up. While the 18 civilians were considered "terminally ill" at the time they were given plutonium injections in the 1940s, three of them lived for more than 30 years. One patient, a railroad porter named Elmer Allen, was the last to die -- in 1991. "We are sure that he did not know that he was injected with plutonium," Allen's daughter told the hearing in emotional testimony. She said the family is certain "he never fully understood what happened to him." "He always complained of being ill in some way and was constantly hoping for 'the cure'," Elmerine Allen Whitfield said of her father who died of respiratory failure at age 80. In 1947, plutonium was injected into Allen's leg, which had bothered him because of a railroad accident. A few days later the leg was amputated, according to medical records. Ms. Whitfield said the family first learned of the experiments from a reporter. The revelation brought new meaning to some advice her father had given her when she went off to college. "Don't ever let anyone ever use you as a guinea pig," he had told her. The Clinton administration has specified that 600 to 800 people may have been subjected to questionable experiments, but Mrs. O'Leary acknowledged the number probably will be greater once a government-wide review of records is completed. More than 15,000 people have contacted a telephone hot line with 40 percent claiming to have been involved with some experimentation, she said. The White House has directed a search of records on human radiation tests at not only the Energy Department, but also the departments of Defense, Veterans Affairs and Health and Human Services as well as the Central Intelligence Agency and NASA.

## **RADIATION-VANDERBILT**

APn 1/18/94 8:26 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. NASHVILLE, Tenn. (AP) -- Vanderbilt University Medical Center officials have located missing records from a 1940s nutrition study of 800 pregnant women who were given radioactive iron. The university may now be able to tell some women for certain if they were involved in the experiments. In the 1940s, Vanderbilt researchers studied iron absorption in pregnant women to

help establish nutritional guidelines for them. Researchers used radioactive iron so they could track its progress through the body. The level of radiation used was considered safe by today's standards. But concern about the studies has been heightened by recent reports that the government -- in separate research -- conducted radiation experiments on unwitting subjects during the 1940s, '50s and '60s. The subjects of the Vanderbilt study drank a single solution containing radioactive iron sometime between 1945 and 1949, officials said. A 1969 followup study identified three children exposed to radioactive iron in the womb who developed fatal cancers. Researchers said the radiation may have caused the cancers, but another Vanderbilt study published the same year questioned that conclusion because of the low radiation doses the children had received. Vanderbilt officials have received about 280 phone calls in the past month from people who want to know if they or their mothers participated in the study. Records for about 250 of the 800 subjects were found Friday in a Nashville warehouse where the hospital's patient records are stored. The rest apparently were lost or destroyed, Vanderbilt officials said.

## **CLINTON ORDERS ADVISORY COMMITTEE ON RADIATION**

RTw 1/18/94 2:40 PM (Eds: adds details throughout) By Susan Cornwell WASHINGTON, Jan 18 (Reuter) - President Clinton Tuesday ordered the establishment of an advisory committee of non-government experts to review radiation experiments conducted on unwitting people during the early decades of the Cold War. The committee, to be made up of experts in medicine, science and ethics, will advise an already-established interagency government group investigating the radiation tests. The interagency group was formed by the White House earlier this month to unearth the extent of government radiation tests using human subjects. Its members include the Energy Secretary, Defence Secretary, Health and Human Services Secretary, the Central Intelligence Agency, the National Aeronautics and Space Administration, the Attorney General, the Veterans Affairs Department and the Office of Management and Budget. Energy Secretary Hazel O'Leary, meanwhile, told Congress Tuesday that victims of the experiments deserve a formal apology from the government and the Clinton administration wants to help write legislation to compensate wronged victims. O'Leary, speaking at a House Energy and Commerce Committee hearing, also said she hoped to have all of the information within a year on the government-sponsored radiation experiments on humans. O'Leary has said there were up to 800 victims of radiation tests conducted by the Atomic Energy Commission, the Energy Department's predecessor. But some 4,000 people have told the government they believe they were deliberately exposed to radiation in the experiments. The White House statement announcing the advisory committee also said a "hotline" established to take calls from victims will be upgraded to handle 500 calls an hour. The line has been overwhelmed by calls since it was established in December, after the radiation experiments were publicized in news reports and official statements. The executive order signed by the president establishing the Advisory Committee on Human Radiation Experiments said the committee would have up to 15 members, appointed by Clinton. The order said the committee should consider whether there were medical or scientific purposes for the experiments, whether medical follow-up was conducted, and whether the tests met standards of informed consent of the time and today. It said the committee would review experiments conducted from 1944 to May 30, 1974, when government regulations were issued to protect people undergoing such tests. But, it said, experiments conducted after May 1974 could also be probed if the interagency group decides to do so. The executive order said the advisory committee would provide advice on several specific tests. They were: -- a 1949 experiment into the atmospheric diffusion of radioactive gases by the Atomic Energy Commission and the Air Force in Richland, Washington; -- two radiation warfare field experiments at the Atomic Energy Commission's Oak Ridge, Tennessee, office in 1948; -- six 1949-1952 tests of "radiation warfare ballistic dispersal devices" by the U.S. Army at Dugway, Utah; -- four atmospheric radiation tracking tests in 1950 at Los Alamos, New Mexico; -- "any other similar experiment" that might be identified by the interagency working group. REUTERCOPYRIGHT 1994 REUTERS INFORMATION SERVICES, INC. All rights reserved.

## **VIOLATIONS UP 23 PERCENT AT UKRAINE NUCLEAR PLANTS**

RTw 1/18/94 11:14 AM KIEV, Jan 18 (Reuter) - Safety violations at Ukraine's five nuclear power stations increased by 23 percent in 1993, seven years after the Chernobyl disaster, a top nuclear industry official said on Tuesday. Mykola Shteinberg, head of the country's State Nuclear Safety Committee, gave no figures, but official statistics in 1992 listed just over 100 such incidents. He accused industry officials of shirking responsibility in dealing with safety. "Two serious problems have emerged -- the state's very serious financial situation and old habits of waiting for someone else to resolve all our problems," he told Ukrinform news agency. "The key to the problem is that those operating the stations must tackle their own problems. The state must help them do so. Nuclear power has a great future in Ukraine, but appropriate conditions for its development must be created." Safety at Ukraine's five nuclear plants remains a serious concern after the April 1986 explosion and fire in Chernobyl, which Kiev says was responsible for 8,000 deaths in Ukraine. The

accident, the world's worst, caused widespread contamination in neighbouring Belarus and Russia and elsewhere. Ukraine's parliament last year reversed a decision to close Chernobyl, despite international anxiety over the continued operation of two reactors at the plant. Officials argued that Chernobyl was vital to overcome energy shortages which have shut down vast sectors of industry and left homes and schools with little heating. Officials at the plant have said they intend to bring back on stream a third reactor shut down by a fire in 1991. The reactor destroyed in the 1986 disaster is encased in concrete and plans call for a new "tomb" to be built around it. Parliament has also lifted a moratorium on the construction of new nuclear plants. Ukraine is heavily dependent on Russian oil and gas while nuclear power accounts for up to 40 percent of electricity used in the former Soviet republic. REUTERCOPYRIGHT 1994 REUTERS INFORMATION SERVICES, INC. All rights reserved.

### **FOR RADIATION VICTIMS, A 'HUMAN RESPONSE'; UNLIKE ...**

WP 1/16/94 11:00 PM For Radiation Victims, a 'Human Response'; Unlike Predecessors, Energy Secretary O'Leary Provides Sense of Urgency, Sympathetic Ear By Gary Lee Washington Post Staff Writer SEATTLE - When Lois Camp complained that she and other possible radiation victims were being ignored, Hazel R. O'Leary knew exactly what to say. "Let's meet and talk about it as soon as possible," the energy secretary told the petite, shy woman who was seated across a crowded table here. "I don't want to lose the chance to hear you out." Within an hour, the two had found a quiet corner in which to chat. As the issue of federal radiation experiments involving human subjects grows nationally, that episode captures the key dimensions O'Leary has brought to it: a sense of urgency and a sympathetic ear. While her predecessors brushed off early reports about the experiments, O'Leary made an immediate public outcry when reports of them surfaced last month. She quickly opened a radiation hot line and urged all concerned to use it. On a whirlwind trip along the Pacific Coast last week, O'Leary stepped up her personal crusade on behalf of radiation victims. She held talks with possible participants in the experiments and with scientists who may have conducted them. O'Leary has also tried to respond to mounting public furor over federal involvement in the radiation experiments. When a San Francisco woman expressed her dismay over the issue during a public forum, O'Leary waded through a packed room to embrace her. "When it comes to this subject, I try to be responsive and open and to show that I care," O'Leary said in an interview. "Considering some of the suffering that people involved have been through, I think it's the only way for a government official to respond." Despite her efforts, the radiation issue last week appeared to mushroom day by day. At week's end, calls from around the nation were flooding DOE's radiation hot line at a rate of 700 an hour, way up from earlier in the month. DOE officials acknowledged that the number of victims is likely to exceed original estimates of 800. Five congressional committees scrambled to organize hearings on radiation tests and fresh reports circulated about tests that had been conducted by the Navy and other agencies. Several prominent scientists spoke out, too, imploring the public not to overlook the positive value of some of the radiation experiments. In San Francisco, physicist Edward Teller called the tide of new radiation victims "exaggerated." Critics also warned that O'Leary, who favors compensation for possible radiation victims, has exposed the federal government to a flood of lawsuits. Last week, a California man alleged that federal researchers injected him with radioactive substances nearly 40 years ago and filed a \$10 million lawsuit for damages. Undeterred, O'Leary used her Pacific Coast trip to push for prompt responses to lingering questions about the radiation tests. She held talks with officials from the Lawrence Livermore Laboratory, a leading nuclear weapons research facility, the University of California and the Hanford, Wash., research facility, where many of the tests were conducted. She pressed for release of radiation-related information. This week, O'Leary is to testify on the radiation issue before two congressional committees. She also plans to field calls to the radiation hot line. As O'Leary traveled last week, people claiming to be possible radiation victims surfaced at every turn. O'Leary tried to offer each person solace. In Seattle, there was Camp, 52, who told of growing up 20 miles downwind of the massive research facility in Hanford. "We were the guinea pigs who were supposed to bear the effects of countless emissions," she charged. Since 1950, when Camp was taken to the hospital with a mysterious skin rash, she has been plagued with medical problems, including rashes, diabetes, and hypothyroidism. During a break at the Seattle gathering, O'Leary beckoned Camp toward her. Camp, apparently rattled, offered to give DOE aides documents about her case and those of other possible victims. "But I'm here now," O'Leary told her. "You can tell me what you have to say. I'm in a listening mood." Camp responded: "I never thought you would really want to meet with a radiation victim." In Oakland, Calif., June Casey recalled being exposed during the 1949 "Green Run" experiment, in which researchers released radioactive gases near Hanford. Casey, now 64, was attending college in Walla Walla, Wash., 50 miles downwind. Casey said she has suffered multiple medical problems, including skin cancer, permanent hair loss, a miscarriage and stillbirth. "My greatest anxiety now revolves around three questions," she said in a statement presented to O'Leary. "Will our only son be sterile? Will my grandchildren be born with birth defects? Will I die prematurely of a brutal cancer?" After Casey finished, O'Leary stood and moved toward her in a gesture of sympathy. "In so many ways, we are all victims," she told Casey. "But this is about our future. . . . Now we must work to build trust among us all." In San Francisco, Fred Allingham, executive director of the National Association of Radiation Survivors,



proposed that O'Leary take some immediate steps to reassure the public over the radiation issue. Interrupting Allingham, O'Leary agreed on the spot to some of the suggestions, including a moratorium on the shredding of classified documents and offering special protection to DOE whistle-blowers who report on radiation issues. Also in San Francisco, Richard Reece, 59, alleged that government researchers gave him injections of a radiation-enriched substance between 1945 and 1947. Reece, who is mentally retarded, said he was 10 years old when the tests began. In written documents, Reece said he became aware that he may have been a radiation victim after reading newspaper articles published on the subject in December. His lawyer has filed a lawsuit against the Energy Department, asking \$10 million in damages. O'Leary declined to comment on the case, but reiterated her view that victims who participated in federal experiments against their will should be compensated for damages. During a meeting in Seattle, Tom Bailie, a 54-year-old wheat farmer, told O'Leary that he and his siblings were exposed to emissions from the Hanford facility when they were children. As a result, Bailie said, he has suffered various medical problems - including hair loss, sterility and temporary paralysis. One reason O'Leary has taken charge of the radiation issue is that DOE, which she has headed for a year, is a successor to the Atomic Energy Commission, which apparently conducted most of the tests. O'Leary, 56, also identifies with the radiation victims. She was a teenager in the early 1950s, not much younger than many of the participants in the experiments. "When you think about that period you realize that government was doing a lot of dark things that it should not have been doing and keeping it secret. At some point, someone has to take responsibility for that," she said. O'Leary is an outspoken advocate of government openness, too. Before the radiation issue emerged, she pledged to open DOE's files to employees and the public. She is already undertaking a massive project to declassify millions of DOE documents, including many relating to the radiation experiments. New information about the tests is already surfacing. Last Thursday, officials at the Battelle Institute, a Hanford contractor, released 54 pages of documents about a 1967 test at Hanford in which 14 volunteers drank solutions of radioactive promethium or had the substance injected into their veins. The test was designed to measure the rate at which the human body excreted promethium, a byproduct of plutonium production at Hanford. In another test, reported last week, Navy researchers gave radium treatments to thousands of military personnel in the 1940s and 1950s. The researchers inserted tubes containing radium into the nostrils of Navy recruits, including as many as 5,000 submariners, hoping to find ways to prevent ear pain that came during underwater submarine tests. But researchers have said the experiments could also have exposed participants to higher than normal levels of radiation. The tests were originally brought to light in a 1992 letter to the New England Journal of Medicine by Stewart Farber, a Rhode Island-based public health specialist. Pentagon officials said in interviews that they are checking their files for information about the experiment. O'Leary was highly praised last week, particularly by possible victims, for her leadership. "You're proof that one person can bring about change," Casey told her. "What you're doing is terrific," Bailie added. But some scientists cautioned her to tread carefully. "It is extremely important not only to declassify nuclear matters, but to make them understood," Teller told the San Francisco meeting. Teller, who did pioneering work on the hydrogen bomb, added that misinformation about subjects such as radiation experiments could prove more detrimental than the earlier secrecy. Teller later told reporters that some of the claims of radiation exposure were "grossly exaggerated" and warned that declassification plans could provoke mass hysteria. Other researchers familiar with the radiation experiments have complained that news accounts overlook the fact that dosages of radioactive material used in many cases had negligible effects on human health and that some of the tests had medical benefits. In the early 1960s, for example, University of Washington and Hanford researchers collaborated on a study in which eight volunteers, including students and housewives, were injected with 80 microcuries of the radioactive isotope technetium. All traces of the technetium disappeared from the body after a couple of days. But the experiment led to development of a now common technique, in which doctors inject patients with technetium to enhance internal organs for exhibition on hospital computer screens. Sensitive to critics, O'Leary often reminds audiences that the radiation tests represent only a small fraction of scientific research. She told one audience that her late husband, Jack O'Leary, participated in a medical experiment for cancer patients. "We were both glad that he took part in those experiments," she said. "If it did not benefit him directly, at least it will benefit someone else." O'Leary said she has no regrets about her management of the radiation debate. "Some people have complained that the issue has been handled in too much of an emotional way," she told a gathering in Oakland. "I thought about that. I decided that I disagree. It is an emotional issue. What's wrong with that?" "The Clinton administration came into office with a promise to provide a human response to problems," she added. "If ever such a response was needed," she said, it is in the case of the radiation exposure victims. Copyright 1994 The Washington Post FLAGS;NOPAGNUM Copyright, 1994, U.S. News & World Report All rights reserved. U.S. NEWS & WORLD REPORT, JANUARY 24, 1994

## **NUCLEAR MEDICINE**

**WHO DECIDES WHAT'S SAFE?** For the past five decades, the U.S. Department of Energy and its contractors have steadfastly denied that any of the medical ailments suffered by America's 600,000 current and former nuclear weapons plant workers are the result of their employment. This conclusion relies heavily on epidemiological studies conducted by

Oak Ridge Associated Universities. The ORAU is a DOE contractor that has been paid more than half a billion dollars by the agency. The findings of ORAU scientists have been nothing if not consistent: "There has been little evidence to date," says a 1989 ORAU report, "of any association between death rates and level of radiation exposure." Others disagree. A 1992 report by Physicians for Social Responsibility documented elevated rates of cancer mortality or incidence among workers at more than a dozen nuclear weapons sites. The report critiqued 124 DOE health studies, many conducted by the ORAU. Its conclusion: "[F]indings of DOE-sponsored epidemiologic studies offer no firm basis for the repeatedly expressed official position that the health of workers and the public has been fully protected and that there are no excess risks of disease and death in the nuclear weapons work force." The relationship between the ORAU and the Energy Department is close. In 1977, DOE officials canceled a contract with a physician studying the health of nuclear plant workers after he concluded that such employees faced a greater risk of cancer than did employees not exposed to radiation. That same year, the government awarded his research contract to the ORAU, which assumed responsibility for DOE's epidemiologic research. BIG BUCKS. Many experts outside the Energy Department assert that the ORAU's close ties to the U.S. nuclear establishment impede its ability to produce objective analyses of health problems among weapons plant workers. Lifestyle trends such as smoking and alcohol consumption have long been used by ORAU researchers "to explain away findings [of medical problems]," says Gregg Wilkinson, former head of epidemiological research at the Los Alamos National Laboratory. "I don't know if people who take that stance actually believe it or if they want the bucks to keep rolling in. There is a tendency, and it may be unconscious, to not bite the hand that feeds you." ORAU officials believe they have done the "best possible job" they could with the funding they had. Since the ORAU assumed responsibility for DOE health research in 1977, the Energy Department has paid it \$578.5 million. The ORAU's track record is long--and controversial. In 1950, its predecessor, the Oak Ridge Institute of Nuclear Studies, opened one of the first medical clinics funded by the Atomic Energy Commission. Researchers there were among the first to use nuclear medicine in diagnosing and treating cancer patients. They also performed some highly controversial experiments, bombarding 89 cancer patients with high levels of radiation in an attempt to rid these patients of their lethal cancers and feeding 54 others radioactive lanthanum-140 to measure the rate at which it passed through their bodies. A 1986 congressional investigation found that the 54 patients "received no medical benefit from the experiment." And health records of weapons plant workers were destroyed, according to a 1990 congressional investigation. In an attempt to loosen the ties between the ORAU and the DOE, some department-sponsored health studies were recently transferred to the National Institute for Occupational Safety and Health. The institute has since modified several of the 24 studies the ORAU transferred to NIOSH. Those studies, researchers found, were "scientifically flawed." BY DOUGLAS PASTERNAK/FLAGS;NOPAGNUM Copyright, 1994, U.S. News & World Report All rights reserved. U.S. NEWS & WORLD REPORT, JANUARY 24, 1994

## DEPARTMENT OF HORRORS

AMERICA'S ENERGY AGENCY AND ITS APPALLING RECORD OF WORKER SAFETY At 10 minutes past 7 one evening last June at a nuclear weapons plant near Richland, Wash., a worker named Louis Beatty crawled into an underground chamber to open a valve on a high-pressure steam line. Suddenly, there was a loud bang. Then, as Beatty's co-workers watched from above, a cloud of steam burst from the entry manhole. Slowly, Beatty climbed out of the hole. The 350-degree steam had burned over half of his body. Beatty died a week later. Seven months before that, across the country at a nuclear plant in Oak Ridge, Tenn., a worker named David Wicks was overseeing the hoisting of a 2,900-pound water tank when one of two straps holding the tank snapped. The tank fell, striking Wicks in the head and pinning him against a berm of dirt. Wicks died, too. Louis Beatty and David Wicks were among a dozen workers who died at the U.S. Department of Energy's top-secret nuclear weapons plants in the past two years. An additional 22,824 DOE workers were injured in the past 4 years; 2,829 have been diagnosed with work-related illnesses. EXPOSURE. The disclosure that DOE scientists conducted radiation experiments on hundreds of innocent subjects during the cold war has outraged many Americans. But a four-month investigation by U.S. NEWS shows that over the same period of time, the Energy Department and its predecessor agencies exposed tens of thousands of bomb-plant workers to conditions that resulted in injury and death. Tens of thousands of bomb-plant workers also may have been exposed to harmful levels of radioactivity. Experts say records at some DOE plants are so deficient that no one knows what their exposures really were. Why was such a sorry safety record tolerated for so long? One reason was secrecy. Hidden behind guarded chain-link fences, the DOE's bomb plants, driven by cold war exigencies, operated out of view of the public and most of the government, with no oversight by agencies like the federal Occupational Safety and Health Administration. Under written agreements with the DOE, contractors were indemnified from liability and even lawsuits for any injuries at the plants. What is difficult to understand is how the bomb plants could still be violating so many safety rules today. Recent inspection reports reviewed by U.S. NEWS reveal an appalling safety record. Consider: At the DOE's Savannah River site in South Carolina, workers inadvertently connected a building's drinking-water pipe to a process line that contained the industrial solvent trichloroethylene. The incident went undetected for 16 months. No one knows for certain how many DOE employees may

have been harmed. At the DOE's Hanford facility where Louis Beatty died, all ignition sources are banned next to huge tanks that contain radioactive and toxic chemical wastes and explosive hydrogen gas. Yet in two separate incidents, spark-producing machinery was discovered dangerously close to tanks on the site's watch list as potentially explosive. In one case, a tank was scheduled to discharge an emission of highly flammable hydrogen gas while a truck was observed operating nearby. On a visit to the DOE's laboratory at Los Alamos, N.M., a nuclear-safety inspector was shocked to find a worker running a tritium-processing facility as if he were "working in his garage." Post-it notes stuck on the alarm warned: "Alarm Rings Intermittently: Ignore." The operator strode around the building in beach sandals, while a door designed to prevent outdoor release of radioactive tritium was left wide open. At the DOE plant in Oak Ridge, a valve was left open, discharging 650 gallons of hydrogen fluoride into an area used by employees. If this incident had occurred on a warm day during a change in work shifts, "multiple deaths and serious injuries" could have resulted, according to an unpublished DOE review of the accident. According to Karen Pitts, a whistle-blower at the DOE facility at Rocky Flats, Colo., workers there often arrived for work intoxicated; others fell asleep during the night shift at dangerous jobs. One person, an apparent narcoleptic who worked next to Pitts, dozed off on his stool and fell face first into the box where he was leaching uranium and plutonium. Fortunately, Pitts says, the concentration was weak. What is most striking about documents reviewed by U.S. NEWS is that they detail accidents from which plant operators seem to have learned nothing. In the case of Louis Beatty's steam-valve accident, for instance, investigators found that the managers at the Hanford site had apparently paid scant attention to three other incidents in 1986, 1992 and 1993--each demonstrating clearly how opening a steam valve too quickly could produce a "water hammer," which would smash the next valve and burst open the steam line. That is precisely what killed Beatty. The case of David Wicks was even more chilling. After his death, his sister, Patsy Hamdy, found stuffed in his wallet a torn-up piece of yellow notebook paper. On it, Wicks had scribbled a list of safety problems that he had been documenting at the plant--notably, a lack of management commitment to safety. A DOE investigation cited an incredible list of things that led to Wicks's death. So-called tie-down straps were used to hoist the heavy tank, even though the straps were clearly marked: "This tie-down assembly is not to be used for lifting." One of the two straps used to lift the tank had deteriorated and had a 1/2-inch cut; workers had not tied them properly onto the tank. The Skytrak forklift that was used was not designed for such lifts. The personnel involved had no experience in hoisting and rigging. Three of the five crew members involved in the operation had not attended the morning's safety briefing. The industrial safety specialist, who worked for plant operator Martin Marietta, had retired. The new safety representative was not aware that he was supposed to complete a safety checklist prior to moving the tank. Still, the accident might not have occurred if those involved had simply bothered to weigh the tank. They believed it weighed less than 500 pounds; in fact, it weighed nearly a ton and a half. Some of the practices at the bomb plants defy belief. Not long after Beatty's death last summer, a worker at the Hanford facility taped a rock to a rope and dropped it into a radioactive-waste tank. The worker was trying to check whether a pipe inside the tank was blocked. He was contaminated when he pulled out the rock and the rope. "Dropping a rock into a potentially explosive high-level nuclear-waste tank isn't just stupidity in action," says Gerald Pollet, director of Heart of America, a nuclear-safety advocacy group. It also reflects, he says, a lack of training that is required by law. Louis Beatty's death, and the incident with the rock and the rope, caught the attention of Secretary of Energy Hazel O'Leary. She dressed down a top Westinghouse executive at Hanford. Westinghouse immediately ordered a shutdown and laid on new safety training at the site. A Westinghouse spokesman says the company is "revamping safety priorities and trying to change the safety culture" at Hanford. He acknowledges, however, that it will be a challenge to change a culture so cemented in its ways. In an interview with U.S. NEWS, Secretary O'Leary said that she is familiar with the deplorable safety record at the bomb plants and is committed to changing it. "I came with a clear sense about how safety ought to be managed," O'Leary says, "and with some clear principles of how you establish and train for what I call the right behavior on safety." O'Leary's predecessor, Adm. James Watkins, tried to improve the safety culture at DOE with inspection teams and shock tactics. O'Leary will try to coax more than coerce. "I know I can't demand it or command it," she says. "It ain't the military." "SAFETY LAST." One measure of the seriousness with which O'Leary approaches the task is an action she took last month against Westinghouse. In previous years, Westinghouse had earned DOE award fees in the millions of dollars, but for the first time since 1976, a plant contractor was denied a bonus because of the working conditions at the Hanford plant that led to the death of Louis Beatty. Another measure of O'Leary's commitment is her appointment of Tara O'Toole as chief of the department's health and safety division. A former senior policy analyst at the congressional Office of Technology Assessment, O'Toole was one of the harshest critics of the DOE's safety record; she gets high marks from environment and safety activists. Still, the task ahead is enormous. The nation's 17 major and 100 secondary nuclear bomb plants employ 150,000 workers, and subcontractors employ an additional 50,000. The plants themselves contain vast buildings where chemicals were mixed and leached, where radioactive metals were cut and ground and where potentially explosive mixtures of radioactive liquid wastes and toxic chemicals are stored in holding tanks for eventual disposal. Many of the facilities were built in the 1940s and '50s and are sorely in need of repair. Bomb production work has stopped at most plants, leading safety experts to wonder at the continuing accident rate. What will happen, they ask, when the \$200 billion nuclear cleanup gets into full swing over the next 10 years? Despite the commitment of O'Leary and her top aides, the available evidence suggests trouble. Eradicating the "production first, safety last" attitude

that has characterized the DOE and its contractors will not be easy. At the DOE's Fernald plant in Ohio, for instance, a safety manual written as recently as 1993 tells workers how to treat visiting safety inspectors: Do not agree that any alleged violation exists. Do not point out any possible/potential problem areas. Do not indicate that you have been or are aware of any alleged violations. Do not volunteer any information or make any admissions. The manual was revised last November, when senior DOE officials were made aware of its existence. DOE officials say they are legally locked into supporting the old culture. For instance, binding arrangements with plant contractors have required the agency to spend \$47 million from October 1990 to May 1993 fighting class action lawsuits against DOE contractors filed by citizens and workers who claim they were victimized by radiation and chemical discharges. While the DOE and its contractors contend that no one was injured, the Institute for Energy and Environmental Research in Takoma Park, Md., found "appalling industrial hygiene" at the Fernald plant. A report used by the plaintiffs detailed the problems: "Workers were often exposed to dust concentrations in the air up to hundreds of times the maximum allowable concentration" of radioactivity. IEER President Arjun Makhijani said that on one occasion workers at Fernald got a uranium dust exposure of 100,000 times the allowable limit. Badges that Fernald workers wore to measure radiation exposure did not measure radiation absorbed by the hands of employees while they ground radioactive metals; the exposure badges also failed to measure radioactive dust the workers breathed week after week while they toiled at their jobs. Makhijani says it is a fair estimate that across the nuclear complex, "tens of thousands of workers were at risk of serious internal and external exposure." In some respects, says Sheldon Samuels, vice president of the respected Ramazzini Institute for Occupational and Environmental Health Research, the managers and corporations that run the Energy Department's weapons plants took as callous an approach toward radiation exposure as did the scientists who experimented with radiation exposure to humans. Samuels contends that DOE plant managers routinely performed risk-benefit analyses, balancing the harm done to plant workers against the cost of making the bomb plants safer. "That," Samuels says, "is human experimentation, too."

BY DOUGLAS PASTERNAK AND PETER CARY WITH ANCEL MARTINEZ IN COLORADOFLAGS;NOPAGNUMCopyright, 1994, U.S. News & World Report All rights reserved. U.S.NEWS & WORLD REPORT, JANUARY 24, 1994

## SEEKING JUSTICE

WELCOME TO THE MAZE The calls come day and night, so many that the Department of Energy has 36 operators standing by. What the 12,000 callers to the department's hot line want to know is whether they might be able to collect under Energy Secretary Hazel O'Leary's vow to compensate unwitting participants in the U.S. government's cold-war radiation experiments. Answers will be months or more in coming. But most callers probably have little chance of success, and even those who can prove injuries may have to wait years for a check. Despite O'Leary's soothing words, Washington has been notoriously tightfisted about opening the Treasury to damage claims. That is especially true when a disputed program is defended on national security grounds. NOT ENOUGH. The best recent guide is the case of the "downdead" from several Western states who blamed cancer and other ailments on radiation from atmospheric nuclear tests in the 1950s. After litigation failed, Utah Sen. Orrin Hatch spent more than a decade winning federal aid for the victims. More than \$100 million has been paid out, but critics say the maximum \$50,000 benefit for each victim is far too modest even to cover medical expenses. Victims of radiation tests may be facing the same fate. The Clinton administration may decide that fiscal austerity permits only symbolic payments. "We should do what we can to make amends," says one official. "But it may be just as significant to explain to families what happened to Uncle Fred." In any case, legislation is more promising than litigation because the law strictly limits damage cases against the government. Those who believe they have been injured by federally sponsored scientific or technical experiments may call the Energy Department hot line at (800) 493-2998. Veterans should call a different number, (800) 827-0365. Callers may be referred to other government agencies. If they seem to meet the initial guidelines, callers should be ready for a 15-to-30-minute phone interview, and they will be asked to submit a letter and supporting documents to back their claims. Then the wait begins. But in the sad history of federal compensation programs, many beneficiaries have died before the bureaucrats got to their claims. BY TED GESTFLAGS;NOPAGNUMCopyright, 1994, U.S. News & World Report All rights reserved. U.S.NEWS & WORLD REPORT, JANUARY 24, 1994

Radiation tests were only one small part of a vast research program that used thousands of Americans as guinea pigs. On June 1, 1951, top military and intelligence officials of the United States, Canada and Great Britain, alarmed by frightening reports of communist success at "intervention in the individual mind," summoned a small group of eminent psychologists to a secret meeting at the Ritz-Carlton Hotel in Montreal. The Soviets had gotten Hungary's Jozsef Cardinal Mindszenty, an outspoken anti-communist, to confess to espionage, and they also seemed to be able to indocrinate political enemies and even control the thoughts of entire populations. The researchers were convinced that the communists' success must be the fruit of some mysterious and sinister scientific breakthroughs. By the following September, U.S. government scientists,

spurred on by reports that American prisoners of war were being brainwashed in North Korea, were proposing an urgent, top-secret research program on behavior modification. Drugs, hypnosis, electroshock, lobotomy--all were to be studied as part of a vast U.S. effort to close the mind-control gap. New revelations that government cold war experiments exposed thousands of Americans to radiation have prompted fresh congressional inquiries, including a hearing last week on tests conducted on retarded children in Massachusetts. A Department of Energy hot line set up to handle calls from possible subjects of the tests has been swamped. But the radiation experiments are only one facet of a vast cold war research program that used thousands of Americans as guinea pigs. From the end of World War II well into the 1970s, the Atomic Energy Commission, the Defense Department, the military services, the CIA and other agencies used prisoners, drug addicts, mental patients, college students, soldiers, even bar patrons, in a vast range of government-run experiments to test the effects of everything from radiation, LSD and nerve gas to intense electric shocks and prolonged "sensory deprivation." Some of the human guinea pigs knew what they were getting into; many others did not. Still others did not even know they were being experimented on. But in the life-and-death struggle with communism, America could not afford to leave any scientific avenue unexplored. With the cold war safely over, Energy Secretary Hazel O'Leary has ordered the declassification of millions of pages of documents on the radiation experiments, and the administration is now considering compensating the hundreds of subjects of these odd and sometimes gruesome atomic tests. But the government has long ignored thousands of other cold war victims, rebuffing their requests for compensation and refusing to admit its responsibility for injuries they suffered. And the Clinton administration shows no sign of softening that hard line. "We're not looking for drugs," says cabinet secretary Christine Varney. "At least initially, we need to keep our focus limited to human radiation.

"IN CLINTON'S COURT. Now, the only hope for thousands who were injured or who were experimented on without their informed consent is that President Clinton or Congress will take action to compensate the forgotten casualties of the cold war. Continued secrecy and legal roadblocks erected by the government have made it virtually impossible for victims of these cold war human experiments to sue the government successfully, legal experts say. Despite the administration's reluctance, Congress may be moving to seek justice for all the government's cold war victims. "It's not just radiation we're talking about," says Democratic Sen. John Glenn of Ohio, a former Marine and astronaut who is holding hearings on the subject this week. "Any place government experimenting caused a problem we should make every effort to notify the people and follow up. We ought to set up some sort of review and compensation for people who were really hurt." Many of the stories of people whose lives were destroyed by mind-altering drugs, electroshock "treatments" and other military and CIA experiments involving toxic chemicals or behavior modification have been known for almost 20 years. But U.S. NEWS has discovered that only a handful were ever compensated--or even told what was done to them. "There has essentially been no legitimate follow-up, despite the CIA's promise to track down victims and see what has happened to them," says Alan Schefflin, a professor at Santa Clara University Law School and an authority on cold war mind-control research. "It's just one of the many broken promises." A CIA spokesman last week said the agency is searching its files for radiation tests but has no plans to revisit other human experimentation. MKULTRA. Most victims have never been informed by the government of the nature of the experiments they were subjected to or, in some cases, even the fact that they WERE subjects. In a 1977 Senate hearing, then CIA Director Stansfield Turner said he found the experiments "abhorrent" and promised that the CIA would find and notify the people used in the tests. Turner last week insisted that "they found everyone they possibly could find." But internal memos and depositions taken from CIA officials in a lawsuit against the agency in the 1980s reveal that of the hundreds of experimental subjects used in the CIA's mind-control program, code-named MKULTRA, only 14 were ever notified and only one was compensated--for \$15,000. The 14 all had been given LSD surreptitiously by CIA agents in San Francisco in an attempt to test the drug in an "operationally realistic" setting. One of the victims, U.S. NEWS discovered, was a San Francisco nightclub singer, Ruth Kelley, now deceased. In the early 1960s, according to a deposition from a CIA official who was assigned in the 1980s to track down MKULTRA victims, LSD was slipped into Kelley's drink just before her act at a club called The Black Sheep. The agents who had drugged her "felt the LSD definitely took some effect during her act," testified Frank Laubinger, the official in charge of the notification program. One agent went to the bar the next day and reported that she was fine, though another recalled that she had to be hospitalized. Most of the MKULTRA documents were destroyed in 1973 on order of then CIA Director Richard Helms, and the records that remain do not contain the names of human subjects used in most of the tests. But they do clearly suggest that hundreds of people were subjected to experiments funded by the CIA and carried out at universities, prisons, mental hospitals and drug rehabilitation centers. Even so, according to Laubinger's 1983 deposition, "it was decided that there were no subjects that required notification other than those in the [San Francisco] project," and the CIA made no effort to search university records or conduct personal interviews to find other victims. Admiral Turner, in his 1983 deposition, conceded that "a disappointingly small number" were notified but defended the agency's continuing refusal to declassify the names of the researchers and universities involved. "I don't think that would have been necessarily the best way," Turner said. "Not in the litigious society we live in." In 1985, the agency successfully appealed to the Supreme Court to block release of that information. One of the grisliest CIA-funded experiments--and one of only a few that have led to successful lawsuits against the government--involved the work of a Canadian psychiatrist, Dr. D. Ewen

Cameron. In the 1950s, Cameron developed a method to treat psychotics using what he called "depatterning" and "psychic driving." According to a grant application he submitted in 1957 to the Society for the Investigation of Human Ecology, a CIA-funded front set up to support behavior-control research, the procedure consisted of "breaking down of ongoing patterns of the patient's behavior by means of particularly intensive electroshocks (depatterning)"--and in some cases, with repeated doses of LSD. This was followed with "intensive repetition (16 hours a day for six or seven days)" of a tape-recorded message, during which time "the patient is kept in partial sensory isolation." Cameron's application proposed trying a variety of drugs, including the paralytic curare, as part of a new technique of "inactivating the patient." THE 56-DAY SLEEP. The analogy to brainwashing was obvious to the CIA, which provided a \$60,000 grant through the human-ecology society. Nine of Cameron's former patients, who had sought treatment for depression, alcoholism and other problems at the Allan Memorial Institute at McGill University, where Cameron was director, filed a lawsuit against the CIA in 1979. One patient, Rita Zimmerman, was "depatterned" with 30 electroshock sessions followed by 56 days of drug-induced sleep. It left her incontinent; others suffered permanent brain damage, lost their jobs or otherwise deteriorated. The case, ORLIKOW V. U.S., was settled in 1988 for \$750,000. (Cameron died in 1967.) A more typical experience of those seeking recompense is that of Air Force officer Lloyd Gamble, who volunteered in 1957 to take part in a test at the Army Chemical Warfare Laboratories in Edgewood, Md. He told U.S. NEWS that he was informed he would be testing gas masks and protective gear. Instead, he learned in 1975, he and 1,000 other soldiers were given LSD. "If they had told me of the risks, I never would have done it," he says now. "It was outrageous." He says after the test he was simply "turned loose to drive from Aberdeen to Delaware" while under the influence of LSD. "I didn't even remember having been there." Gamble began suffering blackouts, periods of deep depression, acute anxiety and violent behavior. He attempted suicide in 1960, lost his top-secret clearance and finally took early retirement in 1968. When he belatedly learned he had been given LSD, he sought recompense. The Justice Department rejected his request because the statute of limitations had expired; the Veterans' Administration denied disability payments, saying there was no evidence of permanent injury. The Defense Department says Gamble signed a "volunteer's participation agreement" and that he received two LSD doses. Gamble and others were told that "they would receive a chemical compound, the effects of which would be similar to those experienced from being intoxicated by alcoholic beverages." Democratic Rep. Leslie Byrne of Virginia is sponsoring a bill that seeks \$253,488 for Gamble; DOD opposes the bill, saying there is "insufficient factual basis" for compensation. Such "private bills" usually are difficult to pass in the face of executive branch opposition.

UNREASONABLE MEN? Other cases filed by prisoners or soldiers who were given a variety of drugs have been dismissed by judges who have ruled that although the subjects did not learn until the 1970s exactly what had been done to them, the side effects and flashbacks they experienced immediately after the tests should have prompted "a reasonable man to seek legal advice" at the time. "The failure to notify and promptly compensate the people who were victimized by these cold war excesses is inexcusable," argues James Turner, one of the lawyers in the ORLIKOW case. But he says the courts and the agencies now have made it virtually impossible for a victim to succeed in a legal claim. "Records are gone, key witnesses have died, people have moved; in the drug-testing cases, people are damaged in other ways, which undermines their credibility." The justifications offered for these tests cover everything from cloak-and-dagger schemes to discredit foreign politicians to training military personnel. The Army exposed as many as 3,000 soldiers to BZ, a powerful hallucinogen then under development as a chemical weapon. The drug attacks the nervous system, causing dizziness, vomiting, and immobility. Thousands more also participated in the Army's Medical Volunteer Program, testing nerve gas, vaccines and antidotes. TALKATIVE. The earliest behavior-control experiments were part of a 1947 Navy project called Operation CHATTER, which was seeking "speech-inducing drugs" for use in interrogating "enemy or subversive personnel." The project was eventually abandoned because the drugs "had such a bitter taste it was not possible to keep the human subjects from knowing" they had been drugged. But by 1952, undaunted by such setbacks, secret psychological research was booming. "One of the problems we had all the way along was the ingrained belief on the part of [CIA] agents that the Soviets were 10 feet tall, that there were huge programs going on in the Soviet Union to influence behavior," John Gittinger, a CIA psychologist who oversaw the Human Ecology society's operations, told U.S. NEWS. A classified 1952 study by the U.S. government's Psychological Strategy Board laid out an entire agenda for behavior-control research. Calling communist brain-washing "a serious threat to mankind," scientists urged that drugs, electric shock and other techniques be examined in "clinical studies . . . done in a remote situation." The report even mused about the potential of lobotomy, arguing that "if it were possible to perform such a procedure on members of the Politburo, the U.S.S.R. would no longer be a problem to us," though it also noted that the "detectability" of the surgical operation made its use problematic. Although there is no evidence that lobotomy experiments were ever performed, many other bizarre and intrusive procedures were. In 1955, the Army supported research at Tulane University in which mental patients had electrodes implanted in their brains to measure the effect on mental function of mescaline, LSD and other drugs. In other experiments, volunteers were kept in sensory-deprivation chambers for as long as 131 hours and bombarded with white noise and taped messages until they began hallucinating. The goal: to see if they could be "converted" to new beliefs. As recently as 1972, U.S. NEWS found, the Air Force was supporting research by Dr. Amedeo Marrazzi, who is now dead, in which psychiatric patients at the University of Minnesota Hospital and the University of Missouri--including an 18-year-

old girl who subsequently went into a catatonic state for three days--were given LSD to study "ego strength." Gittinger concedes that some of the research was quite naive. "We were trying to learn about subliminal perception and all the silly things people were believing in at that time," he says. One study even sought to develop extrasensory perception by "training" subjects with electric shocks when they got the wrong answer. But "most of it was exciting and interesting and stimulating, and quite necessary as it happens, during that period of time," Gittinger insists. Another former CIA official, Sidney Gottlieb, who directed the MKULTRA behavior-control program almost from its inception, refused to discuss his work when a U.S. NEWS reporter visited him last week at his home. He said the CIA was only trying to encourage basic work in behavioral science. But he added that after his retirement in 1973, he went back to school, practiced for 19 years as a speech pathologist and now works with AIDS and cancer patients at a hospice. He said he has devoted the years since he left the CIA "trying to get on the side of the angels instead of the devils." BY STEPHEN BUDIANSKY, ERICA E. GOODE AND TED GEST

### **CLINTON PROVOKES DISPUTE IN VISIT TO BELARUS ...**

WP 1/15/94 11:00 PM Clinton Provokes Dispute in Visit to Belarus Purge Memorial By Daniel Williams and Ann Devroy Washington Post Staff Writers GENEVA, Jan. 15 - President Clinton placed a memorial wreath on a mass burial ground of Stalin's victims in Belarus today in a solemn visit that provoked opposition from Communists in the Belarus government and served as a reminder of a brutal past that still haunts the former Soviet Union. The gesture took place at the slush-covered Kuropaty memorial, nine miles north of the Belarus capital of Minsk, where the bodies of 40,000 victims of former Soviet leader Joseph Stalin's purges were discovered during road work in 1988. It provided a solemn ending to Clinton's tour of three former Soviet republics. From Minsk, he flew to Geneva for a meeting planned Sunday with President Hafez Assad of Syria. Communists in Belarus's transitional government asked the White House to cancel the burial ground segment of the presidential visit and focus rather on Belarus's present, including aid needs. Clinton declined to cancel but compromised by making the visit at the end of his day rather than the beginning. In the morning, he met with the country's acting president, Stanislav Shushkevich, and with Prime Minister Vyacheslav Kebich, who opposed the stop at Kuropaty. Kebich apparently had feared being upstaged by Zenon Poznyak, an opposition leader, human rights advocate and the country's most militant reformer, who has led efforts to excavate the site. Poznyak, an archaeologist, is the grandson of a victim of the mass purges of the 1930s, in which, historians estimate, Stalin's secret police killed 300,000 Belarussians. A Belarussian translator said Poznyak expressed "irritation" with Clinton when the visit was delayed, and asked him to support the opposition and to send no money to the present government. Earlier in the day, Clinton made no mention of the rearranged schedule as he used his visit to urge Belarus to move forward into economic and political reforms rather than into the past. In a speech before an audience of "future leaders" at the Academy of Sciences, the president, saying elections should be held, declared, "There is no substitute for putting the people of a nation in the driver's seat." The president lauded Belarus's decision to give up 76 nuclear weapons inherited from the collapsed Soviet Union. Belarus was the first former Soviet republic to surrender its nuclear arms. Kazakhstan recently agreed to give up its arsenal. On Friday, Ukrainian President Leonid Kravchuk signed a joint statement in Moscow with Clinton and Russian President Boris Yeltsin in which he agreed to decommission his country's large store of nuclear-tipped missiles. Belarus's early decision brought the struggling state \$101 million in U.S. aid, which was used to dismantle and transport the weapons. Originally, Clinton's four-hour stop was meant to be not only a reward for denuclearization but a snub of Ukraine, which had dragged its feet in negotiations over its missiles. Kravchuk's commitment, however, prompted Clinton to visit Kiev briefly this week. Clinton's tour of Minsk was a grim trip through history. Numerous invaders have wiped their feet on Belarus before moving on to Russia. In addition to Kuropaty, Clinton visited a monument to soldiers killed fighting the Nazis in World War II. During that war, 1 of 4 Belarus residents died, and only recently has Belarus's population reached its prewar level of 10 million. First Lady Hillary Rodham Clinton, meanwhile, visited a 1,500-bed surplus U.S. military hospital that was transported to Belarus from Germany. It will serve victims of the 1986 Chernobyl nuclear power plant disaster, in which 75 percent of the Ukrainian facility's contaminants were dropped into Belarus. "You are a new nation with an old history," Clinton said in his speech. "During this century you have endured as much or more hardship as any people we have known." The dispute over Clinton's stop at Kuropaty underlined the fragility of Belarus's emergence from communism. The economy is still centrally planned, private business has developed slowly, and free elections have yet to be held. A yearning for the Soviet Union seems to linger. Minsk is the capital of the Commonwealth of Independent States, the Moscow-led effort to maintain a sense of community among the former Soviet republics. Technically, Belarus is neutral, a position that favors Russia's opposition to expanding NATO; Belarus leaders have said its military cannot take part in NATO's Partnership for Peace, the just-approved plan that provides links between former Eastern Bloc countries and the Atlantic alliance, until a new constitution dispenses with the neutrality issue. Tourist offices in Minsk still advertise trips around the Soviet Union, and stark Stalin-era monuments punctuate a skyline of nondescript apartment blocks. Although guides mechanically tick off the list of invasions and the damage done, Stalin's deeds are not yet part of

the official history. Historians say the Soviet secret police marched 250 victims a night to the marsh at Kuropaty, forced them to dig their own graves, then executed them. At the site, Clinton walked up to a simple, cross-like stone slab that is the main memorial. The U.S. administration has donated two granite benches to Kuropaty, inscribed, in English and Belarussian, "From the people of the United States of America to the People of Belarus in remembrance." As dusk fell, Clinton was greeted by 40 girls carrying candles and set his own candle among carnations at the slab. Then Catholic and Orthodox priests and a Jewish rabbi led prayers. Copyright 1994 The Washington Post

### **GAMMA RAY BURSTS MAY BE INDICATORS OF EXPANDING ...**

WP 1/15/94 11:00 PM Gamma Ray Bursts May Be Indicators of Expanding Universe By Kathy Sawyer Washington Post Staff Writer An orbiting observatory has detected what some astronomers believe is the imprint of the expanding universe reflected in bursts of high-energy rays being fired toward Earth from all directions by violent, mysterious objects. A team of astronomers analyzing data from NASA's Compton Gamma Ray Observatory has found that the radiation of these monstrous explosions, known as gamma ray bursts, has apparently been "stretched" on its way to Earth. The stretching, known as time dilation, was predicted in Albert Einstein's general theory of relativity. This stretching would be expected to occur in the wavelengths of gamma ray bursts originating in the farthest reaches of the universe, billions of light-years distant and elongated by the time they are detected here. Lasting only seconds or minutes, a single burst might produce more energy than the sun releases in a thousand years. If the events are as distant as the new evidence indicates, the team said, "the power of these explosions may be greater than anything ever seen before - as much as one quintillion suns" - in order to be detected. Bohdan Paczynski of Princeton University, one of those who had predicted the effect, called the findings "one of the most spectacular astrophysical discoveries of the decade." The new evidence was presented yesterday at the American Astronomical Society meeting here by a team led by Jay Norris of Goddard Space Flight Center. "This is pretty strong evidence . . . that must be successfully addressed" by any contrary explanations of the phenomenon, Norris said. Scientists have been puzzling over the mysterious bursts since they were discovered in the late 1960s by U.S. defense satellites searching for nuclear test violations. Of all forms of electromagnetic radiation, gamma rays are the most energetic and difficult to capture. Invisible to the human eye, they travel in wavelengths no longer than the distance across the nucleus of an atom, but Earth's atmosphere prevents most of them from reaching the ground. On Earth, they are produced in man-made thermonuclear explosions. A gamma ray unit might have 10 million times the energy of a comparable unit of the radiation in the kitchen microwave. The 17-ton Compton is the first spacecraft equipped with sophisticated instruments designed to study celestial gamma rays across a range of wavelengths. Since its launch in 1991, the Compton has catalogued some 750 bursts. The Compton's early results shook the then-current theory that the bursts originated in explosions or "starquakes" within or near the Milky Way, Earth's home galaxy. Instead, it showed, the bursts did not correspond to the geography of the Milky Way but came from all directions. However, despite the mounting evidence, some researchers continue to argue that the gamma ray bursts are confined within the Milky Way, and do not come from incredibly powerful objects in the nether regions of the universe. In any case, the early Compton results prompted the search for time dilation as further evidence that the bursts originate far outside the galaxy. To understand time dilation, Norris suggested, consider two events happening close at hand, separated by one second, and the same two events separated by one second but occurring in the distant universe. In the second case, by the time the light from those events reaches Earth, the events are separated by two seconds instead of one. Similarly, in its analysis, the team showed that the dimmer gamma ray bursts (dimmer presumably because of greater distance from Earth) have twice the duration of the brighter, presumably closer, bursts. Then they showed that the dim bursts tend to be "redder" (that is, less energetic, or in other words, able to penetrate fewer layers of lead) in gamma ray color than bright bursts. This gamma ray reddening (invisible to the human eye) is the signature of time dilation. Norris cautioned that "our result should not be taken as proof that the time dilation is a result of cosmological expansion of the universe - just that a difference in durations of bright and dim bursts does exist and must now be accounted for." Thomas Cline of Goddard, a self-described skeptic, called the presentation "a very historical moment. I didn't endorse Jay's theory for a long time. But he's won me over." Stirling Colgate of the Los Alamos National Laboratory, another prominent contrarian, dismissed yesterday's results. The effects of time dilation, he said, could be mimicked by collisions of neutron stars with asteroid-class objects near the Milky Way. Similar differences in duration and "color" could be the contrast between direct hits (which would be shorter and brighter) and grazing collisions (which would take longer and be redder). "When you turn the dimmer down on a light bulb, it gets redder," he said. Copyright 1994 The Washington Post

### **HK NERVOUS AS CHINA SET TO THROW NUCLEAR SWITCH**



RTw 1/15/94 7:46 PM By Mark Bendeich HONG KONG, Jan 16 (Reuter) - Hong Kong legislator and anti-nuclear campaigner Reverend Fung Chi-wood is taking no chances after China opens its first large-scale nuclear power station in nearby Guangdong province in February. He plans to buy his own portable radiation detector. "I want to buy one, if I have the money, so I can act as a watchdog," says Fung, a long-time opponent of the \$4 billion project, now complete and overlooking the fishing grounds of Daya Bay, only 50 km (30 miles) northeast of central Hong Kong. Fung is virtually a lone voice of public protest against the plant. But seven years ago his clumsily named group, the Conference on the Shelving of the Daya Bay Nuclear Plant, brought thousands on to the street in protest. More than one million people -- around a sixth of the city's population -- signed a petition calling for the project to be scrapped after the 1986 Chernobyl nuclear disaster. The project was, apart from the political future of the British colony itself, the most talked about issue of the day. Almost eight years later and more than 13 months behind schedule, the French-designed plant has finished its commissioning tests. The near-hysteria that once characterised debate over the project in Hong Kong has subsided but fears remain. "I think generally people (in Hong Kong) have a good understanding of the technology. There should not be any undue concern," says Dominic Tai, of the Hong Kong Nuclear Investment Co. It owns 25 per cent of the plant in a joint venture with China. But as Chinese Premier Li Peng prepares to open the plant on a date yet to be fixed, authorities in Hong Kong are far from convinced the old concerns have been put to rest. It was only about a year ago, with Daya Bay barely rating a mention in the media, that one local businessman advertised radiation protection suits at about US\$510 each. The response to his ads was slow, according to a local newspaper, but the Hong Kong government is not sure the public has much more faith in the project now than it had in 1987. That was the year the joint venture revealed more than half the required number of steel reinforcing bars had been mistakenly omitted from the first layer of the reactor's concrete foundation -- a problem it corrected and described as minor. "I think the mood of Hong Kong people is very volatile," says Frankie Lui Kin-fun, a senior official in the Hong Kong government's security branch who helped draft the colony's Daya Bay emergency contingency plan. Lui says the government wants to avoid future panic by ensuring that the plant notifies Hong Kong of any emergency, whether it is likely to lead to an escape of radiation or not. Under the International Atomic Energy Agency Convention on Early Notification, the plant must immediately inform Hong Kong of any emergency leading to an escape of radiation but not of an "on-site" emergency where radiation leaks are contained. China, which resumes sovereignty over Hong Kong in 1997, so far refuses to notify it about on-site emergencies. This, Lui says, leaves the colony at the mercy of rumours and scaremongering, though the government assures residents that even in a severe emergency, only a few people living close to the plant would be at risk of direct contamination. "I think now that the plant is built, people have come to accept the fact... but I think the basic fears are still there and if we are able to get the Chinese to agree to notify of all on-site incidents, I think it will definitely reinforce public confidence," he says. Until such an agreement is reached, the government will have to rely partly on what its contingency plan lists as "media inquiries, travellers and other sources" for news of on-site emergencies. The Daya Bay plant, with two 900-megawatt generators, is only the beginning in terms of nuclear power in China, where in the booming coastal provinces the authorities cannot build power stations quickly enough to meet demand. Another nuclear station is planned for Guangdong and nationally China aims to boost nuclear power generation 10-fold by 2020. The French-designed Daya Bay plant, which will sell 70 percent of its electricity to Hong Kong, manually performed a final test emergency shutdown on New Year's Eve. The next one, says technical consultant Jacques Pretti, of Electricite de France, will be for real. He admits that the financial cost of shutting down the station in future would be enormous but said people living near Daya Bay should be confident the local operators will make the hard decisions when safety is at stake. "Within the operation department of Daya Bay, you have 1,000 people," Pretti says. "Some of them have been trained in France and the United Kingdom. They are licensed operators and they know the importance of safety..." Fung Chi-wood is not willing to leave things to the operators but sees only one solution. "Nobody can see, smell or feel radiation except people carrying detectors," he says. REUTERCopyright 1994 Reuters Information Services, Inc. All rights reserved.

## **CLINTON PRAISES NON-NUCLEAR BELARUS, PUSHES REFORM**

RTna 1/15/94 3:17 PM (Eds: adds quotes, Belarussian comment) By Ron Popeski MINSK, Belarus (Reuter) - President Clinton praised Belarus Saturday for opting to become a nuclear-free state and urged the former Soviet republic to press ahead with economic reforms to help build a new Europe free of divisions. Clinton, visiting Belarus for six hours after a two-day stay in Moscow, told young intellectuals their country had made the right choice in ridding itself of nuclear arms, and obliquely criticized neighboring Ukraine for its delays in disarming. "As a new nation, one of your first decisions was to give up your nuclear weapons," Clinton said in a speech at the Academy of Sciences in Minsk. "It would have been easier to say these ... weapons make us a great nation, they make us stronger, we will use them, we will rattle them around as threats, but you made a better choice -- to live nuclear-free." Clinton told the gathering the United States was offering Belarus an extra \$25 million to help it disarm, bringing the total of similar aid it has provided to just over \$100 million. He said the conservative government in Minsk, which has been reluctant to pursue reforms as rapidly

as in neighboring Russia, should move ahead with change. He also called for new legislative elections -- unlikely to take place because of resistance from the conservative-dominated Soviet-era parliament. "I urge you to press ahead with these economic reforms, to do it in as sensible and clear-headed a way as possible and to learn from the experience of other nations," he said. Belarus' top leader, liberal chairman of parliament Stanislav Shushkevich, said he was "pleased on the whole. We achieved agreement on all issues." But Prime Minister Vyacheslav Kebich, his main conservative rival, said Belarus was concerned by an agreement reached in Moscow this week between Russia, Ukraine and the United States. In exchange for Ukraine's commitment to give up its remaining nuclear weapons, U.S. officials said the pact offered Kiev a down payment of about \$1 billion for the future sale of uranium contained in the warheads. The agreement is aimed at putting an end to two years of Ukrainian wavering on whether to give up the weapons. It still faces strong opposition in the Kiev parliament. "I am concerned that as a result of the talks between the three leaders, Belarus was not mentioned as a country entitled to a share from the sale of uranium," Kebich said. "Clinton did assure us that we are entitled to our share of uranium for missiles still on our soil and tactical missiles removed earlier." The U.S. leader, accompanied by his wife Hillary and 13-year-old daughter Chelsea in Minsk, said Belarus could play its part in encouraging others by embracing reform. "What you do here might encourage other nations facing the same challenges," Clinton said. "It can help build a broader Europe that is no longer divided but integrated, integrated by democratic governments, market economies and peaceful coexistence." Clinton said Belarussians had more reason than most to want a better future because of the country's tragic past. "This nation, which lost one in four of its citizens in the Second World War, must surely know better than any other on the face of the earth the terrible price Europeans have paid for their constant divisions," he said. More recently, Belarus was devastated by the Chernobyl disaster. It was downwind of the 1986 accident at the Ukrainian nuclear power plant and absorbed much of the fallout. Hillary Clinton toured a children's hospital Saturday and turned over aid worth \$10 million to the Belarussian health system, hard hit by the Chernobyl nuclear disaster. The president signed a bilateral agreement to encourage U.S. investment, and concluded his visit by lighting a candle at the Kuropaty Memorial, a monument to the brutality of the Stalinist terror in the Soviet Union before World War Two. His short visit triggered an anti-American protest by a handful of pro-communist demonstrators. Clinton later flew on to Geneva for Sunday talks with Syrian President Hafez al-Assad on the Middle East. He was due back in Washington Sunday night. REUTERCOPYRIGHT 1994 REUTERS INFORMATION SERVICES, INC. ALL RIGHTS RESERVED

## **RADIATION TESTS 1ST LD WRITETHRU**

APn 1/25/94 4:45 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By H. JOSEF HEBERT Associated Press Writer WASHINGTON (AP) -- The Energy Department is still conducting more than 200 experiments on humans, including many involving radiation, but is following strict ethical procedures and gaining proper consent, Secretary Hazel O'Leary said Tuesday. Most of the radiation experiments involve low-level trace doses of radiation under guidelines in effect at the department since 1991, she said. Department officials said about 40 percent of the experiments are believed to involve radiation, mostly in the development of diagnostic procedures. "As far as we have been able to ascertain, the department is not conducting any experiments that violate medical, ethical standards or the Nuremberg codes," she told the Senate Governmental Affairs Committee. Following disclosure that numerous questionable radiation experiments had been conducted during the Cold War, several senators had expressed concern some might be continuing. What assurance is there that there are not "rogue operators out there" who, despite stringent government regulations and guidelines, still may have experiments under way without proper patient consent? asked Sen. John Glenn, D-Ohio, the Senate panel's chairman. Mrs. O'Leary, who concedes she may have opened a "Pandora's box" by pressing for a government-wide records search on past radiation testing on humans, said President Clinton soon will direct all federal agencies to immediately halt any experiments where consent might be in question. She later told reporters the directive was being issued, in part, to respond to a request for Glenn and not because of any evidence that proper consent might not have been obtained in any continuing tests. Within her department, she said, "we're pretty certain that everyone is following the spirit and intent" of rules on ethical conduct of human experiments. While providing no details, Mrs. O'Leary said there are between 200 and 260 experiments involving human subjects being conducted by her department or by contractors. She said that information about each of the experiments was being assembled and would be put into a computer by mid-March and be available for public review. Martha Krebs, DOE's director of energy research, said later that as many as 40 percent are believed to involve radiation, generally at extremely low doses. She said about \$50 million is being spent on the projects, about half of which comes from DOE and the rest from other government agencies. In separate testimony, officials from the departments of Defense, Veterans Affairs and Health and Human Services reiterated that they were pressing paper searches within their departments for all information about past radiation tests involving humans. Veterans Affairs Secretary Jesse Brown said he had been distressed to learn that the VA during the early 1950s had created a secretive "Atomic Medicine Division" and that he is attempting "to piece together why this was

done, what if any secretive activities it engaged in and the consequences." But he has yet to learn even when the division began its operation and when it concluded. Brown said he found it repulsive that veterans who fought for this country "were tricked" into taking part in experiments about which they had limited or in some cases no knowledge. Meanwhile, Defense officials said that as of Jan. 1, 205,472 individuals had been identified as being exposed to radiation as a result of atmospheric nuclear tests, mostly in the 1950s. Another 195,753 were part of the occupation force at Hiroshima and Nagasaki in Japan when the United States dropped atomic bombs on those cities. Air Force Major Gen. Kenneth Hagemann told the committee that in most cases the soldiers were exposed to extremely low doses. He said in about 1,600 cases, individuals received doses that exceed today's federal standards for occupational exposure. The hearing by Glenn's committee was the first Senate inquiry into the human radiation testing issue since Clinton, spurred by an internal review by Mrs. O'Leary in her department, ordered a wide-ranging search of government records to learn more about past radiation tests. Mrs. O'Leary said some of the Cold War experiments were especially troubling because "of a pattern of choosing subjects from relatively vulnerable populations such as persons of color, poor people, prisoners, and retarded children." "This appearance of treating some citizens as 'expendable' is especially repugnant," she said. In addition to the Energy Department, record searches on experiments dating back to the 1940s are under way at the departments of Defense, Veterans Affairs, and Health and Human Services as well as the CIA and NASA.

### **CLINTON TO INSURE HALT TO DUBIOUS HUMAN TESTING**

RTw 1/25/94 3:09 PM (Eds: Adds O'Leary comment 6th graf, Jesse Brown comments 13-15 graf) WASHINGTON, Jan 25 (Reuter) - President Clinton will issue a directive to halt government-sponsored experiments on humans in which informed consent may be questionable, Energy Secretary Hazel O'Leary said Tuesday. O'Leary, at a Senate Governmental Affairs Committee hearing on government radiation experiments on people, said she did not believe improper government tests were being conducted now. But, she said, Clinton will issue a memorandum soon to insure that questionable tests are halted while the government evaluates its role in tests conducted on people, including the mentally retarded, who apparently were unaware of the danger. While the concern has centred on experiments done from the 1940s through the 1970s, O'Leary said the Energy Department is preparing a list of ongoing experiments on human subjects, with a funding of some \$50 million, to make sure they comply with ethical guidelines. She said of more than 200 current human-subject experiments under her department's auspices, some involve radiation and the majority of those relate to nuclear medicine using low tracer doses. O'Leary said she was "personally convinced" the current tests did not breach ethical standards, but said complete details on those tests will not be available until mid-March. Also at the hearing, Major General Kenneth Hagemann of the Defence Department's Defence Nuclear Agency, said that as of January 1, the government had identified 205,472 individuals who participated in the U.S. atmospheric nuclear testing programme. Hagemann said another 195,753 department personnel were identified who had been associated with the post-war occupation of Hiroshima and Nagasaki. "We have learned that doses to most individuals were quite low," he said. "In fact, about 25 percent received no measurable dose." About 1,600 people received doses that exceeded current federal guidelines for occupational exposure, which is 5 rems per year, he said. Hagemann said as of today, the department had contacted about 70,000 of the affected people. Veterans Affairs Secretary Jesse Brown in testimony for the committee said an investigation of that department's role in radiation testing on people so far has produced "no evidence to suggest that VA ever engaged in radioisotope studies that were not medically sound and designed to benefit patients." Brown said he expected the department will have its preliminary review of its human radiation experiments done by the end of the end of the month. He said he was upset the department classified its Atomic Medicine Division, and said he ordered a complete review of its records. He said one of the division's purposes was to teach "techniques of nuclear preparedness to the nation." "It is extremely upsetting to me that VA apparently did not reveal for an undetermined length of time the existence of this Atomic Medicine Division," Brown said. REUTERCopyright 1994 Reuters Information Services, Inc. All rights reserved.

### **RADIATION HEARING**

APn 1/24/94 11:42 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By H. JOSEF HEBERT Associated Press Writer WASHINGTON (AP) -- A Senate panel is seeking more assurance from the Clinton administration that radiation tests are not still being conducted on people without their consent, as occurred during the Cold War. "We know that radiation testing, presumably with informed consent, continues within the government," Sen. John Glenn, D-Ohio, said recently. "But do we know with 100 percent certainty that testing without consent does not continue to this day?" Glenn, chairman of the Senate Governmental Affairs Committee, was expected to get some answers today as he and other senators quizzed senior Clinton administration officials, including Energy Secretary Hazel O'Leary, on current

policies on human experimentation. The hearing was the first Senate inquiry into the human radiation testing issue since President Clinton directed a wide-ranging records search at a half-dozen departments and agencies -- from the Energy and Defense departments to the National Aeronautics and Space Administration and the CIA -- to learn more about such experiments. O'Leary has expressed revulsion about evidence of human radiation experiments during the 1940s and 1950s and has promised to make public all records possible detailing such experiments involving the old Atomic Energy Commission and other agencies. She also has said victims should be compensated, especially if consent was unclear. But O'Leary has told lawmakers that she is certain that current human experiments -- to the extent they are taking place -- are complying strictly with guidelines established in the 1970s, including requirements that participants provide clear and unquestionable consent. She told a House inquiry a week ago that the public should not have "inordinate fear of current research practices" and said that the validity of scientific research "is not at issue here," only "the way some scientists practiced their craft." Since the 1970s, there have been formal Institutional Review Boards to enforce requirements that participants in scientific experiments provide informed consent, she said. "In fact scientists today must obtain informed consent just to administer a questionnaire. It is difficult to conceive of the ethical abuses about which we've been hearing occurring today in the United States," she told a House hearing on Jan. 18. Even so, she said if the record searches and internal inquiries suggest that the standards for human experiments need to be strengthened, she promised to seek changes in the regulations. But Glenn has expressed concern that while there are strict rules and regulations on experimentation today that did not exist during the first three decades of the Cold War, he wants to know whether "these rules are being followed." "We need to know from the administration that they are doing everything possible to assure that no improper testing -- whether through government sponsored labs, contractors or elsewhere -- continues," he told reporters the other day. "No other answer is acceptable."

## **CIA TURNS UP NO RADIATION TESTING**

RTw 1/24/94 12:47 PM By Jim Wolf WASHINGTON, Jan 24 (Reuter) - The Central Intelligence Agency said Monday that it had found no evidence that it ever used human guinea pigs in radiation experiments, contrary to a 1975 presidential fact-finding commission's report. "To date, we have found no instances of ionising radiation experimentation on humans," the agency said in a statement. It said it was continuing an "exhaustive search," including contacting retired employees who might have relevant information. The Clinton administration launched a government-wide probe of Cold War-era radiation experiments after Energy Secretary Hazel O'Leary disclosed last month that as many as 800 people had been exposed in federally funded experiments from the 1940s through the 1960s. "As requested by the White House, we are conducting a major inquiry in conjunction with the Task Force on Ionising Radiation Testing on Humans," the CIA said. The task force was set up January 4 to look at, among other things, possible compensation for unwitting subjects. CIA officials said they believe the spy agency got a bum rap on radiation from what they regard as apparently careless drafting in the 1975 report by then-Vice President Nelson Rockefeller's blue-ribbon panel on CIA domestic misdeeds. The Rockefeller Commission mentioned radiation studies as part of a notorious CIA programme to study mind and behaviour control, codenamed MKULTRA. The commission gave no details on the CIA radiation experiments. "The drug programme was part of a much larger CIA programme to study possible means for controlling human behaviour," it reported in June, 1975. "Other studies explored the effects of radiation, electric shock, psychology, psychiatry, sociology and harassment substances." The commission added that only limited records of the testing "in these drug programs" had survived. "All the records concerning the programme were ordered destroyed in 1973, including a total of 152 separate files," it said. The ambiguity of the commission's reference to destroyed records had led some critics to charge that the CIA might have shredded evidence of radiation tests. REUTERCOPYRIGHT 1994 Reuters Information Services, Inc. All rights reserved.

## **RADIATION EXPERIMENTS**

APn 1/23/94 11:00 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By MARTIN FINUCANE and JONATHAN YENKIN Associated Press Writers BOSTON (AP) -- At the dawn of the nuclear age, a 1946 announcement in Science magazine sounded reveille for scientists: The Manhattan Project was offering radioactive isotopes for research and medical treatment. Hundreds of the doctors and scientists -- the most esteemed of the time among them -- took up the offer from the makers of the atomic bomb. They sought to cure the incurable with this wondrous energy of the universe. But now, some of that work is coming into question, prompted by recent disclosures of plutonium and other radiation tests on human, performed without informed consent, on children or the terminally ill. A road map to the earliest research is the 1951 report "Isotopes: A Five-Year Summary of Distribution." The 451-page document, examined by The Associated Press, tracked all radioactive isotopes used in the first years of research. Vague

definitions and occasional confidentiality obscure many of the hundreds of treatments and experiments, but a composite drawn from the small type of the Atomic Energy Commission document shows: --Most medical uses went directly to the treatment and diagnosis of illness, especially cancer. The isotopes were used, not by some backroom dabblers, but by many prominent physicians. Linus Pauling, who later won Nobel chemistry and peace prizes, was on the advisory board for distribution. --Medical tests generally involved tiny tracer amounts of radioactive isotopes to learn more about the body, such as checking blood flow and metabolism. According to experts, most of those tests would be considered relatively harmless even by today's standards, and many are still being used or were the forerunners of modern diagnostic tests. --Radioactive isotopes were given to pregnant women and infants, tests that would be highly unusual today, mainly because doctors now know the developing tissue in fetuses and babies is more susceptible to damage from radiation. --Some agencies and institutions were allowed broad discretionary or confidential use with only local oversight. The report gives scant clues on most military and defense uses. The AEC report, which sat in obscurity for years, has only recently become known to federal officials and will be a key in their investigation of radioactive experiments. "I think it's an important clue," said Robert Alvarez, special assistant to Energy Secretary Hazel O'Leary, who has pledged compensation to those harmed by exposure. But the full extent of the work almost defies a complete investigation. Within five years of the Science magazine announcement, nearly 19,000 radioisotopes were shipped to more than 600 institutions across the country. By 1954, more than 47,000 isotopes had been allocated. And David Rothman, professor of social medicine at Columbia, said experimentation that might raise questions today went on for decades. "In the '40s, '50s and '60s there were no mechanisms existing to force the researcher to present his protocol to anybody else who would review that investigator's own judgment on risks and benefits. If you thought it was OK to do it, you did it. We trusted to you, the investigator," he said. Throughout the testing, the issue of consent looms large, especially since revelations about tests -- listed in the AEC report -- at the Fernald school in Waltham, Mass. There, about 120 young people were given tracer amounts of radioactive iron or calcium in food studies without their consent. Exposure to Fernald students was mild, estimated at an average of 330 millirems, the extra radiation that would come from moving from Boston and living in Denver for a few years. But, all experts now agree, students and their guardians should have been fully informed. "Today, to do an experiment like that on mentally retarded children would be almost impossible," said Dr. Joel Gray, a specialist in medical physics at the Mayo Clinic in Minnesota. Among physicians who used those first isotopes, Dr. H.L. Barnett also remembered doing tracer studies in babies in New York without getting informed consent, but he said the amounts were safe and were used for the benefit of the children. "We would never hurt the babies," said Barnett, now medical director of the Children's Aid Society in New York. At the time, little was known about the insidious effects of radiation. Shoe store patrons, for example, delighted in the early 1950s in checking the fit of new shoes by X-ray machines long since outlawed as unsafe. And dermatologists would give children strong doses of radiation to combat ringworm, a practice that was eventually halted. But the promise of benefits seemed immeasurable. "It was the birth of a new age," said Nello Pace, a University of California-Berkeley researcher whose use of radioactive hydrogen to measure body water in humans was listed in the 1951 report. "It became obvious there was great potential here for important kinds of medical research." Patients were most likely to be subjected to tracer tests, which used small amounts of radioactive elements to act as markers. For instance, radioactive iodine became a common tool to study the thyroid gland, a procedure still employed today. "Were the studies primarily interested in the effects of radiation on the human body? No," said Dr. Belton Burrows, whose iodine tests at the former Veterans Administration hospital in Framingham were among those performed on veterans. Instead, Burrows said, the goal among physicians was to use radioactive isotopes as windows to the human body to better understand disease. "I don't have to legitimize anything I did in that era," said Burrows. Dr. Gilbert Forbes, who studied the volume of body liquids of children at Children's Hospital in St. Louis, said his confidence remains as strong today as it was then. "I think we felt very secure we weren't damaging anyone," he said. But modern science has brought some of the work into question. For example, abnormal cancer rates were detected in children whose mothers were given radioactive iron during a 1948 Vanderbilt University study, which was designed to see how pregnant women absorb iron. In addition, medical ethicists say work on terminally ill patients now comes into question, even though it was done at some of the most prestigious American institutions such as George Washington University School of Medicine; Johns Hopkins University, Baltimore; Beth Israel Hospital and Harvard Medical School, Boston; and Memorial Hospital Sloan-Kettering Institute, New York. The doctors at the time, desperate to halt the spread of cancer, were exploring all possibilities of treatment, in one case using radioactive arsenic on leukemia patients. "Generally, things were done in terminal patients because they were considered too risky for otherwise free-living people," said Dr. Kenneth Ryan, a Harvard Medical School professor who helped draw up more stringent federal guidelines in the 1970s for research involving humans. "It's too easy to say, 'Well, they're dying anyway,'" Ryan said. Although some experts argue that no dose of radiation is safe, the early experiments involved mere traces of isotopes. "In most cases, the radiation exposures were very small," said William Beckner, deputy director of the National Council on Radiation Protection and Measurements, a federally chartered agency that advises the government on radiation issues. "We see no need to be scaring the public ... when the exposures didn't amount to much," he said. Radioactive materials spawned far-ranging uses in industry as well, according to the report. Bell Labs in Murray Hill, N.J., tracked the movement of preservatives in

wood; B.F. Goodrich Co. tested glowing golf balls in the laboratory with the idea that duffers might one day more easily find their errant shots; the California Department of Public Health traced the paths of mosquitoes; Reynolds Alloy Co. in Listerhill, Ala., used isotopes to measure the thickness of aluminum foil. End Adv for Mon AMs, Jan. 24

### **AUSTRALIA WARNED OF INDONESIAN NUCLEAR CRISIS**

RTw 1/23/94 12:49 AM CANBERRA, Jan 22 (Reuter) - Australia's conservative opposition urged the government on Sunday to prepare for a nuclear emergency if neighbouring Indonesia, described as geologically unstable, goes ahead with a nuclear power plant. "Australia should have some idea about the extent of the effect on Australia of a nuclear accident in Indonesia," said opposition environment spokeswoman Chris Gallus as she called for an environmental impact assessment. "Australia must have an action plan in case of such an accident," she said in a statement. Indonesia said on Thursday it was considering whether or not to build a 600 megawatt nuclear power plant in Java after a Japanese engineering firm stated last month that the project was feasible. Critics say Indonesia's geological instability makes nuclear reactors a high risk, especially in Java, the country's most densely populated region. "Indonesia is located in a geologically unstable part of the world and -- from our current knowledge of nuclear fallout and climate patterns -- we need to know the possible effect in the northern and central areas of Australia," Gallus said. The Indonesian government says it needs to broaden its energy supplies because of declining oil and gas reserves. The plant, if built, would be operational next decade. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

### **LITHUANIA'S ONLY NUCLEAR POWER PLANT SHUTS DOWN**

UPn 1/27/94 3:20 PM VILNIUS (UPI) -- Lithuania's only nuclear power station, which supplies 80 percent of the country's electricity, shut down Thursday due to failure of the control system in one reactor, Lithuanian television reported. "The reactor was shut down when the reactor rod manual control system went out of order," said Viktor Shevaldin, director of the Ignalina plant, 40 miles (70 km) northeast of the capital. The Ignalina nuclear plant is similar in design to the Chernobyl nuclear power plant in Ukraine, and contains two reactors. The first reactor was switched off Jan. 14 due to a failure in the emergency cooling system. The failure of the second reactor was reported at 2:30 p.m. Thursday. Due to the stoppage of the two reactors, electrical supplies were cut for industrial consumers, Shevaldin said. The director said power officials have turned on additional turbines in the country's hydroelectrical power system and in conventional power stations run by coal or oil. Shevaldin said the first reactor was expected to be back in operation by Friday. Repair of the second reactor is expected to take about two days. It was the fourth time this year that reactors at the Ignalina station have failed. Copyright 1994 The United Press International

### **ISRAEL INVITES EGYPTIANS NUCLEAR REACTOR SITE**

UPn 1/27/94 10:14 AM JERUSALEM (UPI) -- Israel's environment minister invited Egyptian scientists Thursday to tour the desert town of Dimona, home to Israel's top-secret nuclear reactor, but not the reactor itself. Sarid extended the invitation to rebut charges published in Egyptian newspapers that the Dimona facility was emitting high levels of radioactivity. "I invite the Egyptians to come to the city of Dimona to observe by themselves and to come to a conclusion that the information about radioactive radiation has no basis in reality," Environment Minister Yossi Sarid said. Israel has for years rejected demands to open its nuclear reactor to international inspection, saying the reactor is used purely for energy production. "All the information coming from Egypt about radioactive leakage in Israel is totally baseless. Unfortunately from time to time the Egyptians raise this particular question for purely political purposes," Sarid said. Sarid said the Dimona reactor was one of the safest in the world and possesses the most advanced safety systems available. In April the Israeli press published reports of radioactive wastewater in a gully near the reactor. In response, Atomic Energy Commission officials said that wastewater from the sanitation system was poured into the gully "to get rid of the mosquitoes breeding on the sewage," but checks of the area did not find unusual levels of radioactivity. In 1986, Mordechai Vanunu, an ex-technician at the Dimona reactor, told the Sunday Times of London that Israel secretly stockpiled between 100 and 200 nuclear bombs, composing the world's sixth largest nuclear arsenal. Vanunu was sentenced to 18 years in prison and is currently in solitary confinement. Copyright 1994 The United Press International

### **KOZYREV ASSURES CHINA THAT RUSSIA POSES NO THREAT**

RTw 1/27/94 2:33 AM BEIJING, Jan 27 (Reuter) - Russian Foreign Minister Andrei Kozyrev assured China on Thursday that Moscow's push to improve links with Beijing would stay a priority no matter what changes occur in Russia's

own political landscape. Kozyrev, in talks with Foreign Minister Qian Qichen, said Russia's hopes for strong business and trade ties with the fastest growing economy in Asia was a "priority of Russian foreign policy," according to a Chinese official. "This is a set policy of Russia and will not be affected by political changes in its situation," Foreign Ministry spokesman Wu Jianmin quoted Kozyrev as saying. Kozyrev arrived in China late on Wednesday, crossing the long frontier and stopping at the thriving border trade outpost of Heihe. China, along with most of Russia's other neighbours, has been watching warily as militant nationalists such as Vladimir Zhirinovskiy grab the media spotlight -- recalling days when Moscow held far greater sway over central Asian regions Beijing now sees as its backyard. Questions have also arisen over Sino-Russian military links, with at least one authoritative journal, Jane's Defence Weekly of Britain, saying Moscow is dragging its feet on deals to help China upgrade its air power. Wu said the two ministers did not specifically discuss military cooperation although they did attempt to reassure each other of the stability of their peaceful new friendship. Along with assuring Qian of Russia's continued commitment to a "no first use" nuclear policy regarding China, Kozyrev told Qian Moscow's new military doctrine was "defensive," Wu said. Kozyrev, clearly stressing the economic, said he hoped to see even faster growth of trade -- which hit \$7 billion last year -- and more Russian participation in Chinese infrastructure development projects such as the Three Gorges dam. Qian told Kozyrev China would welcome bids from Russian companies. Kozyrev, whose visit will last until January 29, is due to meet President Jiang Zemin on Friday, when he is expected to raise again Moscow's invitation for a return visit following President Boris Yeltsin's Beijing trip in December 1992. REUTERCOPYRIGHT 1994 Reuters Information Services, Inc. All rights reserved.

### **BRF--URANIUM LEAK**

APn 1/26/94 2:33 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. COLUMBIA, S.C. (AP) -- A uranium compound leaked for 10 minutes Wednesday at a nuclear fuel plant after a valve failed. There was no apparent danger to the public, federal officials said. Fifty-five workers at the Westinghouse Commercial Nuclear Fuel Division Plant were evacuated, but none inhaled the uranium compound and none appeared to be ill, company and the Nuclear Regulatory Commission said. The compound, uranium hexafluoride, contains low levels of radiation but is generally harmful only if inhaled, according to the NRC. NRC spokesman Ken Clark said none of the uranium hexafluoride appeared to have escaped the building. Uranium hexafluoride is brought to the plant as a solid, heated in a cylinder and converted to gas, then pumped into a process line, Clark said. Its radiation level increases as it is processed. The leak occurred in a valve between the cylinder and the process line, Clark said. "The area is shut down and won't be restarted until we have found what caused it," Westinghouse spokesman Vaughn Gilbert said. The NRC sent two inspectors to the plant.

### **ISRAEL DENIES REPORTS OF REACTOR LEAK**

RTw 1/26/94 12:48 PM JERUSALEM, Jan 26 (Reuter) - Israel denied on Wednesday reports from Egypt of a leak from its nuclear reactor at Dimona in the Negev Desert. The Egyptian army sent investigators to Egypt's border with Israel to measure radiation levels, security sources said. "Environment Minister Yossi Sarid wishes to clarify that there is no truth to rumours emanating from Egypt that there is leakage from the nuclear reactor in Dimona," a statement from the Israeli ministry said. "The Dimona reactor is one of the safest in the world and possesses the most advanced safety and maintenance systems available," it continued. "Mr Sarid invites Egyptian officials to visit Dimona, the city closest to the reactor, where they can personally verify that their concerns are unfounded." REUTERCOPYRIGHT 1994 Reuters Information Services, Inc. All rights reserved.

### **IRELAND STUDYING EFFECTS OF BRITISH NUCLEAR PLANT**

UPn 2/4/94 12:34 PM By TONY CONNELLY DUBLIN (UPI) -- The Irish government expressed concern Friday about a possible link between birth defects in Ireland and a nuclear plant across the Irish Sea in Britain. A government spokesman said Prime Minister Albert Reynolds was consulting with his energy minister and health officials about the new THORP nuclear reprocessing extension at the Sellafield plant in Cumbria, northern England -- 75 miles from the Irish east coast. Opponents of the plant gave Reynolds a petition Friday with 10,000 signatures gathered in Ireland opposing the facility. "The prime minister acknowledges that THORP is a matter of concern for the government," a spokesman for Reynolds said after the petition was delivered. On Thursday, Irish Health Minister Brendan Howlin said he would launch an investigation into a medical researcher's study that claimed a possible link between birth defects on the Irish east coast and radiation from Sellafield. Howlin said departmental medical officers would scrutinise the study, which cited 18 stillbirths or childhood deaths and 38 more birth defects among babies born to women in Dundalk, a small eastern seaboard

town 50 miles from Dublin. The report, compiled by nuclear medical specialist Dr. Patricia Sheehan, studied mothers who attended the same school in the 1950s. She said of 319 girls in the study, five gave birth to Downs Syndrome babies and 33 more babies were born with serious handicaps including spina bifida, heart defects and deafness. Five mothers had stillbirths, seven babies died within six weeks of being born and six others died in childhood, Sheehan reported. The report also found that the women had 161 miscarriages and 23 premature births. Sheehan claimed the problems may be linked to a 1957 fire at Sellafeld, then known as Windscale. Copyright 1994 The United Press International

## **DEATHS**

APn 2/4/94 5:07 AM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By The Associated Press Anatoly Alexandrov MOSCOW (AP) -- Anatoly Alexandrov, who led the Soviet effort to develop nuclear reactors like the one that exploded at Chernobyl in 1986, died Thursday at 90. Alexandrov was also instrumental in developing the Soviet nuclear-powered fleet. He was head of the Kurchatov Institute, Russia's primary nuclear research center, and was president of the Soviet Academy of Sciences for 12 years.

## **NO RADIATION LEAKS AFTER FIRE AT CZECH REACTOR**

UPn 2/3/94 3:22 PM By PETER S. GREEN PRAGUE (UPI) -- A fire of unknown origin destroyed a transformer at a Czech nuclear power plant Thursday, but safety officials said there were no radioactive leaks and no one was injured in the accident. Technicians at the Dukovany power station, about 100 miles (160 km) southeast of Prague, cut the No. 3 reactor to half power as the blaze was put out. Oil insulating a 32-megawatt auxiliary transformer that supplies the power station with electricity was ignited in the accident, but the fire did not affect the plant's nuclear installation. "There was no release of radioactivity. No workers were injured. There was no impact on nuclear safety or the environment," said Petr Brandejs, director of nuclear safety assessment for the State Office for Nuclear Safety. Brandejs said the accident registered a "zero" rating on the International Nuclear Emergency Scale, and he informed the government of neighboring Austria and the International Atomic Energy Agency in Vienna of the occurrence. Brandejs said the fire broke out at 7:14 a.m. (0614 gm). The reactor was brought to minimum power at 8:10 a.m. (0710 gm) and the fire was extinguished at 8:50 a.m. (0750 gm). Firefighters from the plant and surrounding communities helped extinguish the blaze. Brandejs said Dukovany's other three pressurized water reactors were unaffected by the fire. Copyright 1994 The United Press International

## **FIRE AT CZECH NUCLEAR PLANT WORRIES AUSTRIA**

RTw 2/3/94 12:58 PM (Eds: updates with Greenpeace statement) By Douglas Hamilton VIENNA, Feb 3 (Reuter) - Fire at a Czech nuclear reactor on Thursday underlined Austria's concern over Czech plans to build a Soviet-designed nuclear plant near the Austrian border. There was no radiation leak from the fire at Dukovany nuclear plant, Czech Prime Minister Vaclav Klaus said, but environmentalists pressed for an independent report. "This fire did not threaten the area of nuclear safety," he said. "There was no infringement of nuclear safety or radiation protection and no radioactive substances escaped into the environment as a result of this emergency situation." Some Czech environmentalists disputed this. "Sirens sounded and fire engines from the entire district rushed to the scene," one group told the Austrian news agency. The group said it was a "level three" event on the international safeguards scale, meaning radioactive leakage, and alleged that a secondary cooling system was damaged. The environmental organisation Greenpeace called for an independent investigation into the incident. "We were lucky this time, if it is true that nothing leaked out. But we will demand an investigation by an independent body to check this out," Greenpeace's Prague director Vera Frankova said, adding that it was the third such incident at Dukovany since 1991. The fire coincided with a sharp clash between Vienna and Prague over Czech plans to press on with a fifth nuclear plant, at Temelin 60 km (40 miles) north of the Austrian border. In what a commentator on Austrian state television called a "brutal" message on Wednesday to Vienna, Klaus bluntly demanded Austria cease fighting against the U.S.-funded project. Austrian Chancellor Franz Vranitzky, who is asking the U.S. Congress to block a proposed \$317 million credit for the project, responded that the battle would continue. In his message to Vranitzky, Klaus said Vienna should "acknowledge the finality of the decision" to complete the Temelin reactor. Austria's continuing campaign against it was unwarranted and "goes a little beyond the current understanding of normal relations" between two states, the Czech prime minister added. Klaus said Austria, which has renounced nuclear power, made no complaints about Swiss or German atomic reactors. Reacting in a television interview, Vranitzky replied that a potential nuclear accident was "not a sovereign risk but a risk for people who live in bordering states." He said Austria would not abandon efforts to stop Temelin, The project, begun in 1986, is aimed at producing 2,000 megawatts of electric power from twin reactors by 1996. Vranitzky said Austria was also asking neighbouring Slovakia and Slovenia



to close or convert nuclear plants. He stressed it should not be forgotten that the Czech and Slovak plants were "built or begun with Russian technology," which raised the spectre of a second "Chernobyl" -- the nuclear plant which exploded in Ukraine in 1986. International Atomic Energy Agency (IAEA) spokesman David Kyd said the Temelin WWER/1000 type pressurised water reactors were not the same as the Chernobyl type. "They're the latest generation of Russian nuclear-power design, though not as good as the best Western ones," he said. Although the IAEA was not involved in the decision to go ahead with the plant, it would be willing to provide expertise on the safe running of the reactors, Kyd added. REUTERCopyright 1994 Reuters Information Services, Inc. All rights reserved.

## **CZECHS, AUSTRIANS IN ROW OVER U.S. AID FOR REACTOR**

RTw 2/3/94 6:25 AM By Douglas Hamilton VIENNA, Feb 3 (Reuters) - Austria and the Czech republic have clashed over Czech plans to complete a Soviet-designed nuclear power station sited near the Austrian border, using United States financial help. In what a commentator on Austrian state television called a "brutal" message on Wednesday to the government in Vienna, Czech Prime Minister Vaclav Klaus said bluntly that Austria should cease fighting against the project. Austrian Chancellor Franz Vranitzky, who is asking the U.S. Congress to block a proposed \$317 million credit for the project, responded that the battle would continue. In a message to Vranitzky, Klaus said Vienna should "acknowledge the finality of the decision" to complete the Temelin reactor. The decision was "not a joke," he said. Austria's continuing campaign against it was unwarranted and "goes a little beyond the current understanding of normal relations" between two states. Klaus said Austria, which has renounced nuclear power, made no complaints about atomic reactors in neighbouring Switzerland or Germany. The Czech Republic did not share Austria's dream of a nuclear-free Central Europe, he said. He wholly respected Austrian sovereignty "but I request mutual recognition of the sovereignty of the Czech Republic." Reacting in a television interview, Vranitzky replied that a potential nuclear accident was "not a sovereign risk but a risk for people who live in bordering states." He said Austria would not abandon efforts to stop the completion of Temelin, some 60 km (40 miles) from the Austrian border. Construction was begun in 1986. The project is aimed at producing 2,000 megawatts of electric power from twin reactors by 1996. Vranitzky said the Czechs were not being singled out. Austria was also trying to persuade neighbouring Slovakia and Slovenia to close or convert nuclear plants. He stressed it should not be forgotten that the Czech and Slovak plants were "built or begun with Russian technology," which raised the spectre of a second "Chernobyl" -- the nuclear plant which exploded in Ukraine in 1986. International Atomic Energy Agency spokesman David Kyd said the Temelin WWER/1000 type pressurised water reactors were the not the same as the Chernobyl type. "They're the latest generation of Russian nuclear-power design, though not as good as the best Western ones," he said. Although the IAEA was not involved in the decision to go ahead with the plant, which is to have a Western-designed safety system, it would be willing to provide expertise on the running of the reactors, Kyd added. The U.S. Export-Import bank last week guaranteed a credit of \$317 million, to be arranged by Citibank, for the completion of Temelin by the American nuclear company Westinghouse. Vranitzky is appealing to the U.S. Congress to block the credit, which it has the power to do within the next 30 days. REUTERCopyright 1994 Reuters Information Services, Inc. All rights reserved.

## **WITNESSES SAY THEY VICTIMS OF GOVERNMENT TESTS**

RTw 2/2/94 7:27 PM WASHINGTON, Feb 2 (Reuters) - Three former U.S. servicemen told Congress Wednesday how they had been used as human guinea pigs for government tests on radiation, LSD and mustard gas, one saying he had been left totally disabled. They were testifying about secret government tests of radiation and other dangerous materials during World War Two and the Cold War, often without the knowledge of those being tested. Lloyd Gamble, Nathan Schnurman and Andrew Frosini all told a House Judiciary subcommittee hearing they had not been told about the dangers of the tests they took. Gamble said he was an Air Force sergeant in 1957 when he volunteered to test protective equipment. Instead, he said he was given massive doses of LSD that caused bizarre behaviour and depression and led to a suicide attempt and early military retirement. "When I finally learned in 1975 what had happened to me -- what had been done to me at the hands of the government I had sworn to preserve and protect, with my life if need be -- there was bitterness," Gamble said. Schnurman said he volunteered in 1945 as a Navy recruit for what he had been told would be a test of summer clothing. He was exposed to mustard gas which he said caused heart attacks and left him totally disabled. "The story I am telling you unfortunately is one of inducement, deception, intimidation and lies for the purpose of enticing unwitting healthy males to be used as human guinea pigs," Schnurman said. Frosini said he was a 20-year old Army air corps crewman in 1945 when he was ordered to undergo irradiation treatments. "I was given no reason for the series of three treatments and there was no consent asked of me, and none was given by me either by expressed or implied consent," Frosini said. He said he believes the treatments may have led to three heart attacks and a stroke he has suffered since 1969. He also developed arthritis and diabetes, leaving him disabled. The Clinton administration has formed an inter-

agency task force to make public information about the government experiment programmes and to find as many people as possible who were exposed to the radiation and other tests. The task force includes the departments of Defence, Energy and Veterans Affairs. A CIA official told the hearing there was no evidence his agency ever exposed anyone to radiation for any purpose. REUTERCOPYRIGHT 1994 Reuters Information Services, Inc. All rights reserved.

## **EXPOSED WORKERS**

APn 2/2/94 3:09 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By LAURAN NEERGAARD Associated Press Writer WASHINGTON (AP) -- The government failed to tell almost 170,000 U.S. workers that on-the-job exposure to chemicals has increased their risk of cancer -- although it discovered the risks 10 years ago, a consumer group charged Wednesday. The government discovered 240,450 at-risk workers in 1984, but has only tracked down 71,180 of them to warn about their exposure to asbestos, uranium, dioxin and a host of other toxins, records show. In a letter to President Clinton and his top health officials, the Public Citizen advocacy group urged an end to the "unethical coverup." "Some of these workers may be dead by now," said Dr. Sidney Wolfe, director of Public Citizen. Others "have early evidence of cancer and could, if they were notified, go in for screening that might save their lives." Dr. David Satcher, director of the Centers for Disease Control and Prevention, said he hadn't known about the lack of notification, but now will push for money to complete it. "People have a right to information about exposure," he said. He said he expects support because the president authorized similar notification of possible victims of 1950s radiation experiments. However, the budget probably will be too tight to allot the extra funds, said Public Health Service spokesman Bill Grigg. The National Institute for Occupational Safety and Health discovered the at-risk workers during a massive 1984 study of U.S. companies. NIOSH and its parent, the CDC, said the workers must quickly be told of the risk and advised to be tested for cancer. But the Reagan administration only allotted \$300,000 for an effort that CDC said would cost \$4 million. Because of the funding problem, NIOSH now insists on notification money up front for its continuing studies of workplace safety, Grigg said. So people put at risk more recently are being told. But notifying the older workers NIOSH first identified is vital because chemical-caused disease takes years to develop, said Dr. Peter Lurie of the University of California, San Francisco, who advised Public Citizen. They simply don't know they were put in danger, he said. He cited the Synalloy plant in Augusta, Ga., where NIOSH told 1,385 people who had worked there in 1984 that they had been exposed to a carcinogen. At least 15 have developed bladder cancer. But only 58 percent of the workers had ever heard of the toxin, and only 41 percent of them knew it is harmful. The workers were not notified were in 203 plants in 38 states: Alabama, Arizona, California, Colorado, Connecticut, Delaware, Florida, Georgia, Idaho, Illinois, Indiana, Kansas, Louisiana, Massachusetts, Maryland, Michigan, Minnesota, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Mexico, New York, North Carolina, Ohio, Oklahoma, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia and Wyoming. ----- For information on specific plants, contact Lurie at 202-833-3000; after 6 p.m. EST, press extension 251.

## **SUIT FILED IN RADIATION EXPOSURE OF PREGNANT WOMEN**

RTw 2/1/94 2:42 PM (Eds: Adds details) By Adrian Croft SAN FRANCISCO, Feb 1 (Reuter) - A San Francisco law firm said it filed suit Tuesday on behalf of more than 800 women who it says were exposed to radioactive iron at a Tennessee hospital in the 1940s while they were pregnant. The experiments took place at Vanderbilt University Hospital in Nashville between 1945 and 1949, the law firm of Lief, Cabraser and Heimann said. Robert Nelson, an attorney with the firm, said he believed it was the first class-action lawsuit filed over radiation experiments since Energy Secretary Hazel O'Leary caused a storm in December by revealing that the government authorised radiation experiments on humans during the Cold War. The suit was filed on behalf of two women and their daughters, one now dead, who believe they were victims of the experiments. But it is a class-action suit on behalf of all other people involved in the experiments. The law firm said a follow-up study by Vanderbilt's own scientists concluded that three children died of cancer and leukaemia as a result of exposure to radioactivity during their mothers' pregnancies. "The victims of these experiments were never informed that they were exposed to radiation, and they were never told of the researchers' conclusions that their children's deaths were caused by radiation," the law firm said in a statement. It called the experiments a "tragic and shocking experimental programme." The suit, filed in federal court in Nashville, names as defendants Vanderbilt University and its Medical Centre, Union Carbide Corp, and Glenn Seaborg, former chairman of the U.S. Atomic Energy Commission, predecessor to the U.S. Department of Energy. Damages being sought were not specified but Nelson said they would be in the millions of dollars. The law firm also filed separate federal tort claims against the Department of Energy, alleging the U.S. government is liable for the damages caused by the Atomic Energy Commission's experiments on pregnant women. A claim has to be filed against the U.S. government before it can be sued in court. A spokesman at Vanderbilt

University Medical Centre was not immediately available for comment. Nelson said the purpose of the experiments was to determine the rate of absorption of radioactive iron in the body and to find out what effect it would have on the foetus. "We're not quite sure why this was done. The likely reason was to figure out what would happen in the event of a nuclear blast to women who were pregnant," he told Reuters. Nelson said the experiments were carried out by researchers at Vanderbilt in coordination with the Atomic Energy Commission. The radioactive materials were supplied by Union Carbide, he said. He said the experiments used a radioactive isotope of iron known as iron 59. The law firm said the facts about the experiments came to light only after the U.S. government admitted to conducting dozens of human radiation experiments without the victims' consent. It said the suit aimed to obtain compensation for the victims of the pregnancy experiments and their families and to force the defendants to release all records to identify the victims and the injuries they suffered. REUTERCopyright 1994 Reuters Information Services, Inc. All rights reserved.

## **U.S., RUSSIA TO DISCUSS CLOSING PLUTONIUM PLANTS**

RTw 1/31/94 6:43 PM By Vicki Allen WASHINGTON, Jan 31 (Reuter) - Russian and U.S. officials will meet in February to discuss closing Russia's three remaining plutonium reactors, including a Siberian weapons plant ripped by an explosion, the Energy Department said Monday. Robert Berls, special assistant to Energy Secretary Hazel O'Leary, said the two sides will discuss conducting a study on closing two reactors at Tomsk and another at Krasnoyarsk. Russia wants to stop weapons-grade plutonium output at these plants, but substitutes must be found to generate the heat and electricity these reactors supply to surrounding areas, Berls said. Berls said the study would aim to find the most cost-effective substitutes with the quickest start-up time, as well as study the social implications of closing the reactors that give jobs to people living nearby. In announcing plans for the meeting, O'Leary called it "a very hopeful step" in U.S. efforts to get Russia to close shoddy nuclear facilities and improve the safety of its nuclear industry. "I fully expect our Russian counterparts to be in the United States within the month of February to begin discussions on how we come up with a gas-turbine project that will allow Tomsk to be closed," O'Leary said in a speech to the Women's National Democratic Club Educational Foundation. She said the two sides will discuss development of a gas turbine or other substitute for the Tomsk-7 plant, where a steel tank containing uranium exploded more than a year ago. The explosion caused what was judged to be the most serious nuclear accident since the 1986 Chernobyl disaster. O'Leary said the meeting, for which an exact date has not been set, "has wonderful implications in terms of technology transfer in that people are now focused on using gas turbines as replacement power, and an opportunity to tie in some defence conversion as well." O'Leary said the next step would be for Moscow and Washington to discuss setting up systems to account for nuclear fuel, "and that means the first meeting will seriously discuss not simply commercial fuel but military fuel as well." O'Leary said the United States must push to close the most dangerous nuclear facilities in Russia and Eastern Europe. REUTERCopyright 1994 Reuters Information Services, Inc. All rights reserved.

## **MOST HUMAN NUCLEAR TESTS USED SMALL DOSES - O'LEARY**

RTw 1/31/94 5:01 PM WASHINGTON, Jan 31 (Reuter) - Most of the U.S. government-sponsored radiation experiments conducted on people appear to have been comparable to fairly routine medical procedures, Energy Secretary Hazel O'Leary said Monday. "For the most part it would appear that the experiments that were conducted on a majority of the individuals ... were simply the kinds of tests that I know I have had myself when going into a nuclear medicine department of a hospital," she said. O'Leary is leading an administration-wide investigation on radiation experiments conducted on human subjects, mostly during the mid-1940s to mid-1970s Cold War era. "Often the press has picked up the flavor that everyone had something awful done to them," she said at a speech to the Women's National Democratic Club Educational Foundation. But she said it appeared most of the experiments were comparable to thyroid examinations using iodized nuclear material. Still, she said, the government has obligations to the subjects if they did not know the dangers of the radiation experiments. "... To the extent that we do find harm where no consent was given, then I believe the government has the obligation to make people whole," O'Leary said. She has said the government should compensate wronged victims. O'Leary said she expected many of the estimated 600 to 800 individuals "because of their ages" are not alive, but said the government is "anxious to find their offspring so they might be apprised of the fact they were subject to human experimentation and we can begin to check on them." She said the investigation last week showed that prisoners at a Washington state prison did give their consent to participate in experiments, but said there will be continued checks to see if they were harmed by the experiments. REUTERCopyright 1994 Reuters Information Services, Inc. All rights reserved.

## **JAPAN COURT RULES NUCLEAR POWER NECESSARY-REPORTS**

RTw 1/31/94 5:50 AM TOKYO, Jan 31 (Reuter) - A Japanese court ruled on Monday that nuclear plants are necessary to ensure stable power supplies, news reports said. The district court rejected efforts by a group of people living near Onagawa nuclear power station to shut down the plant's number one reactor and prevent construction of a second. The 14 residents said the risk of an accident arising from an earthquake or human error at Onagawa, about 350 km (220 miles) north of Tokyo, infringed their rights as individuals as well as their right to a clean environment. The court said nuclear plants could not avoid some leaking radiation. But it said safety measures ensured leakage from Onagawa was well below the allowable limit, the news reports said. Onagawa, operated by Tohoku Electric Power Co, is one of 45 nuclear plants in Japan which is heavily dependent on oil imports for its energy needs. The company ruled out the possibility of damage from an earthquake or tidal wave, saying there was no possibility of a serious accident, the news reports said. Nuclear power here accounts for 28.2 percent of total electricity generation, compared with a worldwide average of around 15 percent. REUTERCopyright 1994 Reuters Information Services, Inc. All rights reserved.

### **ASIA SEEN TURNING TO NUCLEAR ENERGY**

RTw 1/31/94 12:25 AM KUALA LUMPUR, Jan 31 (Reuter) - Asian nations are likely to turn to nuclear energy as they run out of other power sources amid booming economic growth, an official of the International Atomic Energy Agency (IAEA) said on Monday. "Countries with no other options will consider very seriously the use of nuclear energy," Paulo Barretto, IAEA's director of technical cooperation programmes, told Reuters. "Fears over the use of nuclear energy are not well founded," he said after the start of a regional workshop on design, management and evaluation techniques of facilities using nuclear energy. Barretto said nuclear energy, feared for its harmful radiation, has been successfully used in France, Britain and most of central Europe. "Nearly 70 percent of France's electrical power is provided by nuclear energy," he said. Asia's high growth rates have created a soaring demand for power, causing governments to seek alternative sources. But, with the exception of Japan, they have generally chosen to shy away from using nuclear energy. The region is expected to spend nearly \$6 billion a year over the next five years on fossil-fuel-powered turbines to generate power to drive their booming economies, industry officials said. Barretto said the use of nuclear power was not without its risks but added: "There were risks in all human activities." "A hydro-power project involves the construction of dams which can pose a danger during earthquakes. We have seen and heard of coal mines collapsing," he said. "Nuclear energy is very much a part of our everyday life. It has been used, for instance, to boost crop yield and monitor the level and use of underground water," he said. Ahmad Sobri Hashim, director-general of Malaysia's nuclear energy unit, said the country was keeping its options open on the use of nuclear energy as an alternative power source. "Nuclear energy could complement our present mix of fuels to generate power in the future but not now," he said. REUTERCopyright 1994 Reuters Information Services, Inc. All rights reserved.

### **RESEARCHER SAYS CHERNOBYL ACCIDENT MUCH WORSE THAN ...**

UPn 1/30/94 2:58 PM Researcher says Chernobyl accident much worse than reported BOSTON (UPI) -- The damage caused by the 1986 explosion and fire at the Chernobyl nuclear power plant in the former Soviet Union was far worse than was reported, a Massachusetts Institute of Technology researcher has concluded. In a 500-page doctoral dissertation, researcher Alexander Sich concludes that the explosion, considered the worst nuclear accident in history, caused a complete core meltdown. Sich, who studied the ruins of the plant for 18 months, also said the accident released four to five times as much radiation as was officially reported, and efforts to seal the site in a concrete tomb have failed. The dissertation is to be submitted to the MIT nuclear engineering department soon, the Boston Sunday Globe reported. Sich's research did contain some good news. It found that the explosion did not create a "China Syndrome" effect that many nuclear power critics had feared. The term refers to an event in which a runaway nuclear power plant core burns through the reactor vessel and concrete containment structures into the earth, causing massive contamination of ground water and setting off a huge steam explosion. Sich found that the core had turned into a molten lava-like material that burned through the reactor vessel but not the plant's concrete floor. He said the reaction burned itself out in about 10 days, the Globe reported. Sich, who spent more time at the Chernobyl than any other western researcher, said the 5,000 tons of material dumped on the reactor by helicopters after the explosion actually missed the mark entirely. He claimed radioactive emissions did not stop until the nuclear reaction stopped of its own accord. Copyright 1994 The United Press International

### **AP 01/29 07:31 EST V0790**

Copyright 1994. The Associated Press. All Rights Reserved. KIEV, Ukraine (AP) -- The Chernobyl nuclear power plant is running out of fuel and will shut down unless Russia resumes fuel supplies, a top Ukrainian energy official said

Saturday. The No. 3 reactor was cut to half-capacity last week and has enough fuel for only 15 more days, said Nur Nigmatulin, deputy chairman of Atomenergoprom, the government agency that runs Ukraine's atomic plants. Reactor No. 1 is running at 75 percent capacity and has enough fuel to operate only until the end of March, he said. Chernobyl has four reactors, but two have been closed since the April 1986 explosion that went down in the record books as the world's worst nuclear plant accident. Nigmatulin said Russia notified his agency on Jan. 20 that it was suspending nuclear fuel shipments to Ukraine. Russian officials could not be reached for comment. "We owe Russian enterprises 120 billion rubles for nuclear fuel for 1993 and we now have to pay 40 billion -- urgently," Nigmatulin said. Forty billion rubles is about 26 million dollars. Chernobyl, 80 miles (130 kilometers) north of Kiev, had been supplying central Ukraine with about 10 percent of its power. Its threatened closure comes as this nation of 51 million shivers in the grip of a worsening energy crisis. Russia supplies Ukraine with all its nuclear fuel, about 90 percent of its gas and nearly half its natural gas. The two nations have been at odds over Ukraine's debt and other issues since the 1991 Soviet collapse. Ukraine had planned to shut Chernobyl at the end of 1993 but, desperate and broke, reversed that decision in October. Parliament also voted to build several new reactors at other plants. Nigmatulin said the fuel cutoff could also mean a complete shutdown of the Zaporozhye plant, 280 miles southwest of Kiev, and shelving plans for new reactors. "If we fail to pay Russia right away, our nuclear power stations are doomed," Nigmatulin said. He said his agency had appealed to Russian Prime Minister Viktor Chernomyrdin last week to resume supplies. Money is the central issue, he said, but politics and safety concerns also play a role. Russia trying to pressure Ukraine into giving up nuclear weapons inherited from the Soviet Union and into signing the Nuclear Non-Proliferation Treaty. Nigmatulin said a new treaty with the United States and Russia that was signed during President Clinton's visits to Kiev and Moscow earlier this month might encourage Russia to resume fuel shipments. The treaty, which calls for Ukraine to give up its nuclear weapons in exchange for reprocessed fuel and security guarantees, faces strong opposition in Ukraine's parliament. Ukraine has paid a heavy price for nuclear energy, which produces about a third of its electricity. The 1986 accident at Chernobyl's No. 4 reactor released a cloud of radiation that exposed hundreds of thousands of people and made ghost towns out of nearby towns and villages. Thirty-one people died in the first few days, by official count, and thousands more are thought to have died since from Chernobyl-related illnesses.

### **BRF-RUSSIA-SUBMARINE**

APn 1/28/94 1:34 AM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. MOSCOW (AP) -- Russian experts say they have found a way to stop the radioactive threat from a Soviet nuclear submarine without removing it from its grave off the coast of Norway. The Komsomolets sank 180 miles southeast of Bear Island in the Norwegian Sea in 1989, killing 42 of the 69 sailors aboard. Russian experts fear its two badly damaged nuclear-tipped torpedoes could soon start leaking radiation. But they have ruled out raising the vessel because it could break apart. Instead they hope to pump plutonium-absorbing material into the submarine this summer, a Russian newspaper reported Thursday. Rossiiskaya Gazeta said various ministries have approved the plan, and government ecologists are studying it for final approval. The warheads could release a total of 400 curies of radiation, said Tengiz Borisov, chairman of Russia's state committee for underwater works. "The release of 0.38 curies into water in the Far East led to an international scandal. Here, the amount of harmful materials is 1,200 times as great," Borisov was quoted as saying. He was referring to the dumping of low-level nuclear waste by the Russian navy in the Sea of Japan late last year. By comparison, the 1986 nuclear accident at Chernobyl in Ukraine released 50 million curies of radiation.

### **RADIATION EXPERIMENTS**

APn 1/27/94 4:52 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By MARK JEWELL Associated Press Writer SPOKANE, Wash. (AP) -- Washington prison inmates gave written consent before their testicles were bombarded with X-rays in a government-sponsored study, according to newly released documents. Records released Wednesday say 64 Washington State Penitentiary inmates volunteered and were "informed in full detail" before they took part in the tests from 1963 to 1973. The study was aimed at determining the effect of ionizing radiation on the human reproductive system. The records were among the latest to be released by the Department of Energy amid revelations on decades of human radiation experiments. The information released Wednesday did not include documentation of the consent forms the prisoners were said to have signed or names of the prisoners. The documents were never classified but made available for public viewing for the first time at a DOE public reading room in Richland and at public libraries in Richland, Seattle, Spokane and Portland, Ore. They include information that DOE officials and contractors who conducted the research previously made available after a congressional subcommittee in 1984 began

investigating the government's involvement in human radiation experiments. The researchers found that the participants' reproductive systems returned to normal after a maximum of 501 days following exposure. The study concluded that the men's reproductive systems were very sensitive to temporary sterility from such exposure but were resistant to permanent sterility. The researcher in charge of the work, University of Washington Medical Professor C. Alvin Paulsen, was asked in 1984 if follow-up studies could be conducted. Paulsen said in a letter that inmates he contacted indicated they didn't want to be involved in follow-up studies for privacy reasons.

## **RADIATION EXPERIMENTS**

APn 2/12/94 11:00 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By ROBERT DVORCHAK AP National Writer PLEASANTON, Calif. (AP) -- Robert Giordano never thought of himself as an unwitting guinea pig or believed a daughter who died of severe birth defects was a Cold War casualty. But now he wonders. As a teen-ager, he was paid \$1.25 an hour to tend sheep that were part of hundreds of radiation experiments at Camp Parks, an obscure military base 40 miles east of San Francisco in California's picturesque Livermore Valley. Giordano's chores included burying the droopy-skinned, black-faced beasts who died of radiation. Their limbs would fall off in his bare hands as he pitched them into graves. His work at this atomic ranch didn't concern him even when a daughter was born in 1983 without a trachea and with damaged internal organs. But renewed interest in radiation experiments has created a nagging unease. "I would like to know if there's any possible connection to those experiments and what happened to my daughter. Nothing will bring that baby back. But it would be a little easier to put behind us if we knew for sure one way or another," said Giordano, 47. "I knew they were testing the animals for radiation, but I was never given any warnings or special instructions," he added in a recent interview. "Shouldn't I have had some type of protective clothing or gloves or anything? How hazardous was it? Were they 100 percent sure we weren't wandering in the wrong area? Does being exposed to radiation cause birth defects?" Giordano's questions, fears and doubts -- despite assurances that they are unfounded -- aren't the only ones with elusive answers. Thousands of people and their relatives have been pondering the legacies of the nuclear age since December, when U.S. Energy Secretary Hazel O'Leary asked the government to review all radiation experiments and to compensate those who were harmed. One of these Cold War battlegrounds was Camp Parks, a 2,000-acre site where the Navy and the Office of Civil Defense conducted tests between 1959 to 1980 on how to survive a nuclear attack. Hundreds of tests were done with fallout shelters, crops grown in irradiated soil, farm animals bombarded with radiation, and radioactive sand used to simulate fallout. At the same time, people lived on or around the base. The Pleasanton School District operated a school seven blocks from where the radioactive sand was made. And the Job Corps -- a federal program for disadvantaged kids -- used buildings where experiments were done. Although precautionary fences and warning signs were erected around "hot" areas, similar tests under modern day standards would be impossible because of the threat of exposure. "They wouldn't be allowed to do that today. It would never be approved. Never. There would be more controls," said James L. Thomas, who served as a radiation safety officer at Camp Parks for seven years. "You'd have to be absolutely, 100 percent sure the radiation would be contained and enclosed and that no one could get into the area." Thomas and those who conducted the tests say there are no health hazards, and inspectors said the base was clean in 1983. But to dispel fears, camp commander Lt. Col. Mark Nelson ordered a re-examination of the work. A report is due by the end of March. "We'd all like to know if there really is a nuclear bogeyman out there," said Nelson, who served in the Persian Gulf War as a combat engineer with the Army's 82nd Airborne Division. "I'd like the image to go away we're some kind of time bomb." The review is being done by the earth sciences consulting firm of Woodward-Clyde. And some of the report is being written by James Sartor -- project manager on many of the Camp Parks radiation experiments. "There's no danger in what we did," Sartor said. "There were no human guinea pigs involved in any of the experiments. Employees were never purposely part of the tests. We had a very rigid health physics program." The tests were monitored independently by the Atomic Energy Commission, which in 1975 became the Nuclear Regulatory Commission. "There was no problem. They took air samples and radiation surveys. There was no hanky-panky. Everything was above board. These were highly competent people," said Ray Fish, a retired safety officer with the AEC who monitored the tests. "People should have a whole lot of confidence in the end results and in their inspectors." During an era when people were building backyard bomb shelters, a Camp Parks test involved a 100-person fallout shelter. To determine its habitability, volunteers lived inside the bunker for up to 14 days -- the time it would take fallout to dissipate. One test involved inmates from the nearby Santa Rita County Prison. And on April 15, 1960, the bunker was rimmed with tons of burning scrap lumber to test its ability to withstand the heat of a bomb. Robert Campbell, an adviser to the National Association of Atomic Survivors, claimed more than wood was involved, however. He said radioactive material -- code-named "Rolla" -- was placed in the flaming piles to simulate a nuclear bomb, and volunteers were exposed to "hefty doses" of radiation. Sartor, Fish and Col. Nelson flatly deny Campbell's allegations. Any documents that could prove or disprove Campbell's claim are under review by the Department of Energy and are

unavailable for viewing. "There exists no public documentation of it," Campbell admitted. But he added: "It shows what happens when the government or a group of people go amok with science." Officials said the bunker was tested for its ability to shield against radiation, but no humans were inside at the time. Measurements were made by instruments.

### **ENERGY DEPT. TO SCRAP RESEARCH ON PLUTONIUM**

WP 2/11/94 11:00 PM By R. Jeffrey Smith Washington Post Staff Writer The Energy Department, in a setback to the Japanese government and the U.S. nuclear industry, this week announced the cancellation of \$112 million worth of research on the use of plutonium in nuclear reactors. Secretary Hazel R. O'Leary said her decision to kill a "breeder reactor" program and a plutonium-recycling study was an effort to discourage plutonium use by the world's nuclear industry and limit opportunities for illicit diversion of the material for production of nuclear arms. The Bush administration had supported the work as a hedge against a shortage of uranium for nuclear fuel and as a favor to the Japanese government. Last year, the Clinton administration continued support for the research to help find a way to dispose of plutonium and nuclear waste. Japan had pledged to contribute \$30 million to the U.S. research in an effort to help develop a simpler way to extract and recycle plutonium from spent reactor fuel. Japan is building a chain of breeder reactors, which produce plutonium at the same time they generate nuclear power. It also is nearing completion of a reprocessing plant for plutonium-laden fuel. The U.S. government dropped plans to build a breeder reactor in the late 1970s out of concern that the extra plutonium, a key ingredient of nuclear arms, might somehow fall into the wrong hands. But research continued, totaling \$8.74 billion to date. O'Leary said in an interview that the number of nuclear reactors around the globe will expand only slightly during the next 20 years, leaving an ample supply of natural uranium for conventional reactors. Additional uranium will become available from thousands of retired nuclear warheads. "It is an investment in technology for which there is no marketplace," O'Leary said. She said she was also influenced by a National Research Council report on plutonium disposal last month that concluded advanced reactors "are not competitive for this (disposal) mission because of the cost and delay of their development, licensing, and construction." O'Leary said, "These projects . . . are totally counter to where we want to go in our nonproliferation" efforts. But she said she "labored over this for a very long time," partly because of protests from lawmakers in Illinois and Idaho, where the bulk of the research funds are spent at Argonne National Laboratory and the Idaho National Engineering Laboratory. Overall, spending on nuclear energy research and development would decline by \$95 million, or 25 percent, in fiscal 1995 under the Energy Department's budget proposal. Some of the plutonium research funds would be reallocated for work by scientists in Illinois and Idaho on reactor safety and nonproliferation. Under O'Leary's proposed budget, the department would substantially boost its spending for research on renewable energy resources, natural gas production and increased energy efficiency by \$340 million, or 33 percent. O'Leary's cancellation of the plutonium programs was praised by a coalition of environmental groups known as the Safe Energy Communication Council. But her decision was criticized by Carl Goldstein of the U.S. Council for Energy Awareness, a nuclear industry trade group. New reactors fueled by plutonium "are scientifically valid and eventually they may be commercially valid," he said, adding that "there is a lot of support for these programs" on Capitol Hill. Copyright 1994 The Washington Post

### **POWER OUTAGE ALONG BORDER OF RUSSIA, BELARUS**

UPn 2/11/94 9:25 AM MOSCOW (UPI) -- A transformer failure at a nuclear power station in western Russian has caused a power outage in an area along the border of Russia and Belarus. The problems at the Smolensk nuclear power plant did not involve the nuclear reactor and there was no radiation leak. Copyright 1994 The United Press International

### **EASTERN NUCLEAR OVERHAUL GOING TO PLAN, EU SAYS**

RTw 2/11/94 9:05 AM BRUSSELS, Feb 11 (Reuter) - European Union efforts to improve nuclear safety in Russia, the Ukraine and the rest of Eastern Europe are going to plan, the European Commission said on Friday. The Commission denied press reports that current projects had been delayed over Russia's unwillingness to take liability for any nuclear accident. "Therefore, contrary to press reports today, there is no delay in the projects which were launched in 1993," the Commission said in a statement. "These projects are proceeding to plan." But the Commission admitted that moves towards the next stage of help -- the actual provision and installation of equipment -- were bogged down over who should accept liability. Although Russia has accepted liability for projects up to now, which have concentrated on sending experts to nuclear sites, it was unwilling to do so for new projects. Russia and the Ukraine are not members of the international conventions which cover liability in these cases and it was necessary for the Union and other helpers like the United States to negotiate to get Russia to take responsibility. "The position of the Commission is that the Russian

authorities should accept liability for work carried out in their plants, since this is international practice and will become the rule as soon as Russia and the Ukraine join the ...conventions," it said. The Commission said it had so far committed 275 million Ecus (\$300 million) for a variety of projects, including the sending of EU nuclear experts on permanent on-site mission at six Russian and two Ukrainian plants. REUTERCOPYRIGHT 1994 Reuters Information Services, Inc. All rights reserved.

## **NO SIGN PASSENGERS REACHED SHORE FROM MYSTERY PLANE**

RTw 2/11/94 8:10 AM

RAVENSBURG, Germany, Feb 8 (Reuter) - German police probing the sinking of an aircraft originally feared to be smuggling radioactive material have rejected a theory that it set down on Lake Constance so the passengers could get ashore unseen. Instead, they said on Friday they were resuming the search for bodies in the lake which is shared between Germany, Switzerland and Austria. Swiss police, who raised the light Cessna on Monday, feared at first that it had been carrying radioactive Caesium 137 being smuggled from East Europe. German authorities on the other side of the lake who took over the investigation failed to discover traces of radiation. But they also found no bodies aboard the aircraft. They said on Tuesday that the plane appeared to have been set down deliberately. But later the police said a detailed examination of the Cessna suggested the landing had been an emergency measure even though there was no engine failure. "All the indications are that the passengers left the sinking aircraft and tried in vain to save themselves," a police statement said. The police said there had been three German men, two Czech women and a dog on board, and that none had been significantly injured during the landing. Two of the Germans were known by Interpol to be involved in trading radioactive materials. But continuous monitoring since the crash has revealed no trace of Caesium 137, which is used for medical and industrial purposes, and scientists say there was almost certainly no radioactivity on board the aircraft. The plane came down on January 24 as it approached the Swiss airfield of Altenrhein on the southeast tip of Lake Constance.

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## **RUSSIA-NUCLEAR**

APn 2/11/94 7:58 AM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. MOSCOW (AP) -- A fire at a Chernobyl-type nuclear power plant in the Russian city of Smolensk briefly cut electricity to the neighboring country of Belarus, but no one was injured and no radiation was released, officials said. The fire Thursday night in a transformer outside the reactor complex did not force the plant to shut down. It was extinguished within 30 minutes, said Grigory Kaurov, spokesman for the Ministry of Atomic Energy. Belarus has other sources of power and did not suffer widespread blackouts or other problems from the fire 200 miles west of Moscow. The Smolensk plant, which went into operation in the 1980s, has three RBMK reactors, the same kind that exploded and burned at Ukraine's Chernobyl plant in 1986, the worst nuclear power accident in history.

## **NUCLEAR TRIAL**

APn 2/9/94 10:17 AM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By SALLY STREFF BUZBEE Associated Press Writer SAN DIEGO (AP) -- A former nuclear inspector who says leaking radiation gave her cancer wants a second trial after a jury deadlocked, but the utility she sued may try to settle out of court. U.S. District Judge Rudi Brewster declared a mistrial Tuesday and set a new March 1 trial date for Rung C. Tang's lawsuit. Seven men on the jury voted against Southern California Edison, owner of the San Onofre power plant north of San Diego. The two women on the jury voted against Ms. Tang. The jury deadlocked on the first question it faced -- whether Ms. Tang's radiation exposure exceeded federal limits, said juror Johnny Mikita, 33, of El Cajon. Jurors never got to a formal vote on the second question -- whether exposure to radiation caused Ms. Tang's cancer, Mikita said. Edison vice president Dick Rosenblum said the utility was disappointed. "We felt we had good scientific and medical evidence," he said. "Our job next time is to make sure the jury understands that evidence." Edison is willing to participate in settlement discussions, Rosenblum said. It previously had discounted that idea, according to Ms. Tang's attorneys. Ms. Tang, 44, worked as an inspector for the Nuclear Regulatory Commission inside San Onofre during the mid-1980s. She was diagnosed with a rare form of leukemia last year. Her case has been watched closely by the nuclear power industry. Some observers believe a verdict in her favor could mean a flood of similar lawsuits against the industry. During the mid-1980s, San Onofre had



problems with radioactive fuel fragments, or fuel fleas, that had escaped from defective fuel rods and spread throughout the plant, including to workers' protective clothing. "They had an opportunity to buy new protective overalls, but they didn't," said juror John Bergamo, 44, of San Diego. "They saved money because of that, and that seemed important to me." San Onofre eventually was fined \$100,000 by the NRC for slowness in reporting the problem. Edison's attorneys argued that Ms. Tang's radiation exposure was well within acceptable limits set by the federal government. They also said there was no proof her cancer could be traced to radiation. Ms. Tang underwent a bone marrow transplant in December and her doctors say she has a 50 percent chance of living five years.

## **VA SECRETARY PROMISES FULL PROBE OF EXPERIMENTS**

RTw 2/8/94 11:16 AM WASHINGTON, Feb 8 (Reuter) - The Secretary of Veterans Affairs Tuesday promised a full investigation of radiation experiments involving patients at veterans' hospitals but said no evidence had been found of improper treatment. "We are determined to learn whether any radiation-related experiments of dubious merit or means were ever performed under our aegis and to share our findings with Congress and the American people," Secretary Jesse Brown told a House of Representatives Veterans Affairs committee hearing. "However, currently we have no evidence to suggest that VA ever engaged in radioisotope studies that were not medically sound and designed to benefit patients," Brown said. The probe is part of a government-wide review of experiments with radiation, drugs and chemicals by federal agencies during World War Two and the Cold War that might have exposed Americans without their knowledge or consent. Brown said if any abuses are found, the department was prepared to take whatever action was needed to help veterans who might have suffered from the experiments. He said veterans' hospitals had been leaders in using radioisotopes for medical treatment and had established 48 units by 1958. Brown said VA also had an atomic medicine division which was established secretly in 1947. "It is extremely upsetting to me that VA apparently did not reveal for an undetermined length of time the existence of this atomic medicine division and I have directed a thorough review of the records to attempt to piece together why this was not done; what, if any, secret activities it engaged in and the consequences of those activities," he said. Last week, three former U.S. servicemen said at another hearing that they had been used in tests with LSD, mustard gas or radiation without being told about possible dangers. They said they all had serious health problems that they believed were caused by the experiments. REUTER  
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## **RUSSIAN NUCLEAR SUB COULD BE AN ENVIRONMENTAL TIME ...**

UPn 2/8/94 9:33 AM Russian nuclear sub could be an environmental time bomb NEW YORK (UPI) -- A Soviet nuclear submarine that sank seven years ago 500 miles (800 km) east of Bermuda could be an environmental time bomb threatening fisheries and the population in the area, reported scientists Tuesday. In the first public report about the wreck's condition, Russian scientists have told American experts the submarine has broken up and is leaking radiation from nuclear equipment in an area of strong currents flowing in the direction of Bermuda. Many Soviet submarines sank during the Cold War, but this one had the largest compliment of nuclear equipment, increasing the risk of environmental poisoning, the Times said. "It's hard to say this is an enormous ecological disaster, but it's equally hard to say we should forget about it," Dr. Charles Hollister, a senior scientist at the Woods Hole Oceanographic Institution on Cape Cod, told the Times in a telephone interview Monday after returning from a trip to Russia. Hollister was among the scientists who attended an international symposium last week in St. Petersburg at the Government Rubins bureau, where most of Moscow's submarines are designed and the sub's condition was described. No major fisheries were near the accident so the worst is the radiation has probably moved a few miles toward Bermuda, said Hollister. International monitoring to determine whether radiation is moving toward fisheries or Bermuda may be established. The Times described the vessel as a Yankee-class sub capable of carrying 16 long-range nuclear missiles. Crippled by explosion and fire, the sub sank in October 1986, after all but three or four crew members had fled. The sinking was well reported at the time but there had been no reports about the state of the sub in the three-mile-deep water.

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## **GREENPEACE LAUNCHES LEGAL ACTION TO BLOCK NUCLEAR ...**

RTw 2/7/94 7:01 AM GREENPEACE LAUNCHES LEGAL ACTION TO BLOCK NUCLEAR PLANT LONDON, Feb 7 (Reuter) - The environmental group Greenpeace went to court on Monday to try to halt operations at a giant nuclear reprocessing plant which it says will kill people with its radioactive pollution. Greenpeace is seeking to overturn a

British government decision to start up the 2.8 billion pound (\$4.2 billion) THORP plant in northwest England and force a public inquiry. A full, independent inquiry into the plant is "essential," said Greenpeace spokeswoman Bridget Woodman. "People will die from THORP's discharges if the plant is allowed to operate," she added. Anti-nuclear demonstrators held a vigil outside the court at the start of the hearing, which is expected to last a week. THORP -- Thermal Oxide Reprocessing Plant -- is the second nuclear reprocessing plant to be built on the Sellafield nuclear site near the scenic Lake District. The plant will reprocess nuclear waste from continental Europe, Britain and Japan into recycled uranium and plutonium. THORP's output was intended to fuel a new generation of nuclear plants known as fast breeders. But most countries have cancelled their fast breeder plans which critics say has eliminated the justification for THORP and means there is no civilian use for deadly plutonium, a key component of nuclear weapons. THORP will produce 50 to 70 tonnes of plutonium in its first 10 years, adding to the 150 tonnes stockpiled worldwide. THORP's contracts call for the plutonium to be returned to customers but a U.S. government report has warned the shipments would heighten risks of guerrilla groups obtaining nuclear arms. Greenpeace said radioactive emissions from Sellafield would climb by 1,000 percent. However, Britain's National Radiological Protection Board has said individual risk was infinitesimal. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

## **LI PENG, DEAF TO HK FEARS, OPENS NUCLEAR PLANT**

RTw 2/6/94 9:50 AM (Eds: updates with Li quotes) By David Stamp HONG KONG, Feb 6 (Reuter) - Premier Li Peng opened China's first major nuclear power station on Sunday, deaf to protests in nearby Hong Kong where fears persist despite official denials that a Chernobyl-style disaster could happen there. Li inaugurated the first of two reactors at the French-designed plant a year behind schedule and after seven years of problem-plagued construction. "The Daya Bay nuclear power plant is the product of reforms and opening up and it has pioneered a new path for China to use foreign capital to undertake large infrastructure projects," the official Xinhua news agency quoted Li as saying. "We should achieve success in both construction and management of the power plant," Li said. State television gave a restrained welcome, stressing the safety features of Daya Bay, a pet project of Li's only 30 km (20 miles) from the crowded British colony's land border. Plans to build the nuclear station provoked mass protests in Hong Kong after the accident and fire at the Chernobyl plant in the Ukraine spewed radiation over much of Europe in 1986. More than one million local people signed petitions against Daya Bay, a joint venture between China and the Hong Kong electricity company China Light and Power Co which will supply about 70 percent of its output to the colony. China Light has sponsored television documentaries and newspaper advertisements aimed at assuring Hong Kong residents that the US\$4 billion plant is safe. "The choice of (a) French design for the plant reflects our total commitment to safety and reliability because the nation is one of the world's leaders in nuclear power generation for peaceful purposes," joint venture general manager Zan Yunlong said in an article entitled "Nuclear power from Daya Bay: the clean and green alternative." Project manager J.D. Houchen said Daya Bay had a similar containment building to the U.S. Three Mile Island plant which prevented a major radiation leak during a 1979 accident. This had been missing at Chernobyl. "Could such an accident happen at Daya Bay? The answer is a categorical no," he said. But the publicity campaign has failed to ease Hong Kong jitters. Frequent industrial disasters have done little to shore up local confidence in mainland safety standards. Lawmaker Fung Chi-wood, a veteran anti-Daya Bay campaigner, criticised Hong Kong's disaster plan, which calls for evacuation within 20 km (12 miles) of the plant, covering outlying islands and a remote peninsula. Fung said it should be 33 km (20 miles), an area which is home for more than 500,000 people. "If there's any accident radioactive dust would reach Hong Kong in three to four hours," he said. "Due to Hong Kong's densely populated situation it would be impossible to evacuate half a million people." REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

## **ZHIRINOVSKY-QUOTES**

APn 2/5/94 11:00 PM

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By The Associated Press

Some statements by Vladimir Zhirinovsky:

IMPERIAL RUSSIA: "The Liberal Democratic Party stands for the restoration of the Russian state in the borders of the former U.S.S.R." From party platform.

NUCLEAR WASTE: "I'll start by squeezing the Baltics and other small nations. I don't care if they are recognized by the U.N. I'm not going to invade them or anything. I'll

bury radioactive waste along the Lithuanian border and put up powerful fans and blow the stuff across the border at night. I'll turn the fans off during the day. They'll all get radiation sickness. They'll die of it. When they either die out or get down on their knees, I'll stop it. I'm a dictator. What I'm going to do is bad, but it'll be good for Russia. The Slavs are going to get anything they want if I'm elected." In Parliament shortly after the Soviet coup in August 1991.

THE UNITED STATES, or the "empire of evil" as he described it in early 1993: "Wherever diseases appear, they have been imported from America. AIDS is a plague from America. Alcoholism and moral depravity come from America."

DICTATORSHIP: "I say it quite plainly: When I come to power, there will be a dictatorship. I will beat the Americans in space. I will surround the planet with our space stations so that they'll be scared of our space weapons. I don't care if they call me a fascist or a Nazi. Workers in Leningrad told me, 'Even if you wear five swastikas, we'll vote for you all the same. You promise a clear plan.' There's nothing like fear to make people work better. The stick, not the carrot. I'll do it all without tanks on the streets. Those who have to be arrested will be arrested quietly at night. I may have to shoot 100,000 people, but the other 300 million will live peacefully. I have the right to shoot these 100,000. I have this right as president." Speech in late 1991.

SERBIA: "If a single bomb falls on Serbia we will consider that an attack on Russia. ... The mighty rulers from the West are trying to chop off parts of Serbia ... but you should continue resisting, and we Russians will punish anyone who moves against Serbia." Speech Jan. 31 in former Yugoslavia.

COMMUNISM: "I always loved the army, the KGB and police, but they never accepted me because I wasn't a Communist. That was the problem. If I were a Communist, I would have been security minister by now. I would have staged such a putsch for you on Aug. 21 that you would still be lugging your suitcases through foreign ports." To reporters Jan. 26 in Moscow.

End Adv for Sunday Feb 6

## **1950S H-BOMB FALLOUT SENT TO BRITAIN ON PASSENGER ...**

RTna 2/5/94 5:40 PM 1950S H-BOMB FALLOUT SENT TO BRITAIN ON PASSENGER PLANE LONDON (Reuter) - The British government smuggled radioactive debris from hydrogen bomb tests in the 1950s back to London in diplomatic bags carried on ordinary passenger airlines, the Observer newspaper said Sunday. Citing what it said were newly-released official papers, the Observer said that debris from the early nuclear tests on Christmas Island in the Pacific was secretly loaded onto scheduled flights on Australia's Qantas airline. The dust was examined at Britain's top secret Atomic Weapons Research Establishment at Aldermaston. Military flights had been abandoned because of the costs involved, the Observer said. The newspaper said that although the H-bomb dust was sealed in cans, placed in polyethylene bags and loaded into lead-lined boxes before being dispatched under diplomatic cover, it was impossible to know whether innocent Qantas passengers and crew were exposed to radiation. However it said the courier who accompanied the first diplomatic bag from Christmas Island in 1957 died from two different types of cancer in 1991. The Observer said the official papers also revealed that debris from earlier A-bomb tests at Maralinga was also sent to Britain by diplomatic bag on scheduled flights from Australia. The H-bomb debris was gathered by Royal Air Force crews who flew through the nuclear clouds taking samples. One file cited an Air Ministry observer monitoring the sampling from the ground as estimating his radiation dose could have been five times above permitted levels. "After four showers and a haircut I was still above the permissible level of activity which did not fall until the following day," the observer wrote in classified papers. The Foreign Office said Britain adhered strictly to rules on diplomatic bags laid down in the Vienna Convention. But a spokesman was unable immediately to confirm or deny the details of the Observer report. REUTER

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## **RADIOISOTOPE EXPERIMENTS**

APn 2/5/94 10:00 AM

Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By BETH J. HARPAZ Associated Press Writer NEW YORK (AP) -- Converted from an abandoned bathroom, the radioisotope laboratory at the Bronx Veterans Administration hospital was far from fancy. "We were deep in the basement, with an ugly, broken concrete floor," recalled Dr. Bernard Roswit, who set up the lab in 1946. "We had no money, so I got the Masons of the Bronx to give me \$5,000 to buy our first Geiger counter and other equipment." The lab's work was earnest -- diagnosing and treating veterans for cancer, thyroid problems, skin injuries and blood disorders -- and a diagnostic technique developed by the resident physicist, Rosalyn Yalow, eventually won the Nobel Prize in medicine. Now, following disclosures of questionable experiments by other agencies and universities, the federal government is scrutinizing radioactive isotope research performed in the Bronx and at dozens of other VA hospitals. The House Committee on Veterans Affairs holds a hearing on the research Feb. 8, and Yalow may be asked to testify, according to committee aide John Brizzi. "We have not seen anything to suggest that the VA did not conduct solid research. But I happen to believe that there is nothing in the VA that should not be public knowledge," Secretary of Veterans Affairs Jesse Brown said on a visit to the Bronx VA on Jan. 14. A week before that, Brown had ordered all 172 VA hospitals to search for records of any nuclear medicine research conducted from 1947 through 1979 at 48 specific VA facilities. The VA helped pioneer the use of radioisotopes to diagnose and treat a wide variety of ailments, including dysfunctional thyroids, brain tumors and leukemia. Radioisotopes are radioactive forms of common elements that concentrate in a given tissue, fluid or organ, making them easy to trace. This early research at the VA and other hospitals and universities laid the foundations for nuclear medicine, used widely today to detect and treat cancer, neurological ailments and many other disorders. Yalow's invention, radioimmunoassay, which won the 1977 Nobel, uses isotopes to measure hundreds of substances found in body fluids, from hormones to viruses. Patients need not be exposed to radioactivity because the tests are performed outside the body. Although the VA insists its work was medically sound and designed to benefit patients, questions have arisen over whether patients gave informed consent or were advised about the hazards of radiations. Brown said no VA patients were followed medically to track the long-term effects. In a statement, the VA said, "It is probable that some civilians were doing 'ad hoc' research that was not approved either locally or centrally, and for which no formal record exists." Brown said the VA also had a separate division of atomic medicine whose activities were classified and unrelated to the radioisotope service. Exactly what that division did is unclear and under investigation. The VA also set up a toll-free hotline seeking information from any veteran who may have participated in the isotope studies or from relatives with knowledge of them. Despite the hotline and widespread public notice of the investigation, veterans have not been forthcoming, and Brizzi said the House Committee did not expect to have any veterans testify next week. Concerning the Bronx VA lab, Yalow and Roswit vigorously defend its research as crucial to the future of medical technology and deny veterans were treated as guinea pigs. "We were interested in doing studies where increased knowledge would improve patient care," said Yalow, now 72 and retired but still actively writing. "We weren't doing it for the heck of it. It wasn't just theoretical understanding." "This was all justified. Patients never suffered for it," said Roswit, who is in his 80s and still treating cancer patients. Yalow said the radioisotopes were administered in such tiny, relatively harmless amounts that she sometimes took a dose right along with patients. "We'd invite the veterans down to the lab to take part in an experiment, and I'd say, 'Boys, watch me take my dose. Now you'll take yours,'" she recalled. Among the radioisotope studies undertaken by the VA, according to a volume of the first papers published by radioisotope units in the early 1950s, were: --Detecting testicular tumors with radioactive phosphorus. --Using radioiodine to detect and treat overactive thyroids, which is still the treatment of choice and was employed in 1989 when former first lady Barbara Bush was diagnosed with hyperthyroidism and again in 1991 for her husband. --Using radioactive sodium to find out when tissue for skin grafts was ready for transplant. --Measuring blood volume by tagging red blood cells with radioactive phosphorus and potassium and tagging blood proteins with radioiodine. In a few studies, healthy subjects were used. In one experiment, one to four microcuries of radioactive sodium was injected into arm and stomach muscles to monitor blood flow during and after exercise. Yalow says the research helped treat people with muscle injuries. "One microcurie is a big nothing," Yalow said. "Your whole body gets much less exposure from that than from a chest X-ray." Airline crews and people who live at high altitudes get more radiation from cosmic rays than the VA patients received in treatments, she said. Ken Mossman, head of the Health Physics Society, which is devoted to the protection of people from harmful effects of radiation, agreed. "The individuals who were subjects in these studies would not be expected to have any radiation-related injuries, such as cancers," Mossman said. "And substantial benefits were gained from these radiotracer studies." Roswit worries that the intense attention being given the VA investigation could give the public the wrong impression. "Can you imagine what terrible harm will come to the whole work of radioactive diagnosis and treatment?" he asked. "A great and wonderful adventure will be brought to earth. Nobody will dare to do anything with radioactivity."

## **CLINTON-RADIATION EXPERIMENTS**

APn 2/17/94 6:14 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. WASHINGTON (AP) -- President Clinton plans to name 15 scientists, medical researchers and ethics specialists to review Cold War government-sponsored experiments that intentionally exposed people to radiation. The White House also ordered all executive departments and agencies on Thursday to review and strictly enforce policies intended to protect humans used in scientific research. "In light of actions from decades ago that have recently come to light," agency heads are being directed "to exercise constant care in these matters," the White House directive said. Clinton signed an executive order on Jan. 18 creating the Advisory Committee on Human Radiation Experiments. He acted in response to disclosures that thousands of Americans were unwitting subjects of secret radiation experiments in the decades after World War II. "Although human subjects research is an essential element of biomedical and behavioral research, bioethical considerations must influence the design and conduct of such research," Clinton said in the memorandum to department and agency heads. Clinton said the advisory committee will survey the radiation experiments and attempt to determine if they had a clear medical or scientific purpose. The panel will also seek to determine if subjects gave their informed consent to the radiation tests and if medical follow up was made available and carried out. The panel will be headed by Dr. Ruth Faden, a medical ethicist from Johns Hopkins University in Baltimore. It will issue an interim report in six months and a final report in a year. Other members are: --Ruth Macklin, head of the division of philosophy and the history of medicine and professor of bioethics at the Albert Einstein College of Medicine in New York. --Patricia A. King, professor of law at the Georgetown University Law Center in Washington. -- Dr. Jay Katz, professor emeritus of law, medicine and psychiatry Department of Humanities, at Yale University. --Susan E. Lederer, associate professor of humanities, The Milton S. Hershey Medical Center, Pennsylvania State University, Hershey, Pa. --Kenneth R. Feinberg, a Washington attorney, law professor and former member of the Presidential Commission on Catastrophic Nuclear Accidents. --Duncan Thomas, professor of preventive medicine at the University of Southern California School of Medicine, Los Angeles. --Dr. Eli Glatstein, chairman of the department of radiation oncology, Simmons Cancer Center, University of Texas, Dallas. --Dr. Henry D. Royal, associate director of the division of nuclear medicine, Mallinckrodt Institute of Radiology and professor of radiology, Washington University School of Medicine, St. Louis. --Dr. Mary Ann Stevenson, assistant professor in radiation therapy, New England Deaconess Hospital, Harvard Medical School, Boston. --Dr. Reed V. Tuckson, president of the Charles R. Drew University of Medicine and Science, Los Angeles. --Dr. Philip K. Russell, professor of international health, School of Hygiene and Public Health at Johns Hopkins University. --Nancy L. Oleinick, professor of radiation biology and biochemistry, Case Western Reserve University. --Frank Press, former president, National Academy of Sciences. --Lois L. Norris, institutional review board, University of Nebraska, and a retired bank vice president.

## **NASA FUNDED TWO HUMAN RADIATION STUDIES**

RTw 2/17/94 4:35 PM (Eds: Recasts with NASA comments) HOUSTON, Feb 17 (Reuter) - The Johnson Space Centre funded two studies on humans in the 1960s and 1970s that involved the use of radiation, an official with NASA's manned space programme said Thursday. Dr Lawrence Dietlein, the space center's assistant director for life sciences, said the experiments in 1963 and 1974 were conducted with the consent of the subjects and used "very, very small" doses of radiation, perhaps less than that used in a normal X-ray. Dietlein added that a participant in the 1963 study told a recently established government hotline on radiation testing that he had leukaemia. NASA officials are seeking more information on the man, who was identified in the study by only his initials. Dietlein, who helped monitor the 1963 study, declined to speculate if the illness might have resulted from the experiment. "Millions of people have radioactivity tests done everyday in X-rays ... To my knowledge there has been no cause and effect," Dietlein stated. "From our point of view from our studies we have nothing to hide or be ashamed of," he said of JSC's involvement in the studies. The experiments were recounted in a NASA review disclosed Thursday in the Houston Post. President Clinton recently ordered federal agencies to determine if they had conducted radiation experiments on people. Controversy has been spawned by news reports that some people were unknowing subjects of radiation testing. The 1963 space centre-funded study investigated space flight weightlessness using a simulation involving seven University of Houston students. The subjects lay in bed for two weeks and were injected with a radioactive isotope in one arm, with blood withdrawn from the other arm to measure their plasma. The 1974 study examined the problem of bone loss in astronauts, using as subjects 16 older women from Washington state who were already participating in bone decay studies. Their bone mass was measured by the argon they exhaled after standing in a tank exposed to a small dose of radiation, according to the report. The Post quoted the study's sponsor, Dr Wil Nelp, now director of the University of Washington's nuclear medicine department, as saying the subjects were "little old ladies probably getting about two percent (radiation) of what an astronaut would get on an ordinary space flight." REUTERCopyright 1994 Reuters Information Services, Inc. All rights reserved.

## **NUCLEAR EMERGENCY PLAN**

APn 2/17/94 12:42 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By MICHAEL BLOOD Associated Press Writer WASHINGTON (AP) -- Nearly 15 years after the Three Mile Island accident awakened the nation to the risks of nuclear-power generation, an environmental group wants to temporarily shut down the lone operating reactor at the Pennsylvania site. A petition filed with the Nuclear Regulatory Commission could prompt a fresh look at protections afforded people living near reactor sites. The Pennsylvania Institute for Clean Air asked that Unit 1 reactor be taken out of service until all of nearby Harrisburg is brought into an emergency evacuation plan. At issue is whether communities near the south-central Pennsylvania plant are prepared to safely evacuate residents during an accident similar to the one in early 1979 that saw nuclear fuel melt in the Unit 2 reactor and the subsequent release of radioactive gases into the atmosphere. Most of the 52,000 people in neighboring Harrisburg -- the area's largest population hub -- live just outside the federally required 10-mile emergency planning zone around TMI. The petition filed with the NRC asks that the remaining Unit 1 reactor, which was restarted in the mid-1980s, be shut down until all of Harrisburg is included in the plan. "The people need a good plan, and unless the NRC steps in they're not going to get one," said Robert Gary, an attorney with the small Pennsylvania environmental group that filed the petition. A revised evacuation plan would mean "you won't be making it up on the spot in the midst of an emergency," he said. Doubts over emergency evacuation played a major role in the demise of the Shoreham nuclear power plant on Long Island, N.Y. The 10-mile emergency planning rule, which is used at all the nation's commercial nuclear power plants, has been an issue at the Seabrook nuclear power plant in New Hampshire and elsewhere. The city of Harrisburg raised doubts about the 10-mile zone in the 1980s and has drafted its own emergency plan that includes the entire community. In a 1993 letter to Gary, Harrisburg Mayor Stephen Reed agreed that "it makes little sense for 90 percent of the city's population to be excluded from the 10-mile evacuation zone." The NRC has previously held the approximate 10-mile range is sufficient for planning purposes. Ironically, it was after the TMI accident that federal guidelines were issued requiring an emergency planning zone around nuclear plants of "about 10 miles in radius." While some environmentalists consider the petition a long shot, they say a favorable ruling could prompt a re-evaluation of safety plans elsewhere. "You better believe I'd be leading the charge," said Jane Fleming, an activist who lives near the Pilgrim nuclear power plant in Plymouth, Mass. "It's been an issue in some places; it would not affect the majority of plants" because many are in rural areas, said Chris Nichols, a spokeswoman for the Safe Energy Communication Council, an environmental watchdog group in Washington. Although nuclear-power protesters once lined roads outside Three Mile Island, a 45-minute NRC staff meeting earlier this month on the petition attracted only a cluster of industry, state and federal officials. The NRC is expected to make its decision in about a month. But the environmentalists already have taken one loss on the issue: The Federal Emergency Management Agency concluded in December that emergency plans around TMI are adequate to protect public safety in the event of an accident.

## **WESTERN NUCLEAR FIRMS WORRIED ABOUT LIABILITY IN EAST**

RTec 2/17/94 11:43 AM By Brian Love BRUSSELS, Feb 17 (Reuter) - Efforts to revamp nuclear power stations in Russia and eastern Europe could grind to a halt if the companies involved do not quickly get better protection from liability claims, a nuclear industry group said on Thursday. Western companies are starting to upgrade reactors across a string of former communist countries but are worried about being sued in the event of a subsequent accident, the European nuclear industry association Foratom said. Russia, Ukraine, Bulgaria, the Czech Republic and Slovakia needed to sign up to the Vienna nuclear convention urgently so that the industry could get on with overhauling their power plants, Foratom Secretary General Jonathan Heller said. "Faced with the choice between suing the Russian state and, say, Framatome (a French nuclear plant builder), some plaintiffs might possibly elect to sue Framatome....," Heller told a news conference. "Western firms are in a precarious position." "Western industry had become increasingly reluctant to continue working in states which have not signed and implemented the Vienna convention," Heller said. The convention ensures that in the event of an accident the operator of a reactor or the government, rather than the contractor, would carry the burden of liability. Without the convention's protection, a company would face "a huge risk that is larger than its total balance sheet" and would have great problems raising money or backing during the many years it would take to clear itself in a damages case, Heller said. Some form of international guarantee fund should be created to protect the Western repair companies until Russia and the other countries signed the convention and offered the same level of protection against damages claims as existed in the West. "We need a fallback solution...a bridging multilateral mechanism to spread the risk," he said. Western experts and environmentalists are worried about the safety or condition of many Soviet-built nuclear reactors, some of them similar to the one at Chernobyl in Ukraine which exploded in 1986, causing the world's worst nuclear accident. Relying largely on some \$700 million pledged by governments from the world's richer nations, firms from Western Europe have spent more than three years advising their neighbours to the east on how to modernise or make nuclear power stations safer. Foratom President Claus Berke told the news conference the industry was now

embarking on the real repair work and that this could cost as much as eight billion dollars -- funding which had yet to be secured. Heller said the December elections in Russia had not created the climate conducive to rapid signing of the Vienna convention. "It's quite difficult to make laws about anything in Russia at the moment," he added. The European Commission coordinates much of the West's involvement in the nuclear sector in eastern Europe. Heller said his group had been lobbying Commissioner Sir Leon Brittan to increase the pressure on those who had yet to sign the Vienna convention. Western firms were currently relying mainly on individual "memorandums of understanding" with governments of the countries where they were working to protect themselves against liability, but this situation was not satisfactory, Heller said. REUTERCOPYRIGHT 1994 Reuters Information Services, Inc. All rights reserved.

## **CZECH GOVERNMENT ACCUSED OF COVER-UP OVER TEMELIN**

RTw 2/16/94 12:09 PM PRAGUE, Feb 16 (Reuter) - Environmentalists accused the Czech government on Wednesday of suppressing evidence that cast doubt over the economic sense of completing a Soviet-designed nuclear power plant near the Austrian border. The charge, levelled at a news conference, added to controversy over the plant at Temelin, which has run into determined opposition from the Austrian government and environmental groups. At the news conference, the Brno-based Duha (Rainbow) group insisted that the Czech government had deliberately concealed information from a 1991 report commissioned by a European Union aid programme for Eastern Europe. According to Duha, the report said that finishing Temelin was the cheapest source of energy for the Czech Republic. But it also said building Temelin would be unnecessary if a range of energy-saving measures were taken. The study was carried out by the Belgian energy consultants Tractebel, who were paid BFR 44 million (\$1.24 million) for their work. Duha leader Jan Beranek said the second part of the Tractebel study, saying there was no need for Temelin, had been kept secret by the Czech government. "These results were not only ignored by the government but also kept secret. The government never mentioned that a second part of the study existed," he said. Beranek said that the report's second part concluded that it was technically possible to save 3,500 megawatts of installed capacity, twice Temelin's net capacity. "Tractebel proves that the cost of these savings is lower than the costs of electricity generation from any source, including Temelin," said a Duha statement obtained by Reuters. "It's clear that...the government has a strong interest in finishing Temelin and didn't want to publish information which would put this in doubt," Beranek said. Officials from the Czech Trade Ministry were not immediately available for comment. U.S.-based Westinghouse Electric Corp, due upgrade and complete Temelin, has already signed preliminary deals to supply Western-standard nuclear fuel and control and safety technology for the plant. The project would be the first use of Western technology to modify Soviet designs -- and if the operation is a success, Westinghouse stands to win contracts worth billions of dollars in the former Soviet Union, where a number of reactors of the same design remain unfinished. Work on the nuclear power plant at Temelin, some 100 km (60 miles) south of Prague and near the Austrian border, stopped following the 1989 "velvet revolution" which ousted Czechoslovakia's Communist government. The Czech government has bolstered its case for completing the project by saying that scrapping the reactor would cost as much as finishing it. The project has so far cost about \$900 million and no completion date has been set. The Austrian government, together with a number of international environmental groups, have fiercely opposed a re-start of the project, citing fears of a disaster similar to the 1986 Chernobyl accident in Ukraine. In December, Czech President Vaclav Havel told his visiting Austrian counterpart Thomas Klestil that the Czechs would complete Temelin despite all protests. Last month, the U.S. Export and Import (EXIM) Bank approved guarantees on loans for U.S. exports worth \$317 million for completing and modernising Temelin. EXIM has now submitted the project to the U.S. Congress, which has until March 3 to consider any banking transactions concerning nuclear power before they can be implemented. REUTERCOPYRIGHT 1994 Reuters Information Services, Inc. All rights reserved.

## **RUSSIA-NUCLEAR**

APn 2/16/94 1:30 AM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By DEBORAH SEWARD Associated Press Writer MOSCOW (AP) -- Widespread safety violations, thefts of radioactive material, poorly trained workers and money woes in Russia's vast nuclear industry are creating hazards across the country, a top atomic energy official says. About 20,000 violations of safety rules were recorded during inspections in 1993 of the 14,500 businesses or individuals using radioactive materials, said Yuri Vishnevsky, chairman of Russia's Atomic Industry Inspectorate. On 78 occasions, enterprises were forced to shut down because of safety violations, and legal proceedings have been started against two of the 232 officials who have been called to account for their actions, he said. In a depressing indicator of the state of Russia's nuclear industry, Vishnevsky told a news conference Tuesday that nearly 10 percent of workers -- 437 out of 5,000 tested -- failed an exam on safety rules and regulations. The nuclear legacy Russia inherited from the Soviet Union includes power plants, missiles, submarines and aircraft carriers, Defense Ministry

facilities and research institutes. One major problem is the refusal of the Defense Ministry to comply with a presidential order giving the Atomic Energy Inspectorate the right to inspect the military's use of nuclear materials, Vishnevsky said. "There have been such cases when we were told at the very highest level that our inspection was not desirable," Vishnevsky said. In 1993, there were reports of military personnel stealing fissionable materials, excessive exposure of soldiers to radiation and incidents of improper storage of radioactive materials at military bases. Vishnevsky called the situation intolerable, but his agency has little leverage over the military. It also has other battles to fight, including the struggle to get money from the cash-strapped government for maintenance and repairs to the civilian nuclear power plants. Debts to Russia's nuclear power plants exceed \$209 million, Vishnevsky said. "In 1993, the Finance Ministry did not allocate a single ruble to safety," he said. Some of Russia's biggest power plants, including ones at Kursk, Smolensk and St. Petersburg, also are running out of fuel, forcing them to reduce output. The inspection agency also faces a proliferation of people exploiting, selling and transporting radioactive materials as Russia moves away from total state control of the economy to a more open market system. Russia's lack of regulations for the use of nuclear materials -- as well as inadequate punishments -- make it hard for the inspectorate to control the unsafe use of radioactive materials. Old Soviet rules, which have not yet been replaced by new Russian regulations, set the maximum fine for an individual violating safety rules at 100 rubles, or 15 cents, Vishnevsky said.

### **O'LEARY PLEDGES NEW ATTITUDE FOR PUBLIC**

UPn 2/15/94 4:35 PM WASHINGTON (UPI) -- Energy Secretary Hazel O'Leary said Tuesday her department plans to gain credibility by opening department records and sharing the knowledge gained by the federal laboratories. Speaking in Washington, O'Leary told an audience of lobbyists and media her goal is to "change opinions (of DOE) not by what we say, but what we do." O'Leary said a DOE survey found the department ranked below the nuclear industry in trustworthiness, a trend she vowed to reverse. O'Leary, who called federal energy labs the "crown jewels of the nation", said their products could save energy and the environment and vowed to remove the "fence of secrecy" around them, especially in weapons labs. The energy secretary said the department needed public support to help stop the spread of nuclear technology and dispose of plutonium and enriched uranium. "We need the public trust beneath us, behind us and with us to solve those..issues." she said. O'Leary said that lessons learned in disposing of commercial nuclear waste could translate into ways to dispose of weapon-grade fuel. She also said her agency's record on environmental issues damaged its credibility. "We basically had 79 separate legal agreements forcing and focusing on clean-up and the department had basically committed to things I'm not sure we could do." She pledged to share more information with the public and involve them in agency decisions on the environment. Copyright 1994 The United Press International

### **INDIA DENIES U.S. TV REPORT ON NUCLEAR SAFETY**

RTna 2/15/94 9:56 AM NEW DELHI, India (Reuter) - India Tuesday denied a U.S. television network report alleging that its nuclear power plants were unsafe and its nuclear program was a failure. "The Atomic Energy Regulatory Board of India would like to state that the CBS network appears to have deliberately distorted and misrepresented the factual position of nuclear safety in India," chairman A. Gopalakrishnan said in a statement. CBS, on its popular 60 Minutes current affairs program, described India's nuclear program as "a dangerous failure" and said it could cause serious health problems. Quoting Indian and Western experts, the report said India had admitted to 146 nuclear mishaps in which five people died in 1993 alone. The AERB chairman said in response that the CBS team, when it met him in India, was briefed on the working of India's nuclear regulatory system and the team's doubts on specific issues were clarified. "These views seem to have been given very little exposure or weightage in the finally aired version of the CBS program," he said, adding that the AERB would like to give reassurance that "the regulatory systems and procedures to ensure the safety of all nuclear activities in the country, including power generation, are well in place and implemented effectively." REUTERS Copyright 1994 Reuters Information Services, Inc. All rights reserved.

### **FRENCH COMPANY SUSPENDED OVER RADIOACTIVITY**

RTw 2/14/94 10:26 AM VALENCE, France, Feb 14 (Reuter) - A French company was ordered to stop work on Monday after radioactivity levels 200 times greater than normal were found in its grounds -- for the second time in two months. Prefect (government representative) Bernard Coquet told reporters the company, Radiacntrôle, had stored and destroyed radioactive waste in inadequate facilities. A similar level of radiation was detected last December at Radiacntrôle, a subsidiary of state-owned Generale des Eaux specialising in deactivating nuclear installations. Coquet said the radiation had not reached levels dangerous for the staff of the company, residents of the area in the southern town of Pierrelatte near Valence, nor the environment. The state agency for Industry and Environment Research had conducted a probe and sent its conclusions to a magistrate investigating the case, he added. The agency's deputy



environment chief, Joseph Bligny-Morel said soil contamination appeared to have come from the burning of cotton wool used to decontaminate industrial facilities. REUTERCopyright 1994 Reuters Information Services, Inc. All rights reserved.

### **BRF--TISSUE SAMPLES**

APn 2/21/94 4:50 AM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. SPOKANE, Wash. (AP) -- A Cold War program to collect bones and organs from the corpses of people who lived near nuclear sites is under scrutiny, the Department of Energy said. Researchers may have taken samples without notifying people's relatives, said U.S. Rep. John Dingell, D-Michigan. Dingell wrote to Energy Secretary Hazel O'Leary Thursday to ask for more information. A White House panel probing human radiation experiments also will look into the tissue sampling program, DOE spokesman Bob Alvarez said Friday. The National Human Radiobiological Tissue Repository tried to determine how much harmful plutonium people absorbed from nuclear testing at Hanford; Los Alamos, N.M.; Fernald, Ohio, and Rocky Flats outside Denver. The program began in the 1940s. The civilian program no longer continues, but samples are still taken from nuclear workers who consent. The repository was transferred from the Energy Department to Washington State University in 1992, and is now housed at a former motel in Spokane

### **NUCLEAR WASTE REPROCESSING AT CHELYABINSK SEEN SAFE**

RTw 2/19/94 1:40 PM HELSINKI, Feb 19 (Reuter) - Finnish experts said on Saturday that safety risks are very slight at a Russian plant that reprocesses controversial nuclear waste shipments from reactors in Finland. Activists demonstrated last November when a trainload of spent nuclear fuel left Finland for the Mayak military reprocessing plant at Chelyabinsk in Russia. Waste from the state-owned power company Imatran Voima Oy (IVO) has been going to Mayak since 1991. The Finnish Centre for Radiation and Nuclear Safety (STUK) said on Saturday the Russian plant operated under strict supervision and safety risks were very slight. A team of experts from STUK on Friday ended a five-day visit at Chelyabinsk 1,500 km (950 miles) east of Moscow. The Greenpeace environmental group said late last year that Russia has an accumulating waste problem, unstable political situation and a history of accidents in reprocessing facilities and Mayak was not under international monitoring. Finland's centre-right government said in an energy policy report late last year that Finland should reprocess and store its own nuclear waste. "In the view of STUK's representatives the reprocessing is well controlled and supervised," STUK said in a statement. "Nuclear safety risks as well as explosion and fire risks are very slight." Imatran Voima said in a separate statement that the findings confirmed its view that it should be possible to go on sending nuclear waste to Mayak. STUK said radiation into the air from the Mayak plant is too small to affect inhabitants in the area. REUTERCopyright 1994 Reuters Information Services, Inc. All rights reserved.

### **AILING CHINA PILOTS RECALL FLIGHT IN H-BOMB CLOUD**

RTna 2/19/94 12:53 AM By Andrew Quinn BEIJING (Reuter) - Nine Chinese air force pilots were ordered to fly directly through a nuclear mushroom cloud in 1966, exposing themselves to radiation that has caused them health problems ever since, an official newspaper said. In a report titled "For Today's Glory," the Jiangxi Daily said it was revealing the human radiation test for the first time to honor the pilots for their bravery in advancing China's nuclear weapons research. "As long as the country is rich and strong, they have no regrets," the newspaper said in a report seen in Beijing on Saturday. The Jiangxi Daily said it had located two of the nine men who conducted the research flight in the skies over the western desert test site on May 9, 1966. Both had suffered from a string of illnesses they attributed to the effects of radiation but said they had gone into the mission knowing they might sacrifice their lives. The test was ordered in the early days of China's nuclear program, which Chairman Mao Tse-tung said would help put the country on a level with the United States and the Soviet Union. While Beijing exploded its first atomic device in 1964, scientists were scrambling to develop a more complex hydrogen bomb and had been ordered by Mao to do it quickly. The Jiangxi Daily said the central leadership in Beijing decided in 1966 that manned flights through hydrogen bomb clouds were crucial to obtaining test data, and nine pilots who had already married and produced children were selected. "Chairman Mao, we will strive to fulfill our duties. Even if we become vegetables, we will do it willingly," the newspaper quoted one pilot as saying. Under the direction of Zhang Aiping, who later became minister of defense, the pilots took off just before a test explosion and flew directly through the mushroom cloud. "The Soviet Union and the United States had considered doing this, but on seeing the fiery, fierce clouds none of their pilots dared to take this chance with life," the Jiangxi Daily said. The air force test squad, led by Heng Shulin, returned safely to base and were secretly treated as heroes. Afterwards, however, they began to develop signs of radiation sickness such as weakness, nausea and hair loss. Worst hit was Hu Guangqiang,

who because of his flight path was exposed to twice as much radiation as the others, the newspaper said. Its reporter located Hu at a center for military retirees in Nanchang, Jiangxi province. Now 61, Hu appears several decades older and has been fighting a long battle with hepatitis and other afflictions attributed to the radiation. Hu's white blood cell count is only one-third that of normal people and he is frequently beset by ringing in the ears and faintness, the newspaper said, although it added he still tries to jog several miles per day. "Now that commercialism is rising, people's values are changing. So we asked Hu what he thought of the sacrifice he made in the past," the newspaper said. "I have no regrets," Hu was quoted as saying. "If the nation and the people take care of me, the doctors are good and I am a soldier." REUTERCopyright 1994 Reuters Information Services, Inc. All rights reserved.

## **REBELS TOE LINE TO ACCEPT BAN ON NUCLEAR DUMPING ...**

RTw 2/18/94 11:19 AM REBELS TOE LINE TO ACCEPT BAN ON NUCLEAR DUMPING AT SEA BRUSSELS, Feb 18 (Reuter) - A ban on nuclear waste dumping at sea moved a big step closer to reality on Friday with news that China, Britain and Belgium would toe the line and accept the restrictions in a last-minute change of heart. All three, along with France and Russia, had abstained when 37 other countries agreed in November to ban dumping at sea of low and intermediate level radioactive waste. Dumping of higher level waste is already banned. France had recently said it would change policy and go along with the ban and the announcements in Britain, China and Belgium on Friday appeared to leave Russia in the lurch. In London, Agriculture Minister Gillian Shephard said in a statement released to parliament that Britain still believed scientific evidence suggested a ban was unnecessary but that it would bow to international feeling. In Beijing, a state official told the official Xinhua news agency his country was falling into line too and in Brussels, an official from the environment ministry told Reuters Belgium had changed its mind and would accept the ban. The ban is being established under the terms of the London Convention on marine pollution and dumping and the signatory countries which abstained in the November vote had until midnight on Sunday to say if they would toe the line. The new ban is to be reviewed internationally in 25 years and Britain said it would reopen negotiations if the weight of opinion changed in favour of radioactive dumping. It is not legally binding on dissenting nations who are signatories to the London Convention. But they remain bound by its original ruling, approved in 1972, which prohibits the dumping of higher level radioactive waste. Russia angered Tokyo and came under international pressure in October after jettisoning radioactive fluids into the Sea of Japan. REUTERCopyright 1994 Reuters Information Services, Inc. All rights reserved.

## **CHINA TO TELL HONG KONG OF NUCLEAR PLANT PROBLEMS**

RTw 2/18/94 1:06 AM HONG KONG, Feb 18 (Reuter) - China has agreed in principle to inform Hong Kong of any problems at its new Daya Bay nuclear power station near the border, a Hong Kong official said on Friday. Details have yet to be worked out but the offer represents a softening in China's position. It had previously insisted that on-site incidents would not be reported unless there was a radiation leak beyond the site, a position in line with international conventions. Frankie Lui, the security branch official in charge of public safety and contingency planning for disasters, said the government was discussing which type of information would be conveyed and how it would be communicated. "The Chinese have now agreed in principle that certain on-site information should be provided to Hong Kong," Lui told reporters. China's concession will only partially allay the fears of Hong Kong people about the safety of the French-built nuclear plant which began providing electricity to Hong Kong and southern China earlier this month, a year behind schedule. "Many people are yet to be convinced that the contingency plan drawn up by the Hong Kong government would be adequate without the cooperation of the Chinese site," said legislator Leong Che-tung. Much of Hong Kong lies within 50 km (30 miles) of the Daya Bay power station. Plans to build it provoked mass protests in Hong Kong after the 1986 Chernobyl disaster in the Ukraine. More than one million people signed a petition against Daya Bay, a joint venture between China and the Hong Kong electricity company China Light and Power Co. The plant will supply about 70 percent of its output to the colony. Frequent industrial disasters have done little to shore up local confidence in mainland safety standards. At Daya Bay work stopped for a month in 1987 after it was discovered that more than half the 576 support rods were missing from foundations due to a misunderstanding. Legislators have criticised the Hong Kong government's disaster plan, which calls for evacuation of those within 20 km (12 miles) of the plant. This covers outlying islands and a remote peninsula. Leong said the contingency planning did not go far enough. "Regrettably, the government has dropped the idea of a territory-wide exercise to test our general response," he wrote in a newspaper column on Friday. He suggested public training similar to Japan's regular drills to practise a response to earthquakes. REUTERCopyright 1994 Reuters Information Services, Inc. All rights reserved.

## **RUSSIAN NUCLEAR UNIT STOPS AFTER WATER LEAKAGE**

RTw 2/22/94 12:52 PM MOSCOW, Feb 22 (Reuter) - One of four units at the Sosnovy Bor nuclear plant near Russia's second city, St Petersburg, was shut down on Tuesday after a "small leakage of water," Interfax news agency said. Quoting the press service of the Russian emergencies ministry, it said the first unit closed at 12.22 p.m. (0922 GMT) after a routine check revealed a hole in a welded section of pipe in the reactor's emergency cooling system. No one was injured. To keep up energy production levels, an extra generator was put to work at the plant's fourth unit. It said radiation levels rose slightly -- to 180 microroentgens an hour at 2.30 p.m. (1130 GMT) -- but dropped back to 20-25 microroentgens an hour by 4 p.m. (1300). Measurements were taken one km (half a mile) south of the damaged unit. Itar-Tass news agency quoted staff at the plant as saying the damaged pipe at the first unit was being repaired. Authorities in Finland and Norway issued brief statements on the incident. "The reactor is now in a stable, shut-down condition with normal cooling. There has been no emission exceeding the permitted limits," the Norwegian Radiation Protection Authority said. A major leak at Sosnovy Bor in March 1992 triggered international concern, with radioactive iodine and inert gases escaping after a loss of pressure in a reactor channel. The reactors at the plant, 100 km (60 miles) west of St Petersburg on the Gulf of Finland, are of the same type as the Chernobyl plant in Ukraine, scene of the world's worst nuclear accident in 1986. REUTERCOPYRIGHT 1994 REUTERS INFORMATION SERVICES, INC. ALL RIGHTS RESERVED.

### **ACCIDENT SHUTS OFF REACTOR AT RUSSIAN NUCLEAR POWER...**

UPn 2/22/94 1:25 PM MOSCOW (UPI) -- One of the four reactors at the Sosnovy Bor nuclear power station near the northwest Russian city of St. Petersburg was shut down Tuesday after a pipe burst in the reactor's emergency cooling system. The Interfax news agency said maintenance staff discovered a flaw in the welding joint of one of the pipes and decided to close down the reactor while repair work was carried out. No one was hurt in the incident and radiation levels around the power plant were reported as being normal. The Sosnovy Bor plant contains four RBMK reactors, similar to those in operation at the Chernobyl atomic power station in Ukraine which was the scene of the world's worst nuclear accident in 1986. The Sosnovy Bor plant has been plagued by operational problems, climaxing in March 1992 when a fuel channel at the third unit ruptured due to a faulty valve, releasing some radioactivity into the atmosphere. In May 1992, Russia's nuclear energy ministry announced that the two oldest units at Sosnovy Bor, which came on line in September 1993 and May 1975, would be the first RBMK reactors in Russia to be decommissioned. Finnish radiation safety experts checked Sosnovy Bor's welding joints in August 1992, and found no defects. But other international nuclear inspectors have said units 1 and 2 -- the first commercial RBMK reactors operated by the Soviets -- are of poorer quality than later models and should be shut down. Widespread fears remain about safety at Russia's 28 nuclear units, despite a series of safety upgrades which have fitted many older reactors out with new control, diagnostic and fire protection systems. A government inspection agency revealed this month that there were 20,000 safety violations at nuclear power plants in Russia last year. As a result, 78 enterprises were forced temporarily to shut down. Nuclear power supplies 11 percent of Russia's electricity, and in 1992, 39 percent of electricity in the area around St. Petersburg came from nuclear power, most of it provided by Sosnovy Bor. Copyright 1994 The United Press International

### **NUCLEAR ASIA**

APn 2/22/94 11:00 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By KENNETH L. WHITING Associated Press Writer JAKARTA, Indonesia (AP) -- Nuclear power plants, increasingly rejected in the West, have a brighter future in booming Asian countries with energy shortages. The demand for continued growth appears to prevail over safety considerations and worries of environmentalists, which often stall construction of nuclear plants elsewhere. "I think expansion of the economy is a consistent thread with the whole of Asia ... for expanding nuclear power," said Mary Acland-Hood of the Uranium Institute, a trade group in London that represents 80 companies in 20 countries. Energy demand in the region is expected to increase by 12 percent annually in the 1990s compared to 7 percent in the previous decade, according to the International Finance Corp., the private sector arm of the World Bank. Many countries -- notably India, Indonesia, Pakistan and Thailand -- will suffer shortages in the next century ranging up to 25 percent of present supply, said Shehzad Shadiq, director of energy and industry for the Asian Development Bank. While dozens of nuclear plants are planned for Asia, there is a de facto moratorium on new ones in North America, South America and Europe. France is the exception. It gets 75 percent of its electricity from 56 nuclear power stations, and the French expect their technology to play a big role in meeting Asia's energy needs. Pakistan has reopened talks with France on building a second nuclear plant, Prime Minister Benazir Bhutto announced in November. "The nuclear power plant shall be the best example of French-Pak friendship," she said. The two countries reached a tentative agreement on the installation in 1990, when Ms. Bhutto was serving her first term, but the project stalled when she was ousted later that year.

She was returned to power in October. Pakistan's first nuclear plant is in Karachi, a southern port city. In China, the French nuclear builder Framatome is helping complete two 900-megawatt reactors at Daya Bay, near Hong Kong, that are scheduled to be running in 1994. Beijing recently announced plans to develop a major nuclear power industry by 2000, including the manufacture and export of 1,200-megawatt generators. "Nuclear industry and technology are a yardstick for measuring the overall strength of a country," said Jiang Xinxiong, head of China National Nuclear Corp. He was quoted by Xinhua, the official Chinese news agency, as saying "a network of nuclear power plants and nuclear fuel factories" would provide the country with "a pillar for its international standing." Indonesian officials say nuclear power is needed, along with other sources of electricity, to sustain economic growth. They insist there will be no safety or environmental problems. Critics contend that building reactors on Java, an island known for earthquakes and volcanos, risks disaster. Greenpeace, the international environmental group, said Indonesia "could be headed for another Chernobyl." The explosion and fire in April 1986 at the Chernobyl power plant in Ukraine was the world's worst commercial nuclear accident. President Suharto said at the time: "With careful planning we should not have to worry too much about such a risk." Indonesia's first 600-megawatt plant, powered by uranium from Australia, is supposed to be operating in 2003. It is to be built near a dormant volcano in central Java, 280 miles east of Jakarta. Provisional plans call for 12 plants in Indonesia by 2015. Elsewhere in Asia, the picture is mixed. Japan has 45 plants with a capacity of 35,000 megawatts and plans to increase that to 75,000 megawatts. Japan turned to the atom after the oil shock of 1973 sent prices soaring. Korea and Taiwan also have expansion plans. Thailand is considering a 1,000-megawatt nuclear plant that could help meet the increased demand for power by 2006, said Subhin Panyamag of the state-run electric utility. In Malaysia, said Prime Minister Mahathir Mohamad, "There will be no nuclear plant until we have exhausted all other methods to generate electricity." Malaysia now depends on hydroelectric power, natural gas, fuel oil and coal. The Philippines might convert a \$2.2 billion nuclear power station built by Westinghouse into a conventional facility, officials said after apparently failing to settle a decade-long dispute. The 620-megawatt plant was never operated because of safety concerns and allegations that Westinghouse bribed the late President Ferdinand Marcos to win the contract. Suppliers of nuclear plants see a bright future. "The Asia-Pacific region has the greatest market potential in the next decade," Woodrow Williams of GE Nuclear Energy told a conference in Singapore. "We are talking in terms of \$160 billion over the next 15 years." End Adv for Wed PMs Feb 23

## **FRANCE SEES URGENT NEED TO TACKLE NUCLEAR WASTE**

RTw 2/23/94 9:08 AM By Sue Landau PARIS, Feb 23 (Reuters) - France is to restart a controversial fast-breeder reactor to meet an urgent need to deal with growing stocks of highly radioactive waste from nuclear power plants, government ministers said on Wednesday. On Tuesday Prime Minister Edouard Balladur said France would reopen Superphenix, a prototype reactor which uses plutonium as fuel, despite environmentalists' safety fears. But Superphenix, near Grenoble in south-east France, will be used only for research, not to generate electricity. Industry Minister Gerard Longuet said on Wednesday that if Superphenix were ever used for its original purpose, as a fast-breeder producing more plutonium than it burns while generating electricity, this would only be in the long term. "There is an immediate need to explore ways of destroying, of incinerating plutonium, and to do this in a climate in which scientific and research concerns dominate over industrial and commercial concerns," he said. "The main thing is to speed up management of radioactive waste and plutonium stocks," he said. A research programme will now be put in place and the reactor will be progressively restarted from late 1995. France gets over 75 percent of its electricity from nuclear power, the highest proportion of any Western industrial state. Over 50 nuclear plants in the country produce 200 cubic metres (yards) a year of highly radioactive waste, 4,000 cubic metres a year of waste of medium activity which stays active for a long time, and 25,000 cubic metres of less active waste. The least radioactive substances are stored at La Hague, the plant in northern France where nuclear fuel specialist Cogema reprocesses spent fuel. One by-product of this is plutonium. But France, in common with other nuclear powers, has as yet no solution for what to do with the most radioactive waste. "Superphenix can play a new role in the destruction of certain highly radioactive long-life waste, become an instrument of research and experiment which our country really needs," said Environment Minister Michel Barnier. Initially the reactor will burn 200 kg a year of plutonium, Longuet said. France produces 11 tonnes a year. Superphenix, which has been criticised as a costly white elephant, has been closed most of its 17-year life. It was last shut in July 1990 because of worries the liquid sodium that cools its radioactive core could ignite. One condition of restarting the reactor is that work to prevent such a possibility be completed. Longuet said not to restart Superphenix would have cost eight to 10 billion francs (\$1.40 to \$1.70 billion), which could have risen to 18 billion francs (\$3 billion), including compensation to France's partners. French state electricity utility Electricite de France (EDF) holds 51 percent of the company that runs Superphenix, Italian electricity utility ENEL has 33 percent and a consortium of German, Belgian, Dutch and British electricity companies has the remaining 16 percent. Ministers said they could not yet say how much the research programme to be run at Superphenix would cost. REUTERCOPYRIGHT 1994 Reuters Information Services, Inc. All rights reserved.

## **POSTWAR PACIFIC FALLOUT WIDER THAN THOUGHT; NEW ...**

WP 2/23/94 11:00 PM Postwar Pacific Fallout Wider Than Thought; New Data Show Radiation Spread Beyond Limited Area; House Hearing Set Today By Gary Lee Washington Post Staff Writer After nuclear tests over the Marshall Islands in 1954, U.S. analysts concluded that the radiation fallout was limited. Only 287 persons and three key islands faced significant risk, federal officials said in the initial study. Although widely disputed, the assessment has prevailed over the years. In fact, the post-explosion cloud of radioactive materials spread hundreds of miles beyond the limited area earlier described in the vast range of Pacific islands, according to federal documents recently discovered by congressional and academic researchers. The fallout also probably exposed thousands of Marshallese and some U.S. troops to radiation, the documents suggest. The doses apparently were heavy in some cases. A new medical study shows that high rates of radiation-linked thyroid cancer are occurring in residents of the island of Ebeye, far outside of the region of radiation danger initially pinpointed. The documents, culled from federal archives, reopen one of the darkest chapters of U.S. Cold War history. Beginning with the Bikini test in 1946, the United States held 66 nuclear tests in the Marshall region in the 1940s and 1950s. In an attempt to keep abreast of Soviet hydrogen bomb advances, they staged the biggest series of tests in a six-week period, starting with the Bravo test on March 1, 1954. The Marshall Islands were pounded with six bombs that some critics say had the combined force of 3,000 times what was dropped on Hiroshima. Yet, U.S. officials decided that there would be only limited precautionary steps to protect U.S. personnel and none to shield the Marshallese, who numbered about 20,000 at the time. Rep. George Miller (D-Calif.), chairman of the House Natural Resources Committee, has called a special hearing today to review the newly uncovered material and make appropriate recommendations. "We have clearly done a great deal of damage to the Marshall Islands and the people who live there," Miller said in an interview. "The U.S. government owes those people first of all full disclosure of what happened and what the fallout was. We have never given them that. But we also owe them compensation for their suffering." The documents were taken from files at the Energy Department and its forerunner, the Atomic Energy Commission, and released by committee staff to help publicize the hearings. They make several new revelations: While publicized reports suggested that the only inhabited islands seriously affected by the fallout were Rongelap, Rongerik Utirik and Ailuk, all in the northern part of the islands chain, unpublicized follow-up studies showed that distant islands and atolls also had received significant doses. A 1973 DOE report said that fallout from Bravo, the first and biggest explosion, possibly affected 13 atolls, including Ailaninae, Kwajalein, Wotho and Wotje. Subsequent explosions may have hit some of the same areas, the report said. A subsequent Defense Department report, released in 1982, made similar conclusions. "While we have focused so far on the effect of the Bravo test," said David Weiman, an environmental lobbyist who is to testify at today's hearing, "we should be measuring the accumulated effect of radiation from all of the tests, including fallout in things like rainwater, that the locals drank." Weiman, who studied many of the files, feels they clearly indicated that the heavy radioactive cloud drifted over some of the southern atolls. A three-year study by Thomas Hamilton for the Marshallese government in the mid-1980s showed that there was fallout in far southern atolls. Hamilton also concluded that the control group used to monitor radiation on other islands was on islands that also had been irradiated and thus probably was invalidated. DOE officials discounted Hamilton's study. U.S. military personnel, who have never been briefed about the tests, were stationed on some of the atolls. In addition to the documents, Japanese and English doctors commissioned by the Marshallese government recently released a study showing that residents of the atoll of Ebeye are experiencing thyroid cancer at 100 times the level expected in a typical population. Researchers examined 1,368 residents of the atoll, and Peter Oliver, a senior Marshallese official, reported the results to Miller last September. Beyond the material suggesting a wider radiation fallout, the congressional panel will examine reports that U.S. officials knew before the tests were conducted that the explosions could irradiate populated islands. Until now, official follow-up reports of the tests suggest that the radioactive debris was supposed to go north to northeast, where there are no atolls. However, an official weather report before the Bravo test indicates that the winds probably would send debris in a southern direction. Although there were some attempts to move U.S. military personnel, there were evacuations of Marshallese only after the tests. "We have deliberately kept that information from the Marshallese," Miller said. "That clearly constitutes a coverup." "One of the biggest crimes here is that the government seemed to clearly know the extent of the fallout coming, but made no attempt to protect people from it," said Jonathan Weisgall. A Washington-based attorney, Weisgall represents Bikini island and is soon publishing "Operation CrossRoads," a book about the 1946 tests held on the island. Copyright 1994 The Washington Post

## **US SAVED SAILORS BUT NOT ISLANDERS FROM FALLOUT**

RTw 2/24/94 2:34 PM By David Lawsky WASHINGTON, Feb 24 (Reuter) - The U.S. government left South Pacific islanders in the path of deadly hydrogen bomb fallout but moved its own troops away because of wind shifts hours before the blast 40 years ago, newly revealed documents showed Thursday. On top of that, the U.S. government lied to cover

up the dangers to which it exposed the islanders from a blast nearly 1,000 times as powerful as the bomb dropped on Hiroshima, a lawyer for the people of Bikini Island testified at a House of Representatives committee hearing. "This attitude -- getting the Americans out of harm's way but taking no action to protect the Marshallese (islanders) -- is perfectly consistent with the attitude displayed in some of the radiation experiments that were conducted in the 1940s and 1950s," Jonathan Weisgall told the Natural Resources Oversight subcommittee. Committee Chairman George Miller, a California Democrat, said the new information strongly suggested the fallout "was not accidental (and) was deposited far more widely than has ever been disclosed." Miller said Energy Secretary Hazel O'Leary, who has opened up files on tests conducted on unsuspecting Americans who were administered radioactive substances, is willing to open up more information on nuclear tests. But many of the documents are under the control of the Defence and Justice departments, which have been less forthcoming, Weisgall said. Weisgall unearthed documents this week showing the government learned of a foreboding change in wind direction hours before the nuclear test set for March 1, 1954, and later lied about its findings. Months after the blast the Atomic Energy Commission said the fallout, which fell on the islanders as a dry snow that obscured an azure sky, resulted from an unexpected "shift of the winds occurring after the detonation," Weisgall said. Using the Freedom of Information Act, Weisgall discovered documents that sharply contradict that account of the contamination of Bikini and Rongelap, Utruiik and other atolls in the Marshall Islands. At a midnight briefing less than seven hours before the shot officials were told of "less favourable winds at 10,000- to 25,000-foot levels." "Was the shot postponed? No. Were precautions taken for the Marshallese downwind? No. Were precautions taken for the U.S. personnel downwind? Yes," Weisgall testified. "Following the midnight briefing, Bikini's weather outlook was downgraded to unfavourable, and (Navy) Joint Task Force Seven ordered several of its ships to move 20 miles (32 km) farther out to sea and to the south, to get out of the path of the fallout," he said. The new information, others testified, may permit the Marshall Islands to re-open a settlement agreement approved in 1985. That agreement was aimed at ending controversy over what payments the United States owed to the people of the Marshall Islands as a result of 66 nuclear tests conducted there. But the agreement said that if new information came to light the settlement could be reconsidered. Many islanders have suffered severe radiation sickness. Other illnesses and cancers have continued through the years. In addition to Weisgall's revelations, a number of researchers testified about newly found evidence on the widespread effects of the radiation. Dr Thomas Hamilton, chief of endocrinology at Pacific Medical Centre in Seattle, said he had found high levels of thyroid tumours in people who were on islands that were supposedly beyond the reach of the fallout. "There was a striking relationship between the thyroid tumours in people on each of these atolls and the distance of each atoll from the Bikini test site," he testified. REUTERCOPYRIGHT 1994 REUTERS INFORMATION SERVICES, INC. All rights reserved.

## **LITHUANIAN NUCLEAR PLANT SHUTS REACTOR FOR CHECKS**

RTw 2/25/94 6:23 AM VILNIUS, Feb 25 (Reuter) - Lithuania's Ignalina nuclear power plant shut down the second of its two reactors after a minor increase in radiation was registered in a ventilation system last weekend, senior officials said on Friday. "What happened at Ignalina does not even come under the International Atomic Energy Agency's scale of nuclear events," Povilas Vaisnys, head of Lithuania's State Nuclear Energy Inspectorate, told Reuters. "They were free to work but decided to stop for routine checking because there is currently low demand for electricity on the local market and the first reactor is due to be stopped next month for routine repairs," he said. The Ignalina plant director told the Lithuanian News Agency ELTA on Thursday that the increase in radiation was registered on Sunday, but it was not clear when the reactor was shut down. Vaisnys said it would resume work early next month. Ignalina supplies 90 percent of Lithuania's electricity. The second reactor was shut down briefly last month when a manual control button failed to release properly after being pressed. REUTERCOPYRIGHT 1994 REUTERS INFORMATION SERVICES, INC. All rights reserved.

## **THE STRUGGLE FOR RUSSIA'S SOUL**

Copyright, 1994, U.S. News & World Report All rights reserved. U.S. NEWS & WORLD REPORT, MARCH 7, 1994 Russia's new state emblem is dominated by a double-headed eagle that faces two directions--east and west. It is a fitting symbol of the two competing cultural traditions of Russia: the pull of Eastern collectivism and the predominance of the state and the Western pull of freedom and the predominance of individual choice. The Eastern influence has been paramount except for those short periods--the era of Peter the Great, for instance--when Russia attempts to catch up with the West by adopting Western ways. Russia's experience with democracy and market economics is still an infant, born of its failure in the cold war. But already there has been a reaction. The success of a faction led by Vladimir Zhirinovskiy in the December election indicates a return to the old Slavophile tradition; the totalitarian state casts its shadow again. And

certainly there is a waning faith in capitalism, a sense that the ways of the West are not appropriate for Mother Russia and that she must find another uniquely Russian way to reform the system. Why the pessimism? It is principally because life has become so much worse for so many Russians under democratic pseudo capitalism. Only one fifth of Russians say they are better off today than they were under communism. Witness the long, silent lines on the streets--people positioned not to buy food or clothing, but to sell their meager household possessions to survive. Instead of shaping a new middle class, the first market reforms and the erosion of state authority have fostered a brutal cowboy capitalism. It is manifest in the emergence of a flamboyant and vulgar new class of businessmen, made up mostly of speculators, traders and outright criminals, all of whom are stealing the country blind. Now there is a contempt for capitalism more intense than even the Communists were able to engender with their years of anti-Western propaganda. As a major story in this week's U.S. NEWS outlines, day-to-day life in Moscow and other major cities is dominated by mafia-type criminal gangs who make Al Capone look like a boy scout. They are squeezing businesses mercilessly. According to a recent calculation, some 80 percent of private enterprises--even commercial banks and major businesses--are forced to pay these gangs protection money as high as 20 percent of revenue. Food distribution is controlled the way Capone controlled booze. The gangs have learned how to work with former party bosses and the successor to the KGB--the "old comrade" network. Together, they are manipulating low-cost bank credits, export licenses and low fixed prices for export commodities; goods are then resold abroad for huge profits--profits that are kept in foreign bank accounts and do nothing for the country. "Organized crime," said Boris Yeltsin in a speech last week, "is trying to take the country by the throat." The looting of Russia has its counterpart in an unprecedented explosion of violent street crime. Now that these crimes are a normal part of Russia's evening news, the perception of violence has exploded along with the reality of it. The police force is at best inefficient and at worst corrupt. Individual officers will threaten innocent businesses or individuals with criminal charges in order to extort payoffs. The court system might as well not exist. No freedom from fear and no freedom from want: Small wonder many Russians feel nostalgic for the days when there was bread AND law and order. A poll published in IZVESTIA reveals that three quarters of all Muscovites welcomed the brief emergency rule that followed last October's rebellion at the Russian White House and wanted to see it extended. A reflection of this may be the Russian parliament's pardon last week of those arrested in October. If the political will and the resources to back it are not deployed soon, millions of Russians will march to a banner of law and order, whether waved by a neo-fascist like Zhirinovskiy or a more respectable figure. America is in no position to lecture on street violence, but we do know plenty about combatting gangsters. We can fund and train the people who can, in turn, train a new elite national police force similar to our FBI. The potential problems are obvious, given Russia's authoritarian history, so recruits would need to be carefully screened and a chain of command thoughtfully conceived. But maybe it's one new way the American eagle can encourage the Russian eagle to keep facing west.

## **DEADLY TRADE IN TOXICS**

Copyright, 1994, U.S. News & World Report All rights reserved. U.S. NEWS & WORLD REPORT, MARCH 7, 1994  
**CRITICS WANT TO STOP RICH NATIONS FROM DUMPING WASTE ON POOR ONES**  
In its heyday, the SS United States was the swiftest, and arguably the most luxurious, liner on the high seas. On its maiden voyage in July 1952, the ship won the blue ribbon for the fastest New York-to-Southampton crossing--three days, 10 hours and 40 minutes--a record that still stands. In October 1968, a young Rhodes scholar named Bill Clinton sailed aboard the liner to England on his way to Oxford University. For more than a decade, the sleek silver vessel with the red, white and blue funnels dominated the trans-Atlantic run until jet aircraft eclipsed ocean liners in popularity. It made a final commercial voyage in 1969 and then slipped into rusting retirement at Newport News, Va. Today, the once proud flagship of the American passenger fleet is an environmental pariah. Designed to be lightweight and fireproof, the vessel probably contains more asbestos than any ship afloat. After being purchased in 1992 by a consortium that plans to refurbish it for luxury cruising, the liner was towed to Turkey, where asbestos removal would have cost about \$2 million, instead of an estimated \$100 million in the United States. But the Turkish government, citing the dangers, refused to allow the asbestos to be stripped. Last October, the vessel was hauled to the Black Sea port of Sevastopol in Ukraine, where the government is less particular about environmental concerns. It is now being gutted of more than 500,000 square feet of the carcinogenic fiber. The SS United States is a glaringly visible symbol of industrial nations' shipping their toxic liabilities overseas. As Western environmental standards tighten and hazardous-waste disposal costs soar to hundreds of dollars a ton, producers are increasingly looking to Third World or developing nations to get rid of waste cheaply.

**BIG U.S. CUTBACKS.** A United Nations-sponsored meeting scheduled to begin March 21 in Geneva will consider imposing a ban on such toxic shipments to underdeveloped countries. President Clinton aims to put the United States in the forefront of the drive to scale down toxic exports by announcing early this week that he plans to severely limit U.S. shipments. Tim Wirth, the State Department's highest environmental official, calls the hazardous-waste exports "appalling." However, some of the other major exporters--including Great Britain, Germany and Japan--are expected to oppose any ban. The paradox of the toxic-waste dilemma is this: The stricter an industrial nation's green laws, the more

hazardous waste it tends to export. Germany, with perhaps the most stringent environmental regulations in Europe, tops the list by shipping more than half a million tons annually across its borders. It is followed by Belgium, the Netherlands, Switzerland and the United States. Exact statistics are elusive, but roughly 2 million tons of toxic detritus is exported each year from North America and Europe. Some hazardous waste moves as legitimate recyclable material--lead from car batteries, for example--and some is essentially worthless. For environmental critics, turning poor nations into trash receptacles raises moral and ethical questions that transcend economic benefits. The toxic slumgullion shipped abroad typically includes old paints, solvents, oils, chemicals and other liquid wastes. There are expired or domestically outlawed pesticides, contaminated soils, tires, automobile and appliance batteries, radioactive wastes and ash, slag and filter dust from municipal incinerators and the metals industry. These in turn contain a wide variety of dangerous substances, including lead, mercury, asbestos, cadmium, dioxin and PCBs.

**SCUTTLED SCHEMES.** The environmental group Greenpeace campaigns worldwide against this trade--and has succeeded in scuttling scores of schemes. Among them: a plan to ship millions of used auto tires from the U.S. West Coast to the South Pacific island of Tonga for incineration; an 8,000-ton shipment of petroleum-contaminated soil from Hawaii to the Marshall Islands to construct an artificial reef, and shiploads of toxic Philadelphia incinerator ash to Panama to build an ocean causeway. Some schemes, however, slip past the environmental watchdogs. Baghouse dust, for example, is captured by smokestack filters in metal-smelting operations and costs about \$300 a ton to dispose of in a hazardous-waste landfill. Southwire Corp. of Georgia and its South Carolina subsidiary, Gaston Copper Recycling, found a better deal. They paid \$45 a ton to have 1,000 tons of the lead- and cadmium-tainted dust removed by a waste broker, who in turn sold the material to South Carolina's Stoller Chemical Co. for \$50 a ton. Stoller mixed it with sulfuric acid and water and sold some 3,150 tons of the material to Bangladesh as fertilizer. About one third was spread on fields, and the poisonous fertilizer is still being sold in 50-pound bags in local markets. Stoller has since gone out of business. But last November, a federal judge fined Southwire and Gaston a combined \$1 million. With rich nations producing far more waste than they can economically recycle, doesn't it make sense for poor nations--invariably short of resources--to be generously rewarded for accepting refuse they can use or are willing to dispose of? Former World Bank chief economist Lawrence Summers voiced that sentiment in a memorandum that surfaced in 1992 and created an international furor. "Shouldn't the World Bank be encouraging more migration of the dirty industries to the least developed countries?" wrote Summers, citing shorter human life spans, greater capacity to absorb pollution and lower aesthetic concerns. "I think the economic logic behind dumping a load of toxic waste in the lowest-wage country is impeccable, and we should face up to that." Industry leaders contend that with proper safeguards, recycling waste ranging from cardboard to chemicals is a sound environmental practice. These legitimate waste exports, nonharmful if handled properly, earn the United States about \$5 billion a year and help the economies of poor nations. Says Harvey Alter of the U.S. Chamber of Commerce: "The waste export and recycling industry raises the standards of living in these countries." He calls Greenpeace "neocolonial": "They want to end this trade and keep them poor." Around the world, toxic-waste exports are loosely monitored and regulated. Definitions of what is hazardous vary from country to country. Sometimes, dangerous materials are passed off as benign industrial feedstocks. False labeling, legal loopholes and lack of expertise make the developing countries easy targets for aggressive waste traders peddling toxic sewage sludge as "organic fertilizer" or outdated pesticides as "farm aid." Environmental standards often are weak or nonexistent, and poor nations rarely can afford the sophisticated and expensive equipment found in the West to process hazardous materials safely. And less developed countries are ill-equipped to assess and manage the ecological and health problems threatened by the wastes. Recycling has a comforting, environmentally correct image, and it can produce valuable byproducts for a resource-strapped nation. But reclamation often produces large amounts of residues, which contain higher concentrations of deadly chemicals that sicken workers and pollute the local environment.

**SCANDAL IN NATAL.** Last November in South Africa, African National Congress President Nelson Mandela visited victims of one of the continent's worst pollution scandals--at Thor Chemicals, the world's largest recycler of mercury wastes. One worker at the Natal plant has died and almost a third of the work force has reportedly suffered some form of mercury poisoning, including one man who has been in a coma for two years. Certain types of mercury wastes cannot be legally disposed of in the United States, and Thor's suppliers include at least three U.S. corporations and the U.S. Department of Energy. On February 21, an ANC inspection team found more than 10,000 barrels of mercury wastes from three U.S. companies stockpiled at the plant. This dangerous cache is adding impetus to the expected future ban on U.S. toxic exports. Greenpeace likens the trade in toxic waste to the practice of locating waste dumps in poor communities, often those with a preponderance of minority residents. Beyond seeking a ban on transnational shipment of hazardous refuse, the organization would like to curb the unregulated export of millions of tons of used paper, cardboard, plastic, scrap metal and other nonhazardous wastes that are shipped overseas for recycling, mostly to Asia. Some of the plastic, for example, simply ends up being dumped, and the massive quantities depress the local markets for scrap material. Jim Vallette, who works on the Greenpeace waste-trade campaign in Washington, contends that exporting trash makes developing regions dependent on the dirty products and industrial byproducts rejected by rich nations: "It shifts the ecological burden to countries desperate for development, perpetuates dirty technologies and is a disincentive to adopting clean, environmentally sound production methods."



CRACKDOWN AHEAD. While the waste trade continues to flourish, there are signs that international controls are on the way. In 1987, only three developing countries banned such imports. Today, about 100 nations refuse to allow hazardous wastes to cross their borders, and 119 have pledged to ban toxic exports. The expected change in U.S. policy is certain to influence the handful of other nations that still favor the practice. Environmentalists also received a boost last fall from two unexpected quarters. In September, 10 member nations of Interpol met in France to plan closer cooperation on international environmental crimes, principally waste dumping. A month later, at a Vatican workshop on Third World pollution, Pope John Paul II voiced his concern. Said the pontiff: "It is a grave abuse when rich countries profit from the weak economies and legislation of poorer countries by exporting dirty technologies and wastes which degrade the environment and health of the population." BY MICHAEL J. SATCHELL

## **CHINA HAS TO DOUBLE POWER OUTPUT GROWTH - RESEARCHERS**

RTw 2/28/94 8:11 AM HONG KONG, Feb 28 (Reuter) - China will have to double the growth rate of its power generating capacity to keep pace with the demands of its dizzying economic expansion, a research institute said on Monday. A study by the Japanese-based Nomura Research Institute concluded that China needed to add an extra 20,000 megawatts a year capacity -- equivalent to 11 power stations the size of the new Daya Bay nuclear station in southern China -- simply to meet increasing demand for electricity. "China's power generation capacity grew at a compound annual growth rate of eight percent between 1981 and 1992. The rate has not been able to keep abreast of the country's GNP (Gross National Product) growth of 9.1 percent during the same period, resulting in a shortage of electric power supply," NMI said. "To cope... the power generating capacity of the country will have to be raised by more than 20,000 mw per year to the year 2000. The need far exceeds China's total designed production capacity of 10,12,000 mw of electric power generation machinery per year," NMI said. Chinese officials present at NMI's news briefing said China would rely more on hydroelectric power than on nuclear. Xu Lianyi, director of the major Technical Equipment Department in the Ministry of Machinery Industry, said China was exploiting only about 15 percent of its 378,000 mw hydroelectric power potential. He said nuclear power would make up only two percent of China's power generation by the year 2020. To the dismay of many in Hong Kong, Beijing recently said it would build two more nuclear power plants in southern China. China's Daya Bay nuclear plant went into operation earlier this month only 50 km (30 miles) from Hong Kong, where many fear a Chernobyl-like reactor accident. Noting 20 percent of China's generators are imported, Xu said China was seeking US\$30-40 billion in foreign investments in the run-up to the year 2000 to develop its domestic manufacturing capability. REUTER

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## **SOUTH TEXAS PROJECT NUCLEAR PLANT SHUT DOWN AGAIN**

UPsw 3/2/94 9:06 AM BAY CITY, Texas March 2 (UPI) -- Leaking radioactive water prompted the shutdown of the South Texas Project nuclear plant after only three days of commercial operation, plant officials said Wednesday. The plant at Bay City, about 80 miles southwest of Houston, had been idled under a Nuclear Regulatory Commission order for about a year. The reactor was taken out of service Monday night after operators found a valve was allowing water exposed to low-level radiation to leak into a secondary system used to produce steam, said Glen Walker, Houston Lighting & Power Co. spokesman. The leak was below regulatory levels, and the plant could have continued to operate, but plant operators decided to shut it down for repairs, he said. The leaking radioactive water was contained within the plant, and there never was any danger of a release, Walker said. Federal officials have been notified of the problem. The reactor started generating electricity at 5 p.m. Friday after being shut down for about a year. Unit 1 is expected to remain idle for about two weeks, Walker said. The South Texas Project has two reactors. Unit 2's startup is expected by early May. HL&P operates the plant and owns a 30.8 percent stake in it while City Public Service of San Antonio owns 28 percent, Central Power and Light Co. of Corpus Christi owns 25.2 percent and the city of Austin owns 16 percent. (Written by Paula Dittrick; edited by Phil Magers) Copyright 1994 The United Press International

## **RUSSIA-UKRAINE**

APn 3/2/94 5:51 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By NATASHA ALOVA Associated Press Writer MOSCOW (AP) -- Russia has shipped badly needed nuclear fuel to Ukraine for its power plant at Chernobyl, the first step in a swap for Ukraine's nuclear warheads, an official said Wednesday. The deal was made in January and signed by the presidents of Russia, Ukraine and the United States. Under the pact, Russia and the United States also offered money and security guarantees in exchange for all of Ukraine's approximately 1,800 nuclear

warheads. Once in Russia, the warheads would be dismantled. A train carrying 120 nuclear fuel elements manufactured in Electrostal, near Moscow, left for Ukraine six days ago, Vladislav Petrov told The Associated Press. Petrov, spokesman for Russia's Nuclear Power Ministry, declined to say when the train would arrive at Chernobyl. Ukraine would "give the green light" to sending warheads to Russia as soon as the train arrives, Ukrainian Vice Premier Valery Shmarov told the AP. On April 26, 1986, an explosion and fire at the No. 4 reactor of the four-unit nuclear power plant at Chernobyl were the world's worst atomic accident. Ukrainian President Leonid Kravchuk, who was heading to Washington on Wednesday for a five-day visit, has had a hard time selling the fuel-for-warheads deal in Ukraine. Many lawmakers are among those nationalists who want to keep nuclear weapons as a deterrent against Russia. But Ukraine badly needs the promised nuclear fuel. Stocks are running out at its nuclear power plants and oil and gas suppliers threaten to cut off shipments because of overdue bills. Kravchuk says he will not seek re-election in June because of Ukraine's "catastrophic" economic situation. During negotiations in Kiev in February, Russian and Ukrainian officials set a schedule for reciprocal shipments, Shmarov said. A spokesman for Russia's Defense Ministry confirmed existence of the schedule, but refused to disclose it for safety reasons. On April 26, 1986, an explosion and fire at the No. 4 reactor of the four-unit nuclear power plant at Chernobyl were the world's worst atomic accident.

## **RADIATION EXPERIMENTS**

APn 3/2/94 10:51 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By SONJA BARISIC Associated Press Writer CINCINNATI (AP) -- Five years before the University of Cincinnati halted experimental radiation treatments on cancer patients, the head of the medical center questioned the goal of the research. The letter from Dr. Edward Gall, written in 1966, was among 5,000 pages of documents regarding radiation tests released by the university Tuesday. "There's nothing to hide, as far as we're concerned," UC President Joseph Steger said at a news conference Tuesday. The university treated 88 cancer patients with whole or partial body radiation from 1960 to 1971 in military-funded tests. More than 50 of the patients were black, and many were indigent, according to progress reports submitted to the Defense Department. The patients ranged in age from 9 to 80. In a May 6, 1966, letter to the medical school dean, Gall, then director of the medical center, questioned the purpose of research proposed for that year by Dr. Eugene Saenger. It involved using stored bone marrow to help patients fight depressed blood counts after receiving radiation treatments. Gall wrote that the faculty committee had raised concerns about why radiation was being used, whether radiation treatments could kill patients and whether patient consent forms were specific enough. Months later, at Gall's request, Dr. George Shields, then a member of UC Medical Center's research review committee, wrote that Saenger's proposal should be rejected because it was too risky for patients. Shields said nine of 36 patients treated by 1967 had died. "I believe a 25 percent mortality is too high," he wrote in his March 13, 1967, memo. Shields also argued that the consent forms needed to be changed. He said that the forms should not only explain that "a risk exists," but that "all patients are informed a 1 in 4 chance of death within a few weeks" may result from the treatment. The proposal ultimately was approved by the full faculty review committee. Saenger has defended his work but has declined interview requests. Gall is dead. Shields could not be reached for comment Wednesday. Telephone messages were left at his home and office. An undated summary of the radiation treatments said the deaths of at least eight of the patients, or nearly 10 percent, were "possibly attributable to radiation." The report said, however, that the radiation shortened the hospital stays of some of the other patients. All but one of the patients has died, said Stanley Chesley, a lawyer advising the university. University officials have said the experiments were conducted to determine whether radiation could slow tumor growth. But critics have said that the real purpose was to test -- without telling patients -- how battlefield radiation exposure might affect soldiers. The consent forms became an issue at the university again in 1969. Dr. Evelyn Hess, then chairwoman of a faculty committee on research, said in an April 18, 1969, memo to committee members that two grant applications to the National Institutes of Health were rejected. "The acceptability of our general consent form for human volunteers participating in research was questioned," she wrote. One of the grant requests was for a study of whole-body radiation on cancer patients, she wrote. She did not identify the other request. The documents show the Defense Department paid \$651,000 for salaries, supplies and equipment for the tests, while the university paid for the patients' basic care. The patients were treated at General Hospital, then operated by the city. The school has tracked down the medical records of all 88 patients, Steger said. Those records are confidential and will not be made public, he said. UC has been in contact with families of 22 patients, and is sending letters to the remaining 66, he said. Three class-action lawsuits have been filed against UC. The latest was filed Tuesday in federal court in Cincinnati by Donna White Christy. She said she received a massive radiation dose to treat a tumor in her thigh when she was 10. She survived because she received a bone marrow transplant from her identical sister. Ms. Christy could not be reached for comment. Her lawyer, Michael Alexander, refused to say where she lives.

## **RUSSIAN AGENCY REPORTS LEAK AT NUCLEAR POWER STATION**

RTw 3/4/94 8:10 AM (Eds: changes dateline) MOSCOW, March 4 (Reuter) - A small amount of water leaked from a reactor at Russia's Kola nuclear power station in the far north, but there was no radiation danger, the Rosenergoatom state agency said on Friday. The incident took place on Thursday evening, and the reactor was immediately stopped and cooled down, a spokesman told Reuters. He said radioactivity was "zero rated" and there was "absolutely no danger" for the environment and the local population. "Everything's normal now," he added. In Helsinki, however, Finland's Centre for Radiation and Nuclear Safety issued a statement quoting one of its experts as saying he thought the incident a class-two case on the safety scale, meaning the plant's security should be improved. REUTERCopyright 1994 Reuters Information Services, Inc. All rights reserved.

## **OLYMPIC FIGURE SKATER DONATES TO CHERNOBYL RELIEF**

RTna 3/5/94 3:41 PM WASHINGTON (Reuter) - Oksana Baiul, Olympic gold medalist in women's figure skating, Saturday shared part of her good fortune with sick children in her Ukraine homeland. The 16-year-old orphan, who met President Clinton Friday when she accompanied Ukraine President Leonid Kravchuk to the White House, wired \$1,000 to the Chernobyl Union International Children's Fund from a downtown Western Union office in the U.S. capital. The Kiev-based charity provides medical aid and help to victims of the unprecedented 1986 nuclear disaster in the northern Ukraine, which was then part of the Soviet Union. The money for her donation was part of a \$5,000 grant awarded her by the Ukrainian Financial Group, an investment company based in Kiev. Olympic judges awarded Baiul the gold and American skater Nancy Kerrigan silver in the Lillehammer games. Kerrigan has already signed commercial endorsements worth several million dollars, and Baiul's new Olympic fame may also allow her to increase her financial worth. She told Reuters she wants to share the largesse of her accomplishments. "I'd like to make a small contribution," she said. "Previously I haven't been able to do this." Baiul called her whirlwind tour of the nation's capital "unbelievable" and said she was "very happy" with the chance to meet the president Friday in the White House Oval Office. She and her mentor, 1992 Olympic skating champion Viktor Petrenko, also of the Ukraine, are currently on a U.S. tour. REUTERCopyright 1994 Reuters Information Services, Inc. All rights reserved.

## **UKRAINIAN NUKES ARRIVE IN RUSSIA FOR DESTRUCTION**

RTw 3/6/94 7:21 AM By Janet Guttman MOSCOW, March 6 (Reuter) - A train carrying nuclear warheads arrived in Russia this weekend as part of a trilateral deal with the United States to scrap deadly arms based on Ukrainian soil. Itar-Tass news agency quoted high-ranking nuclear experts as saying that the warheads would be dismantled by Russian firms. Officials from the railways ministry said the route taken by the heavily guarded train would remain a secret. Ukraine, left with some 1,600 warheads on its territory when the Soviet Union fell apart in 1991, agreed to ship them to Russia for destruction under a deal sealed when U.S. President Bill Clinton visited Russia and Ukraine in January. But President Leonid Kravchuk, in an interview broadcast from Washington, suggested on Saturday that Ukraine had more pressing problems than nuclear disarmament. "Fulfilment of all agreements, including agreements on nuclear commitments, is possible only if the economy works," he told Commonwealth television. "If tomorrow factories come to a halt in Ukraine, and this is a reality if there is no gas, what carrying out of commitments can be spoken of?" Russia, which says Kiev owes it 1.5 trillion roubles (\$900 million) for gas, has been reducing deliveries to Ukraine since the start of the month to try to force Ukraine to pay. It cut daily deliveries by a further 80 million cubic metres this weekend, bringing supplies down to about 30 million cubic metres a day, or one quarter of normal levels. An official at Russian gas giant Gazprom said there were no plans to lower deliveries beyond current levels. The immediate impact of gas cuts on Ukraine's ailing industry will probably be limited. Most firms worked on Saturday but they are closed on Monday and Tuesday for public holidays. The January disarmament deal offered Kiev cash and enriched uranium to run its nuclear power stations in exchange for agreement to hand over the warheads. Ukraine promised to transfer at least 200 nuclear warheads to Russia within 10 months and turn over the rest of its nuclear stockpile "in the shortest possible time." In addition, Ukraine's 176 SS-24 missiles -- the most dangerous in its arsenal -- should be deactivated within 10 months by having their warheads removed. In Kiev, Deputy Prime Minister Valery Shmarov, who heads the disarmament process, said the first transfer had brought 60 warheads to Russia. A second shipment was being prepared. "It will be sent if we see adequate activity on the Russian side," he said, referring to Moscow's commitment to supply Kiev with nuclear fuel in exchange for arms. Russia's nuclear energy ministry said on Friday the first load of fuel for the Chernobyl power station had already left. "Apparently, the government took the decision to send nuclear fuel to Ukraine without waiting for nuclear warheads," a ministry spokesman said. There was no confirmation that the fuel had reached Ukraine. Gazprom's Western customers are watching the latest feud between Russia and Ukraine nervously. Virtually all Russian gas exports to the West cross Ukrainian territory and officials in Kiev have warned that a cut-off could lead to syphoning from

pipelines. Shmarov said Ukraine was negotiating with Moscow on increasing gas supplies and making efforts to cut domestic use. "We are asking Russia to increase supplies to the agreed amount of 100-105 million cubic metres daily. At the same time we are asking local authorities to turn off gas taps to factories and use it for people until the cold weather ends." REUTERCOPYRIGHT 1994 Reuters Information Services, Inc. All rights reserved.

## **WORKERS AT NUCLEAR SUBMARINE PLANT LOSE PATIENCE ...**

RTna 3/7/94 8:25 AM WORKERS AT NUCLEAR SUBMARINE PLANT LOSE PATIENCE WITH MOSCOW By Ralph Boulton BOLSHOI KAMEN, Russia (Reuter) - Their patience frayed through a long winter without pay, the workers of the Star plant rang an alarm bell the Kremlin dares not ignore. For Star, set on the remote Bolshoi Kamen (Big Rock) bay in the Russian Far East, is no run-of-the-mill dockyard. The nuclear submarines brooding in its icy waters have become "weapons" in a quiet financial battle with Moscow. "Bear in mind, this factory repairs nuclear submarines," says Olga Skripko, head of the Star trade union organization. "People were reduced to despair; people working with live reactors. They must carry out high-quality work so that nothing happens like at Chernobyl, so that nothing happens when a submarine goes on patrol on the high seas." The submarines, hidden fist of the Pacific Fleet, are moored at the foot of a dramatic, bleak slope sweeping into Bolshoi Kamen. Workers clamber over icy hulls, repairing the vessels with a future, stripping those slated for destruction. Yellow containers bearing the radioactive warning sign stand in the safety of the huge central shed. Moscow built up debts to Star of \$22 million at end-1993 rates in unpaid bills for the renovation of submarines, the handling of waste and the destruction of vessels redundant under arms accords. Wages went unpaid for three months through a harsh winter when temperatures stayed well below freezing. "We've all got small plots and there was a good harvest of vegetables, potatoes. But the cash wasn't there for basics like bread and milk...even heating and medicine," Skripko says. Unpaid for its services, Star, in turn, went into debt with suppliers. Deliveries of heating fuel essential for water supplies to reactor systems began to dry up, adding another hazard. This "vicious circle" of debt is typical of defense plants and their civilian cousins all over Russia. But defense industry officials argue the stakes here are higher. The ministry says government debts to its complex of elite plants built up in Soviet times to supply a mighty army amounted to \$800 million in 1993. Star, with its sensitive role servicing nuclear forces, became a test case for the entire military industrial complex. Workers inculcated with a culture of secrecy appealed publicly, with the blessing of their management, to authorities in Vladivostok for help, and through them to Moscow. Late last month several hundred workers protested at the white concrete administrative headquarters with banners declaring: "Food and heat for our children" and "Things grow worse from year to year. The people's patience is at an end." Only a decade ago, the very idea of a demonstration at such a sensitive plant would have been enough to merit a prison term. But 10 years ago Star, as a child of military privilege, wanted for nothing material. Ideas were in the custody of the Communist Party and the KGB secret police. Mikhail Malei, specialist in military plants on President Boris Yeltsin's Security Council, sees 1994 as critical for military plants, many hit badly by a collapse in orders. "We have three months left for reflection -- maximum five," Malei said in his office near the Kremlin. "Then we lose control. Hungry people won't listen to Malei and they won't listen to Yeltsin." The Star campaign, however, has won a first victory for the military-industrial complex, which employs more than four million people, among them the cream of Russia's scientists. Star's director Valery Maslakov says Moscow has now agreed to pay 47 percent of its debt including wages due for November and December. The money for January, they say, will follow soon. "It is not enough, but it will do to pay salaries and ease some of the social problems," he said. The future remains uncertain. Moscow has ordered work for 1994 but there is, again, no guarantee it will pay. After Star's success other major plants await theirs. "Since Peter the Great, we Russians have seen our country as a great maritime power," Maslakov said. "Without our plant the Pacific Fleet could not fulfil its role, and here the Fleet (command) agrees. I only hope the government understands this." Maslakov said the main problem facing Star was a shortage of heating fuel, used to maintain cooling systems for the submarine reactors. Officials say that if temperatures fall below 41 degrees Fahrenheit systems can begin to leak. Igor Lebedentsev, deputy Governor in Vladivostok, speaks darkly of a "powder keg" at Bolshoi Kamen. Maslakov, 20 years at Star, disagrees but fights shy of any bold reassurances. "I don't think there could be any leakage of radioactive liquid waste overboard as a result of freezing," he said. "These things are foreseen by the designers." "But there is a possibility of local...pollution (inside the submarine). This would mean dirty work and dirty work always leaves its traces." Star has already been at the center of a storm over pollution. It was the source of nuclear waste from scrapped submarines which Russia dumped into the Sea of Japan last October, causing anxiety in Tokyo and worldwide protests. Richard Sharpe of Jane's Fighting Ships, the London-based world review of warships, is skeptical about the dangers. "This sounds a bit like crying wolf. Everywhere, when money is urgently needed, the word 'nuclear' works well," he added. "These submarines are designed to operate under ice. I see no technical reason why freezing temperatures in the yard should endanger them," said Sharpe, a former submarine officer. Perhaps Bolshoi Kamen, 3,100 miles from Moscow at the end of a crumbling supply line, needs to cry the loudest. Last year four young sailors died of hunger, abandoned at an island base near Vladivostok. A photograph of one skeletal

survivor still haunts the pages of local newspapers. Olga Skripko awaits patiently what the spring will bring. "I can't say how the question of February's pay will be resolved. "We cannot abandon our work...We are very patient but you just can't treat people in this way." REUTERCopyright 1994 Reuters Information Services, Inc. All rights reserved.

## **DANES QUIZ SICKNESS CLAIMS FROM 1968 NUCLEAR CRASH**

RTw 3/7/94 6:23 AM COPENHAGEN, March 7 (Reuter) - Denmark's government is to investigate radiation sickness claims from 180 Danish workers who cleared radioactive debris after an American B-52 nuclear bomber crashed in Greenland in 1968. Danish Justice Minister Erling Olsen said on Monday that he would re-open the workers' case to see if their claim for major damages for radiation illness was valid. "The workers' case must be taken seriously, I have told them we will investigate the whole affair, opening secret Danish files on the accident if the Americans allow us," Olsen said. "The Cold War is over now, so we do not have to consider national security any more, I don't see any reason why the workers cannot have access to the archives now." The Danish workers allege they suffered radiation illnesses including cancer after the crash near the U.S. base at Thule, northwest Greenland. Six of the seven crew of the B-52 survived the 1968 accident and the four nuclear bombs on board the aircraft were damaged by fire, an U.S. Embassy official confirmed. About 237,000 cubic feet (6,700 cubic metres) of contaminated ice, snow and water were removed from the crash site by the Danish workers. Some Danish doctors have thrown doubt on the Thule workers' claims but the last of a series of government investigations showed they had a cancer rate one-and-a-half times the national average. But the report, completed by the Health Ministry last year, attributed the cancer cases not to nuclear radiation but to smoking, excess drinking and asbestos at the Thule base. The Danish Justice Ministry's decision to re-open the case followed a visit to the United States by a Thule workers' support association representative, who obtained new information on the crash, and the U.S. authorities' own estimates of radiation risk from the crash. The workers say they plan to submit claims for 500,000 crowns (\$75,000) for each of the 180 radiation victims from either or both the Danish state and the U.S. Air Force. Greenland, a Danish colony since 1721, won home rule within the kingdom of Denmark in 1979, with Copenhagen keeping control over the vast icebound island's foreign and defence policies. In 1991, the United States agreed to pullout from its main Soendre Stroemfjord airbase in southwest Greenland but kept hold of its monitoring and early warning station at Thule. REUTERCopyright 1994 Reuters Information Services, Inc. All rights reserved.

## **UKRAINE PREMIER PRESSES FOR BILLIONS IN U.S. AID**

RTw 3/6/94 7:40 PM (Eds: Fixes spelling of prime minister's first name in 2nd para) By Ron Popeski NEW YORK, March 7 (Reuter) - Ukraine's acting prime minister said Sunday his country's leadership had asked the U.S. Congress to provide \$3 billion in aid over three years and urged the Jewish community to lobby Washington to extend the help. Yefim Zvyagilsky told a group of religious leaders at a New York synagogue that the former Soviet Union was facing energy shortages, a bad harvest and the prolonged effects of the 1986 Chernobyl nuclear disaster. He said President Leonid Kravchuk had made the request during talks at the White House on Friday. President Clinton announced after the meeting that aid to Ukraine had been doubled, to \$700 million through 1995. "President Kravchuk and our delegation asked that the U.S. Congress consider the question of granting unconditional aid of \$1 billion (a year) over the period of 1994-96," Zvyagilsky, who is Jewish, said, speaking in Russian. "We would ask you influential people to write letters to ask, to demand assistance for Ukraine in this connection. "When President Clinton was elected, the Jewish community, including those seated here today, provided him with considerable assistance. Now it is your moral right to ask him to fulfil your request." Ukraine's delegation had expressed satisfaction at the outcome of the talks with Clinton, who praised Kiev's agreement to proceed with nuclear disarmament. Kravchuk's signature in January of an accord providing for Ukraine to give up the 1,600 nuclear warheads on its soil ended months of isolation for the former Soviet republic and allowed his U.S. visit to go ahead. Zvyagilsky's announcement was the first public indication that Ukraine had submitted such an aid request and it took by surprise organisers of Sunday's ecumenical meeting. Kravchuk had earlier addressed the gathering, focusing on the role of Ukraine's Jewish community, and turned over the floor to his acting prime minister to make public the request. A congresswoman present in the hall, Democratic Representative Carolyn Muloney of New York City, said she had been unaware of the aid request. She offered no forecast of how it would be received but made plain she felt it had little chance. Kravchuk said at the outset of his four-day visit to the United States that Ukraine could face a slide backwards to "old times" if the West failed to provide substantial and rapid assistance for the collapsing economy. Hyperinflation has cast most of Ukraine's 52 million people into poverty. Energy shortages and Russia's threat to cut off gas supplies imminently because of Ukraine's failure to pay its debts could shut down vast sectors of industry. Clinton also said he believed Ukraine was making progress with market reforms. Ministers accompanying Kravchuk said they were encouraged by International Monetary Fund and World Bank officials helping them draw up the country's first formal reform programme more than two years after independence. REUTERCopyright 1994 Reuters Information Services, Inc. All rights reserved.

## **EP DEBATES NUCLEAR SAFETY**

RTec 3/9/94 4:00 AM EUROPEAN PARLIAMENT SESSION NEWS PRESS RELEASE DOCUMENT DATE: MARCH 9, 1994 + Nuclear safety in Eastern Europe (A3-127/94 - Adam) + Tuesday, 8 March - Recommending approval of a proposed Council decision to provide some 20m ECU from the Union's budget to go towards improving nuclear safety standards in Eastern Europe, Gordon Adam (Northumbria, PES) emphasised that approval would be conditional on the CIS countries acceding to international conventions on liability and on the understanding that the worst stations would be progressively closed down. Supporting the decision, Madron Seligman (Sussex West, EPP) said much of the problems in Eastern Europe could be put down to a casual attitude towards safety. This was now changing but, he cautioned, the last thing these countries wanted was more visits from Western consultants although he warned it would not be easy to persuade them to close down the RBMK reactors. END OF DOCUMENT Copyright 1994 Reuters Information Services, Inc. All rights reserved.

## **SMALL FIRE AT UKRAINE NUCLEAR PLANT, NO DAMAGE**

RTna 3/8/94 2:45 PM KIEV (Reuter) - A fire broke out at an electricity generator at Europe's largest nuclear power station in Ukraine Tuesday, but caused no release of radiation or danger to the environment, an official at the plant said. The fire at the Zaporizha nuclear power station in southern Ukraine raged about 600 yards from the main reactors for about an hour but was extinguished, plant official Viktor Kraranov said by telephone. "There is no radiation threat, or much damage," Kraranov said. He did not say how the fire started or give details. The fire was the latest in a series of incidents at the Zaporizha nuclear power station, which has been running at low capacity because of shortages of nuclear fuel. A welder was killed last year when his blowtorch ignited with hydrogen from a pipe he was dismantling outside one of the reactors. A week later, a loss of pressure shut down a reactor. In another incident last year, radiation at the plant was increased after radioactive water seeped through a retaining wall, contaminating an open area at the complex. An explosion and fire at the Chernobyl nuclear plant in Ukraine in 1986 spewed radiation over much of Europe. Thirty-one people died in the immediate aftermath of the explosion. REUTERS Copyright 1994 Reuters Information Services, Inc. All rights reserved.

## **NUCLEAR STORAGE**

APn 3/12/94 2:59 AM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By EDUARDO MONTES Associated Press Writer MESCALERO, N.M. (AP) -- The Mescalero Apache Reservation already boasts a luxury resort, a casino and a ski area. It is in hot pursuit of a radioactive waste dump to add to that list. "This is a business-oriented tribe," tribal vice president Frederick Peso said. "This is just another long-term business venture that we are looking at." Tribal leaders have fought for three years to put a temporary storage facility for high-level nuclear waste on the reservation. They began pursuing a private deal after Congress last year cut off funding for an environmental study to determine if a federal storage site could be built on the 461,000-acre reservation where about 3,300 people live. On Friday, the Mescaleros courted utility executives, would-be business partners in a private venture to store thousands of tons of nuclear waste in the desert of the Apache homeland in south-central New Mexico. The proposal, known as a Monitored Retrievable Storage site, or MRS, is backed by Minnesota-based Northern States Power Co., and would store highly radioactive waste for at least two decades. The tribal council says the site would create jobs for Indians and make money on storage fees. Jim Howard, president of Northern States, said utility interest was "very serious, very positive." Howard said the waste would be stored until the U.S. Department of Energy can open a permanent site. Most utilities are running out of space at their plants to store spent nuclear fuel. But tribal leaders face opposition from the state. "If anybody ever tried to construct such a facility anywhere within the state of New Mexico while Bruce King is governor, he will use any legal means to try to stop it," the governor's spokesman, John McKean, said. The governor and congressional delegation have said the state is already doing enough for nuclear storage with the still-unopened Waste Isolation Pilot Plant near Carlsbad, about 80 miles southeast of the Mescalero reservation. And there has been skepticism about how temporary a Mescalero site would be. Sen. Jeff Bingaman, D-N.M., instrumental in cutting off funding for the federal studies, said there were no assurances such a site might not end up being permanent. Also, it would take up to two years to prepare an application for a federal license for the site and up to four more years to get authorization from the Nuclear Regulatory Commission, Howard said. In addition, Indians on the reservation would get to vote on the proposal. Howard hopes the MRS could be ready to open as early as 2002.

## **RUSSIA-NUCLEAR SAFETY**

APn 3/11/94 4:01 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By DEBORAH SEWARD Associated Press Writer MOSCOW (AP) -- In Russia's frozen far north, workers at the Bilibino nuclear power plant haven't been paid for three months and the reactor's director desperately needs funds for fuel and repairs. Several thousand miles away in densely populated central Russia, the Kursk nuclear power plant has slashed output for lack of fuel and a long-planned reconstruction of an older reactor has been delayed. Across the country, Russia's nuclear power plants face a serious shortfall in revenue. The result, say nuclear regulatory officials and environmentalists, is that safety is in jeopardy, especially at Chernobyl-type reactors. Nuclear power plants account for only 12 percent of Russia's electricity, and generate no hard currency like oil or natural gas. So far far the government hasn't listened to the industry's pleas for extra funds. "The government has forgotten what a nuclear accident is and they really don't understand the impact of a market economy," said Sergei Adamchik, who oversees nuclear power plant safety at the Atomic Industry Inspectorate. Last year the Atomic Industry Inspectorate recorded about 20,000 violations of safety rules and claims many of those incidents are due to the funding crisis that developed when Russia began market reforms in 1992. Under the old Soviet economic system, nuclear power plants, like the electricity system and every other enterprise, were funded by the government. Managers turned to the state if they needed extra money. Everything changed in 1992, when the government freed most prices, began privatizing state property and stopped exercising centralized control over the economy. Management of electricity went from the Ministry of Energy to United Electric Power, the company that buys the electricity from the reactors and distributes it. United Electric Power began charging rates that industry couldn't afford, and the debt spiral in the energy sector began. Russia is short on money for training plant personnel, maintaining safety equipment, conducting repairs, refitting older plants, and purchasing spare parts and better equipment to monitor the reactors. Concerned about the possibility of an accident, the European Union is digging deep into its pockets to help fund extra safety equipment, especially monitoring gear. U.S. officials from the Nuclear Regulatory Commission are also helping the Russian safety inspectors improve their methods for monitoring radiation. According to Rosenergoatom, which runs Russia's civilian nuclear industry, stocks of chemicals needed for safe operation of the plants are running out. "If they can't get enough money for fuel, what can we expect them to do for safety measures?" said Dima Litvinov, head of the Russian branch of the environmental group Greenpeace. "There is no money being put into safety." While the phenomenon Russians call "nyeplatezhi" or non-payment permeates the entire economy, nuclear industry officials argue their branch is special, given the potential for disaster if something goes wrong. "Urgent decisions at the state level are needed," Boris Antonov, vice president of Rosenergoatom, said in late February. Rosenergoatom claims it is not being paid by United Electric Power System, which in turn says it is owed billions of rubles by industry and individual consumers and doesn't have the money to pay for the electricity it buys. "There is an avalanche of debts," said Vladimir Chumachenko, deputy director of commerce at United Electric Power System. It took a hazardous electrical system, trouble with radiation detectors, and the prospect of thousands of people without power in subzero weather before Rosenergoatom coughed up emergency funds for the Bilibino station, located 3,500 miles from Moscow on the Chukotka peninsula. Output recently has been sharply cut at reactors near Kursk, Smolensk and St. Petersburg in European Russia because of fuel shortages, and all three plants have been plagued by repeated safety violations and minor accidents. Earlier this month, authorities shut down one of the four reactors at the Kola nuclear power station in northwestern Russia to fix a leak in the coolant system. No radiation was reported released. Russia's nuclear power plants were owed the equivalent of about \$228 million last year, and industry officials believe the debt crisis will worsen in 1994. In December, the nuclear power plants received 57 percent of the total funds they were owed, a figure that dropped to 25 percent in January and just 14 percent in February. Environmentalists are concerned that when nuclear power plants do get funds they divert the money from safety to operational costs. Plant managers have to juggle funds among salaries, fuel and safety equipment. "Nuclear power plants need fuel and it's expensive. If they can't pay for fuel, they'll have to shut down," said Adamchik. "But if there's only money for fuel and not for safety, then we'll shut them down ourselves." The world's worst nuclear accident occurred at Chernobyl, north of the Ukrainian capital of Kiev, in April 1986, before the breakup of the Soviet Union. An explosion and fire at the power plant's reactor No. 4 sent a cloud of radiation over large parts of northern and eastern Europe. The official death toll was 32, but some scientists believe the actual death toll from cancer and related illnesses could be in the thousands. More than 180,000 people were resettled.

## **US-NUCLEAR**

APn 3/11/94 12:59 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By BARRY SCHWEID AP Diplomatic Writer WASHINGTON (AP) -- A top Pentagon official voiced concern Friday over Russia's ability to safely store thousands of nuclear warheads being dismantled under agreements with the United States. Ashton

Carter, assistant secretary of defense, said the troops who are looking after the warheads are better disciplined than those at other military bases who are walking off their jobs for lack of pay, heat and other amenities. But he said the situation is not as secure as it was in the past, when the former Soviet Union maintained tight control over nuclear weapons. "For 45 years they have never made a mistake," Carter told reporters. "The track record is pretty good. But you've got to remain worried. ... You have to worry about a first time a nuclear power has undergone such political and economic turmoil." After the Soviet Union fell apart in December 1991 the three other republics with nuclear weapons, Ukraine, Kazakhstan and Belarus, accepted the terms of the Strategic Arms Reduction Treaties Washington had negotiated with Moscow and agreed to ship their warheads to Russia. Ukraine, which has already delivered its tactical weapons warheads, only recently began transporting the first of its 1,800 long-range warheads, a development Carter found promising, particularly since the missiles were aimed at the United States. But, he said, "there remains the problem of internal control in Russia," where tactical weapons are spread over hundreds of sites. "Given the political and economic situation, you can never be sure," he said, but he credited Russian defense officials with taking a grave view of the issue. Ukraine announced Friday it was suspending shipment of nuclear warheads to Russia and accused Moscow of jeopardizing the safety of the operation by disclosing secret information about the transfer. Ukraine's Defense Ministry said Russian newspapers had "disclosed strictly confidential data" about the movement of the warheads, and described their destination as "a Defense Ministry facility in the Ural Mountains." "Such activities create a real danger to the transport of the nuclear warheads," the ministry said in a statement. Carter is the senior Pentagon official dealing with nuclear safety and proliferation. He said the issue will be on the agenda of Defense Secretary William Perry on a week-long trip to Russia, Kazakhstan, Ukraine and Belarus that begins next Wednesday. Carter said Perry also would discuss the conversion of military plants to civilian purposes with leaders of the four countries and would announce a doubling of the \$20 million the United States is contributing to such projects. He acknowledged, though, that the idea of converting plants in the United States had been "a bust," saying defense plants have simply shut down instead of converting to production of non-military products. Perry also plans to inspect the base in Pervomaysk in Ukraine where SS-19 missiles are being dismantled and the warheads shipped to Russia.

### **LOAN GUARANTEE GIVEN FOR CZECH NUCLEAR PLANT; ...**

WP 3/10/94 11:00 PM Loan Guarantee Given For Czech Nuclear Plant; Westinghouse to Finish Soviet-Design Reactor By Thomas W. Lippman Washington Post Staff Writer The Export-Import Bank gave final approval yesterday to controversial loan guarantees that will allow Westinghouse Electric Corp. to complete a Soviet-designed nuclear power reactor in the Czech Republic. The Austrian government, several environmental groups and many members of Congress had opposed the deal, arguing that the addition of American equipment to a mostly-complete Soviet-designed plant was potentially unsafe. Opponents also contended that the project is not the most cost-efficient way to reduce the Czech Republic's consumption of polluting soft coal. Austria, still traumatized by the 1986 nuclear disaster at Chernobyl, in Ukraine, sent a special envoy to Washington last month to ask Congress to block the Czech project. The reactors there are of a much safer and more modern design than the one that blew up at Chernobyl, but many Europeans are leery of all Soviet nuclear technology. Among the members of Congress who opposed the project or asked the Ex-Im bank at least to rethink it were the chairmen of the Senate and House banking committees, the chairman of the Senate Foreign Relations Committee, and several chairmen of subcommittees with some influence over Ex-Im Bank activities. But the bank's directors, in announcing the guarantees, noted that "congressional approval was not required." U.S. law requires the bank to give Congress 35 days to review any proposed transaction, but after that period expires the bank is free to act. The bank noted that its mission "is to create and sustain American jobs by financing U.S. exports." Westinghouse and other U.S. firms seeking the Czech job "were competing against West European suppliers offering financing from their own governments' export credit agencies." The White House endorsed the project after several agencies reviewed its safety and environmental impact. For Westinghouse and other U.S. manufacturers of nuclear power equipment, foreign sales have become essential because the domestic market has dried up. No U.S. utility has ordered a nuclear plant since 1978, and the last privately owned plant in the construction pipeline was completed early last year. Westinghouse will supply \$334 million worth of control equipment, instrumentation and nuclear fuel to the two-reactor power station at Temelin, about 40 miles from the Czech-Austrian border. Copyright 1994 The Washington Post

### **JAPAN-FIREBOMBING**

APn 3/10/94 7:27 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By ERIC TALMADGE Associated Press Writer TOKYO (AP) -- It was dark and quiet in Tokyo when the first B-29 bomber appeared in the sky. By the time the 325th began veering away, it was hell -- one-fifth of the city was aflame and at least 120,000 of its people were dead. On Thursday, Peace Day as it is called here, thousands of Tokyo residents paid their



respects to those who died that night 49 years ago in the most devastating firebombing attack of World War II. More than 1,000 survivors of the raid gathered at a Tokyo funeral hall, where Buddhist priests chanted sutras and burned incense sticks to soothe the souls of the dead. "We must pass the memory of this day on to the next generation," Tokyo Governor Shunichi Suzuki told the gathering, which was also attended by the late Emperor Hirohito's grandson, Prince Akishino. Similar gatherings were held elsewhere around the city. The Great Tokyo Firebombing Raid began just before midnight March 9, 1945. When the last of the 325 American B-29s pulled away from its target 2 1/2 hours later, the glow of the flames was visible 150 miles away. Fanned by gusting winds, the fires from the canisters of jellied gasoline and magnesium turned 13 square miles of Tokyo's northeast working-class neighborhoods into an inferno. One million people who survived were left homeless. Japanese estimates of the number who died that night range from 120,000 to 190,000, higher than the death toll of 118,000 on the day of the U.S. atomic bombing of Hiroshima, although tens of thousands died later from the effects of radiation. Some 70,000 died in the atomic bombing of Nagasaki.

## **RADIATION-EXPERIMENTS**

APn 3/13/94 5:03 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. CINCINNATI (AP) -- A researcher's goal for human radiation experiments was to develop a test for measuring radiation injury on the battlefield, The Cincinnati Enquirer reported Sunday. The newspaper examined 14 years' worth of Pentagon documents about experiments that University of Cincinnati radiologist Dr. Eugene Saenger conducted from 1960 to 1971 at what then was General Hospital. In 1958, Saenger proposed a yearlong project that turned into an 11-year, \$651,000 study involving at least 88 cancer patients, the Enquirer said. The documents show Saenger promoted his research not as cancer therapy, but as a way to measure human reactions to radiation. That goal was never accomplished. Patients signed consent forms, but they never mentioned the possibility of death, the newspaper reported. Patients also weren't told that the Defense Department was funding the study. Although some Pentagon reviewers doubted a simple urine test could be developed, they provided the first \$25,000 for the project. "There are so few radiologists in the country willing to do total body radiation ... those that are should be encouraged more," wrote Lt. Col. James Hartgering, director of nuclear medicine and chemistry for the Army. Col. John Isherwood, an Army chief of radiology, wrote that such a study "would be of inestimable value in case of atomic disaster or nuclear warfare." Saenger said in his proposal that he wanted to test whether radiation affected production of an amino acid found in urine. If the amino acid link could be proven, military doctors could create a simple field test to determine how much radiation was absorbed by casualties in a nuclear battle. In 1966, researchers summarized the results from irradiating their first 50 subjects. They decided to give up on the urine test idea because it couldn't distinguish between patients exposed to radiation and others suffering from burns or trauma. Even though the urine test research was dropped, Saenger asked the military in 1969 to continue funding the experiments through 1973. For the first two years of the project, funds came from the Office of the Surgeon General, Department of the Army, the documents show. Later, money came from the Defense Atomic Support Agency, now the Defense Nuclear Agency. In 1970, Col. Edward Huycke at DASA recommended \$80,000 in funding for 1971, up from \$70,000 in 1970. He said the military needed to know the affect of radiation on soldiers. The studies stopped in mid-1971 because university officials refused to continue accepting military funding. Saenger never found another sponsor. Saenger has repeatedly declined to comment on his studies. The university released 5,000 pages of documents, but has refused to comment on their contents.

## **LAX AT THE LAB; THE CULTURE OF COST OVERRUNS AT ...**

WP 3/12/94 11:00 PM Lax at the Lab; The Culture of Cost Overruns at America's Top Research Facilities By Scott S. Greenberger THE SECRET postwar atomic weapons tests and radiation experiments disclosed by the federal government this winter aren't the only skeletons in the Department of Energy's nuclear closet. The same national security prerogatives that shielded the fabled World War II Manhattan Project and early Cold War experiments have allowed the government's national laboratories to operate with minimal oversight for half a century. But in the past five years, dozens of reports by the General Accounting Office and congressional committees have begun uncovering billions of dollars in blunders traceable to DOE's lax supervision of the contractors who manage and operate its labs. It's not a pretty picture: a \$150 billion environmental mess at nuclear weapons production sites, cost overruns that hastened the demise of the Superconducting Supercollider, the loss of 10,000 classified documents (including nuclear weapons design plans) - not to mention numerous instances of stolen government property, misused federal funds and rigged procurements. But GAO reports and rulings aren't binding on the national laboratories - hardly anything is - so it's business as usual at the Lawrence Livermore National Laboratory in California. A year ago, GAO ruled that Livermore improperly favored Sprint in competitive bidding for a \$50 million contract to upgrade ESNET, a nationwide communications network. (According to

one lab employee who declined to be named here, Livermore officials joked that they had "given AT&T the finger.") Livermore and Sprint appealed, but last August GAO upheld its original decision. In December, the Livermore lab informed AT&T and MCI - again - that Sprint has won the ESNET contract. Alarm bells have finally gone off on Capitol Hill. Rep. Mike Synar (D-Okla.), chairman of the subcommittee charged with overseeing DOE, has asked Energy Secretary Hazel O'Leary to immediately suspend the contract pending an investigation. The national laboratories are an extensive, nationwide operation. In fiscal 1992, the labs received more than a quarter of DOE's \$25.6 billion budget, including \$6.8 billion of the \$7.8 billion allocated for research and development. Nearly 70,000 lab employees across the country are engaged in the development of nuclear weapons and alternative energy sources, environmental restoration and waste management. The GAO and experts on Capitol Hill agree that the problems at Livermore and other national labs stem from DOE's contractual approach to running them. DOE hires universities and corporations to operate 26 of the 30 national laboratories, a strategy that derives from the original deal between the Manhattan Engineer District of the War Department and the private researchers and academics who researched, designed and built the first atomic bombs. Government officials believed the mission was of such urgency and risk that typical procurement methods - such as competitive bidding - had to be discarded. They agreed to fully reimburse all contractor costs and completely indemnify contractors against any liability incurred from involvement in the project. After the war, the Atomic Energy Act of 1946 formally authorized the continued use of "management and operating" (M&O) contracts for running the national labs. To attract the private sector, the new Atomic Energy Commission sweetened the original contracts even further, adopting a policy of "least interference." M&O contractors were granted virtual autonomy; after all, they had the technical know-how and the business acumen to do the job right. A half century later, the culture of "least interference" at the national laboratories is stronger than ever. And it has spawned a litany of abuse: At a hearing of the House Committee on Energy and Commerce last year, chairman John Dingell (D-Mich.) concluded that much of the \$16 billion that went to M&O contractors to run the national laboratories and other nuclear weapons facilities had been "squandered through greed, contract mismanagement, inefficiency and perhaps, on occasion, criminal misbehavior." Dingell noted that there were "a number of remarkable examples of contractors taking advantage of the American taxpayer when DOE was comfortably at rest by the switch." One of the priciest examples was the \$11 billion Superconducting Supercollider, killed by Congress last fall after it got fed up with bottomless cost overruns. In April 1992, GAO concluded that "shortcomings in DOE's oversight function, overreliance on contractors and indemnification of most costs," including environmental penalties, contributed to "a wide variety of serious environmental, safety and operational problems" at DOE weapons production facilities. The price of cleaning up the mess is staggering: GAO estimates it to be \$150 to \$200 billion. In July of 1991, GAO criticized the three national laboratories managed and operated by the University of California (Livermore, Los Alamos and Lawrence Berkeley) for inadequate controls over government property and classified documents and for failing to ensure "that subcontractors are not subject to foreign influence that might potentially result in the uncontrolled transfer of nuclear weapons-related technology or material to foreign countries." Livermore could not locate 16 percent of the government property in its custody, and it was missing 10,000 of its 600,000 classified documents, including design plans for nuclear weapons and x-ray lasers and photographs of nuclear tests. A month later, GAO blasted Livermore for leasing 58 vehicles from the University of California at a cost \$590,000 higher than the going rate for the same vehicles at the General Services Administration (GSA). The lab did not obtain the required DOE approval for the leases and was under a DOE directive to reduce its vehicle fleet at the time. In December 1987, a former employee of the Rocky Flats "model shop," a DOE facility charged with designing and constructing nuclear mockups for Livermore and other labs, testified before a House panel that the shop was regularly directed by DOE and Livermore officials to produce items such as grandfather clocks, gold and silver plated jewelry, paperweights, foot massagers, wine presses, commemorative medallions and retirement plaques for personal use. He estimated that the shop spent 30 percent of its time fulfilling these requests. As early as 1949, members of Congress expressed concern about the federal government's policy of reimbursing most contractor costs and its scant oversight of the national laboratories. Calls for reform have echoed periodically on Capitol Hill since then, but scores of GAO reports and billions of wasted dollars later, DOE's policy of "least interference" remains in place. Now the end of the Cold War has forced Congress to take a closer look at the national laboratories, and there is movement to redefine their mission to reflect changing national priorities. Many on the Hill believe that the labs should concentrate on developing technology to stimulate economic growth and on cleaning up the mess at former weapons facilities. The best hope for management reform seems to be a task force established by DOE itself last spring. According to Deputy Secretary of Energy Bill White, who chairs the group, it intends to "radically reform" the M&O contracting system. But White points out that while management questions have dogged the national laboratories, "their technical expertise and their quality of science have never been questioned. Few government agencies have such a good track record results-wise." The private sector's involvement in the national laboratories is crucial and must be encouraged, he believes. Enacting worthwhile reforms won't be easy - deference to the men in the white coats is a time-honored tradition at DOE. James Leighton, who is in charge of the communications procurement for the Livermore lab, believes that there is "no problem at all" with the M&O procurement process. "There is too much micro-managing of the process," he says, "and so much oversight that it's getting extremely difficult to do procurements for the government." John Cavallini, who is DOE's representative in the

ESNET procurement, agrees. He asserts that it is "important to our research and national security mission to do this right," adding that "the GAO reports are a bunch of crap ... . GAO has an agenda to eliminate the M&O system at DOE." No wonder Secretary O'Leary, in a May hearing before Dingell's committee, conceded that reform of DOE's contracting procedures is "not a four-year effort. I am clear that at best this is an eight-year effort, and I hope I will have the opportunity to be on it for eight years." However long the job takes, the nation is clearly no longer willing or able to pour money into expensive science projects without looking at the bill. In the age of the deficit, big science must be cost-effective as well as cutting-edge. Reforming the way that DOE and the national laboratories do business would help to achieve that goal. Scott Greenberger is a Washington writer who has worked on Capitol Hill. Copyright 1994 The Washington Post

## **RADIOACTIVE PLAYTHING**

APn 3/18/94 4:59 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By KATHERINE RIZZO Associated Press Writer WASHINGTON (AP) -- The city of Cleveland began a search Friday for three children who may have been exposed to radioactive material. The Nuclear Regulatory Commission dispatched staff to Cleveland to check the neighborhood where the children were seen playing with a container contaminated with Cesium 137. The search and the NRC surveillance were triggered by the discovery Wednesday of a 200-pound lead-shielded container marked "Caution: Radioactive Material." The Cleveland Fire Department said a passing driver noticed three children, ranging in age from about 8 to 14, playing with the container around 11 a.m. Wednesday. The unidentified man chased the children away, took the container home and called the fire department. The part of the container designed to hold a radioactive material was empty, but Case Western Reserve University confirmed that radioactivity was present. Authorities want to figure out whether the container was empty when the children found it. The fire department notified area schools and solicited the help of the local media to try to identify the youngsters. "We're not quite sure what we have," said NRC spokesman Jan Strasma. "We have no evidence that there was a radiation source inside the shielded container and we don't know of any radiation sources in the Cleveland area that are missing. We're going to do some radiation surveys in the neighborhood just as an added precaution." An NRC notice said the container was marked with a partly obliterated label with the words "Gamma Industries, Baton Rouge, Louisiana." That company is no longer in business, the NRC said. The container was a type used to hold a radioactive material of up to a 1-curie level, the NRC said. Such a material could cause a radiation burn if held close to the body for more than a few minutes.

## **BELARUS LEADER WANTS RETURN TO RUSSIA, SLOW CHANGE**

RTw 3/18/94 1:12 PM By Lida Poletz MINSK, Mar 18 (Reuter) - The new leader of Belarus signalled on Friday a retreat into conservative politics and economics, a closer relationship with Moscow and slow moves towards the market. Mechislaw Grib said in an interview that his attempts to seek consensus with a conservative parliament and government were already bearing more fruit than had the ousted liberal he replaced in January, Stanislav Shushkevich. He also said the former Soviet republic needed more money to cope with the legacy of nuclear weapons and hoped additional funds would be on offer when U.S. Defence Secretary William Perry visited Minsk next week. Grib, chairman of parliament and head of state, said the first priority to overcome a deepening economic crisis was to move ahead with plans to tighten economic ties with Moscow. "We must look for a way out. First on the list is our orientation to the east -- cooperation and an economic union with Russia, not excluding cooperation with North America and Europe," he said. Grib said he was confident a plan to unite the two countries' monetary, fiscal and budgetary policies would be signed as early as the end of the month. He said the scheme was back on track after running into trouble this week when Minsk objected to stiff new conditions applied by Moscow. "There are detractors in Russia who say Russian taxpayers will have to shoulder Belarus and detractors who here say we will lose our sovereignty," he said. "But it is beneficial for both economies because Russia has its own economic interests in Belarus." Belarus, one of the most conservative of the former Soviet republics, has moved more slowly with reforms than either Russia or even Ukraine. Prior to his removal, Shushkevich had championed liberal reforms and an independent foreign policy distinctly separate from Moscow. Grib denied Belarus was moving further away from market reforms and promised change soon. But he said some "extreme" measures had to be taken to curb unemployment and protect consumers from too rapid a transition. "Earlier the parliament avoided facing economic problems and I think that was a mistake," he said. "For regular voters we are one and the same and they want bread and a salary." Grib suggested Shushkevich, praised by U.S. President Bill Clinton during a January visit, had antagonised his opponents. He took credit for passage of a new constitution this week. "You can start fights with the government, but who will this benefit?" he said in an oblique reference to Shushkevich. "I will represent the interests of the majority. I tried to unite everyone and in the end we approved the constitution. This is a very big step." He said he did

not rule out running for the new post of president. Elections are expected in June. On foreign policy, Grib said he saw no reason to oppose Russian proposals to dispatch troops to parts of the former Soviet Union to limit conflict. Belarus, he said, was fulfilling its obligations to remove former Soviet nuclear missiles on its soil. But he complained Ukraine had received far more than the \$100 million Minsk was receiving in U.S. aid. "We are franker and simpler people. We said we didn't want nuclear arms on our territory. We have 2.2 million people who suffered from the Chernobyl accident," he said. "We could have haggled like Ukraine and perhaps got more money. But our conscience is clear." REUTERCOPYRIGHT 1994 Reuters Information Services, Inc. All rights reserved.

## **HK TO EXPAND NUCLEAR ACCIDENT CONTINGENCY PLAN**

RTw 3/18/94 5:15 AM HONG KONG, March 18 (Reuter) - The Hong Kong government is seeking more funds for contingency plans for potential accidents at Daya Bay nuclear power station just across the border in China. The extra funds would mostly be spent on radiation detection and monitoring equipment. There are no plans for mass evacuations. Principal Assistant Secretary for Security, Andrew Kluth, said the government had spent HK\$40 million (US\$5.13 million) on monitoring equipment and approximately HK\$17 million (US\$2.2 million) on staffing in case of any emergency. He said the existing Hong Kong plan was "conservative and cautious" and went beyond internationally recognised standards. "There will be no practical need for anybody beyond the area within 20 km (12 miles) of the nuclear power station to take any immediate action," Kluth said. About one million Hong Kong people live within 33 km (20 miles) of the Daya Bay plant in Guangdong province. The government had also requested extra information from China on its recently announced plans for two more nuclear plants in its southern province of Guangdong, and was waiting for a reply, Woodhouse said. Frequent industrial disasters, notably in mining, aviation and manufacturing, have done little to shore up local confidence in mainland safety standards. REUTERCOPYRIGHT 1994 Reuters Information Services, Inc. All rights reserved.

## **RADIATION EXPOSURE**

APn 3/18/94 12:12 AM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By KATHERINE RIZZO Associated Press Writer WASHINGTON (AP) -- The government does not know how much radiation exposure most weapons plant workers got on the job or how much of its own data is trustworthy, a top safety official says. "Not all workers were monitored, and there are concerns about the accuracy of some data," Dr. Tara O'Toole, the Energy Department's assistant secretary for environment, safety and health, told a House subcommittee Thursday. "The quality of the data as well as the limitations of the science were such that it would be very difficult to come to conclusions regarding individuals," O'Toole said. "At some plants, incorrect instruments were used to measure radiation doses," she said. Other plants sometimes used the right instruments the wrong way, or exposure readings weren't logged correctly. Congressional investigators said they found the Energy Department kept track of on-the-job illnesses, but only if the sick people returned to work. If they failed to return from six leave, "there was no mechanism for DOE to record that information," said Jim Wells of the General Accounting Office, the investigative arm of Congress. "DOE's data are suspect," Wells said. At the Rocky Flats plant in Colorado, workers who had no radiation exposure got a zero on exposure report cards, and workers who failed to turn in their dosimeter badges also were given a zero. There's no way to tell which zeros indicate no contamination and which ones indicate missing information, he said. At the Fernald uranium processing plant in Ohio, the contractor applied a correction formula to the readings from dosimeter badges between 1983 and 1985. The correction formula was so large that some of the radiation readings ended up in negative numbers, said Rep. John Dingell, D-Mich. Dingell, chairman of the Energy and Commerce Committee's subcommittee on oversight and investigations, released a 1985 document in which one of Fernald's consultants urged the company to cancel a proposed company picnic because even the "clean zone" was contaminated. If the company took precautions to protect picnic visitors, "workers are very likely to learn that they have frequently been leaving the plant contaminated," said the letter from Battelle Pacific Northwest Laboratories to NLO Inc., which ran the plant. The letter was written two months after NLO assured Sen. John Glenn, D-Ohio, in writing, that "there is nothing that substantiates this operation being a threat to the health and safety of our workers or our neighbors." Glenn said he wanted to examine those documents more fully. "Just on the surface it would appear that I was grossly misled," he said. Worker exposure to radiation at Fernald is the subject of a class action suit scheduled to come up for trial this summer in U.S. District Court in Cincinnati.

## **BRF--UKRAINE-NUCLEAR**

APn 3/17/94 8:13 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. KIEV, Ukraine (AP) -- Fire broke out in a power plant in central Ukraine, shutting down a nuclear reactor, an official said on Thursday. No radiation was released as a result of the incident, which was rated 1, the lowest level of the International Nuclear Events Scale, Kurilchik said. An electric cable caught fire in the turbine room of the Khmelnytsky nuclear power plant, 156 miles west of Kiev, Nuclear Safety Committee spokesman Nikolai Kurilchik said. The duty operator immediately spotted the fire, which began late Wednesday night, and quickly shut down the plant's single water pressurized reactor.

## **COMMISSION ANNOUNCES MOSCOW SCIENCE CENTRE START-UP**

RTec 3/17/94 1:27 PM EUROPEAN COMMISSION PRESS RELEASE: IP/94/227 DOCUMENT DATE: MARCH 17, 1994 + MOSCOW SCIENCE AND TECHNOLOGY CENTRE GOES INTO OPERATION + An international centre aiming to help Russian military experts channel their talents towards peaceful scientific and industrial activities goes into operation today. The International Science and Technology Centre (ISTC) in Moscow will hold the first meeting of its Governing Board today and tomorrow. At this meeting, the representatives of the ISTC's four parties - the Russian Federation, the United States, Japan, and the European Union - will adopt various documents on the administration and financing of the Centre and its activities. They will also review a number of project proposals received from various Russian institutions with a view to their possible financing through the Centre. Background The process of disarmament, the dissolution of the Soviet Union and the critical economic situation in Russia and the other republics has put weapons scientists and engineers in these countries in a very volatile position. This has significantly increased the risk of proliferation of highly sensitive weapons technologies and expertise. In order to counter these proliferation risks, the United States of America, Japan, Russia and the European Union took the initiative to create an International Science and Technology Centre in Moscow (ISTC). Their objective is to give Russian and other CIS weapon scientists and engineers opportunities to redirect their talents to peaceful activities, responsive to civil needs, and to promote their integration into the international scientific and industrial communities. The Centre is to achieve this by enabling these scientists to engage in basic and applied research and technology development in fields such as environmental protection, energy production and nuclear safety. The Agreement establishing the ISTC was signed by the four parties on 27 November 1992 in Moscow and subsequently ratified by the United States, Japan and the European Union. Because of the election of the new Russian parliament, the Russian Federation has not yet completed its ratification procedure. The Agreement has therefore not yet formally entered into force. The Parties therefore signed, on 27 December 1993, a protocol providing for the provisional application of the Agreement. This protocol entered into force on 3 March 1994. Activities of the Centre To promote the objectives of the ISTC, the signatory Parties will finance, through the Centre, research and development projects by Russian scientists and institutions formerly engaged in military activities. A majority of the funds in question will be used to pay the salaries of these scientists, in order to allow them to continue scientific work in Russia, while converting themselves to the civilian sector and contributing to the process of economic reform. Although the participation of western, in particular European, economic operators in ISTC projects is welcome, western firms will not be entitled to receive funds out of the budget allocated to the ISTC. Western participants may nonetheless benefit considerably in other ways from cooperation with Russian partners through the ISTC, as this will put them in contact with the elite of the Russian scientific community and allow them to import equipment into Russia free of custom duties and taxes. Moreover, western partners may share valuable intellectual property rights resulting from ISTC-sponsored projects. All signatory parties will bear equal shares of the administrative costs of the Centre. The cumulated contributions of the parties will amount to approximately 65 million \$ for an initial period of two years, the EU contributing 20 MECU from the TACIS programme, the USA 25M\$ and Japan 17M\$. The Russian Federation will provide additional staff and logistical support. The ISTC has registered over 180 project proposals from various Russian institutions and a few from bodies from other CIS states. So far, 75 of these proposals have been screened by the Centre and forwarded to the parties. The proposed projects cover a multitude of fields, such as nuclear safety, environmental protection, pharmaceuticals, chemistry and laser technology. The parties have already submitted a large number of proposals for scientific and economic review. In the case of the European Union, there have been contributions both from the Member States and from the Commission. Furthermore, the future EU members of the Centre's Scientific Advisory Committee, two eminent European scientists have given their opinion on the project proposals. During the upcoming Governing Board meeting, the Parties will decide which projects will be funded through the Centre initially. Organisational structure of the Centre All important decisions concerning the Centre and its activities will be made by the Governing Board, which is composed of representatives of the signatory parties. In particular, the Board will determine the Centre's policies and approve projects proposed to the Centre, for the purpose of their subsequent funding by the parties. The daily administration of the Centre and the implementation of the policies and decisions of the Board will be done by its secretariat, which is headed by

a executive director and three deputy executive directors. Each party has appointed one of these executive staff members. All parties will second staff to the Centre's secretariat. Apart from a deputy executive director, the European Union has already appointed one other staff member, and will nominate at least two more. Furthermore, the Governing Board will be assisted by a Scientific Advisory Committee, to which the Union has appointed two eminent European scientists. The SAC which will hold its initial meeting in parallel with that of the Governing Board on 17/18 March, will provide the Board with expert scientific advice on project proposals and on the fields of research to be encouraged. END OF DOCUMENT Copyright 1994 Reuters Information Services, Inc. All rights reserved.

### **LITHUANIA-NUKE-ASTROLOGER**

APn 3/17/94 12:27 AM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By MICHAEL TARM Associated Press Writer TALLINN, Estonia (AP) -- Officials at Lithuania's Chernobyl-type nuclear plant say they're just playing it safe by inviting an astrologer to advise them on potential dangers. Russian astrologer Pavel Globa is scheduled to visit the Ignalina Nuclear Power Station this weekend, said plant director Viktor Shevaldin on Wednesday. During a visit to Lithuania last month, Globa predicted a major accident at Ignalina for March 8, 1997. The nuclear plant is 40 miles from Vilnius, the capital. He claims to have accurately prophesied the world's worst nuclear disaster, the explosion at Ukraine's Chernobyl nuclear power plant in April 1986. "You can't afford to overlook this prediction," Shevaldin said in a telephone interview. "When it comes to a possible threat, we won't discard any potentially helpful information." The reactors at Ignalina have been shut down at least five times in as many years as a precaution. They were most recently closed in February, when small amounts of radioactive water leaked from a cooling system. None of the accidents at the 10-year-old plant has been serious, but Western scientists say safety standards fall short. Ignalina's two 1,500-megawatt reactors are larger than those at Chernobyl, and neighboring countries fear the Soviet-built plant poses a serious danger.

### **RUSSIA-BIRTH WOES**

APn 3/16/94 11:20 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By JULIA RUBIN Associated Press Writer MOSCOW (AP) -- Galina Monasheva has brought thousands of babies into the world in her 20 years at Birth House No. 32, in one of Moscow's oldest neighborhoods. But the newborns she's delivering these days are the weakest and sickest ever. So are their mothers. "The level of general health is noticeably worse," says Monasheva, who patrols the chilly ward in a white coat and cap. Bored young women in bathrobes lean against the walls, waiting. Cats wander the hallways in search of mice. "The women come in with various diseases and with bad diets," says Monasheva. "We have more babies born anemic and underweight, and more birth defects." Statistics nationwide back her up, showing a rising number of infant illnesses and birth defects, such as cleft palates and cerebral palsy. Infant mortality rose 10 percent in the first two-thirds of 1993 compared to all of 1992. The birth rate fell 14 percent for the year. "Russia stands on the edge of an abyss," Deputy Minister of Public Health Nikolai Vaganov said recently. "For the first time in its centuries-old history, there is a danger of the nation's physical degeneration, of irreparable damage to its genetic fund." Health officials blame inadequate health care, widespread environmental contamination, rising alcoholism among women and the poor diets and general stress that accompany declining living standards. "If it goes on like this, we'll lose our children," said Yevgeny Lilyin, a geneticist who heads Russia's Center for Rehabilitation of Congenital Pathology. Other health indicators reinforce the grim picture. Life expectancy for Russian men plummeted last year from 62 to 59 years, 13 years less than for American men. Russian women's life expectancy also fell, from 73.8 years to 73.2. The perception that Russia is being physically weakened and depopulated has been seized on by nationalists, who blame an onslaught of Western decadence, defined as anything from stock markets to rock music. Lawmaker Yuri Vlasov, for instance, recently argued that individualism, which he equated with greed and selfishness, was an American import "organically alien to Russia" and destroying Russia's spiritual health. Many of the health problems are legacies of the Soviet regime. But the economic turmoil and social stress brought on by the collapse of Communism have only aggravated the health woes. At her Birth House, Monasheva will not give figures for birth defects except to say there are now "several dozen" a year at birth. With 1,350 babies born there last year, that implies an extremely high rate. Government figures show the number of babies with obvious deformities rose 6 percent nationwide in the first eight months of 1993 compared with all of 1992. The picture is particularly grim in the former Soviet republics. In Ukraine, doctors report an epidemic of child cancers, deformities and underweight births eight years after the Chernobyl nuclear accident. Experts say it is hard to know how much to blame on Chernobyl and how much on other ecological contamination and on Ukraine's sharply worsened living standards. Murray Feshbach, a Georgetown University demographer, believes Russians' health has been so severely

undermined that the gene pool is being damaged, leading to more deformities and inherited diseases. "The problem appears to be beyond environmental ... I think it's genetic," Feshbach said. Many geneticists are skeptical, saying it would take generations to change a nation's genes, and even then it would be difficult to pinpoint what caused it. "I don't think you could ever prove a connection between environmental causes and genetic changes in a population as large and varied as Russia's," said Yevgeny Ginter of Russia's Institute on Human Genetics, who is researching the effects of the Chernobyl disaster. Irina Manuilova, who heads a Moscow family planning clinic, said the biggest threats to women's health continue to be poor diet, stress and a reliance on abortion for birth control. At the same time that more babies are dying, fewer are being born. "We've lost our confidence. We don't know what anything will be like tomorrow, and people don't want children when they're under that kind of stress," said Manuilova.

## **EP COMMITTEE DEBATES RADIATION, CONSUMERS, ...**

RTec 3/16/94 6:33 AM EP COMMITTEE DEBATES RADIATION, CONSUMERS, PACKAGING, FOOD EUROPEAN PARLIAMENT INFO MEMO PRESS RELEASE DOCUMENT DATE: MARCH 15, 1994 + COMMITTEE ON THE ENVIRONMENT, PUBLIC HEALTH AND CONSUMER PROTECTION Chairman : Mr. Ken COLLINS (UK, PES) Meeting of 14 and 15 March 1994 (first part) + HEALTH PROTECTION AGAINST RADIATION: THE LANNOYE REPORT ADOPTED This morning, the Committee on the Environment, Public Health and Consumer Protection adopted the report of Mr. Paul LANNOYE (B, Green) on health protection against radiation (T02924 - CSA2653). The rapporteur had drafted 32 amendments which intend to strengthen the norms applying to radiation. In his explanatory statement, Mr. LANNOYE points out that since the adoption of the two directives 80/836 and 84/8467 Euratom, the development of scientific knowledge and the views of official experts concerning the hazards of ionizing radiation have provided ample justification for revising the basic standards. "After Chernobyl, things have completely changed," Mr LANNOYE stressed. Moreover, the abolition of the Community's internal borders on 1 January 1993 has profoundly altered the context in which the European nuclear industry must operate. The free movement of radioactive substances and nuclear technologies and the introduction of direct competition between the production sectors (in particular electricity) of the various Member States mean that greater harmonization of national laws is needed to ensure compliance with Article 2b of the Treaty which require uniform safety standards on EU territory. In an open market, nuclear safety must be guaranteed. Mr. LANNOYE said this morning that devolving responsibility on the Member States will make it impossible to achieve uniform safety within the Community. The abolition of internal borders allows free movements of goods and de facto abolishes border controls. Priority must therefore be attached to achieving greater harmonization of environmental protection and working conditions. Maintaining the status quo as regards the drawing up and application of basic standards by the Member States is not adequate to deal with this situation. Some examples: Article 4 gives member States the right to grant an exemption from the requirement of prior authorization in respect of "the disposal of radioactive substances" which, indirectly, allows Article 3 on exemption from reporting to be interpreted very freely. Practices which are exempt from reporting in certain Member States could therefore lead to contaminated material or general low-level radioactive waste held to be inert being transferred to other Member States whose more restrictive legislation would thereby be infringed. Harmonization is therefore taking place at the lowest level. And Article 17 leaves the choice of the methods of estimating effective dose for internal exposure to the Member States, which may lead to substantial differences in the definition of dose limits. Article 47 gives Member States a free hand deciding on cases in which the authorization procedure for practices involving a radiation hazard should apply and be implemented. This allows for considerable leeway and non-compliance with the very objectives of the Euratom treaty. Lastly, Article 5 leaves it up to the Member States to decide on intervention levels in the event of accidents. It is easy to imagine the confusion that may be engendered by substantial differences in the decisions taken by Member States, particularly in the event of accidents occurring in nuclear power stations in border regions. (Cattenom, for instance) Therefore, Mr. LANNOYE believes that high-level harmonization is crucial. Said the rapporteur: "Certain margins of manoeuvre left to the Member States which jeopardize the proper application of the directive should be restricted or even abolished and the imprecisions littering the text should be clarified." The most important amendments carried: - am. 8/9, (Title III, Reporting and authorization) limiting severely the practices for which an authorization is not required; - am. 10: no cosmetology for revising the practices; - am. 13: forbidden transfers by plane and boats and exportation of radioactive substances and technologies; - am. 17: prevention measures for pregnant women; - am. 31/32: strongly modifying the annexes. The report will be in plenary in April.

2. IMPORTANCE OF COMMUNITY POLICIES FOR CONSUMERS Also adopted this morning was the draft report of Mrs. Pauline GREEN (UK, PES) (CT 02411) on the future for European consumer and food policy. In the report, the Commission is called on to revise the Three Year Action Programme on behalf of consumers (1993-1995) to fully reflect the new competence on consumer policy detailed in Article 129a of the Maastricht Treaty by: - bringing forward for adoption the Directive on the liability of suppliers of services; - setting out a timetable for action on the two Green papers

on 'Access to justice' and 'Guarantees and After Sales Services'; - drafting legislative safeguards for consumers in the field of financial services, covering payment systems and in particular setting out clearly the relationship between card issuers and card holders; - abandoning plans for a wider 'Consumer Forum' which is tantamount to diluting consumer representation by introducing representatives from producers and distributors who are already well represented in other consulting bodies; - upgrading the Commission's Consumer Policy Service into a full Directorate -General with associated resources; - creating a Consumer's Consultative Council with an own secretariat. As to Food Policy, the Commission is called on to establish a Food unit as a first step towards an independent European Food Agency. This Food unit should become a separate entity under the auspices of the Commissioner responsible for the Single Market bringing together those responsible in DG VI, DG III and the CPS for the drawing up of European Food Policy, the operation of the Rapid Alert System, the transposition and implementation of European food law into the national laws of the Member States, the operation of the food inspectorate and the appointment, servicing and operation of the Scientific Committee for Food. The Commission must produce, by the end of 1995, a full report outlining and analysing the instances of the use of the delegated powers by the Commission and the Council in the area of food policy and must also draw up a report, submitted to EP by December 1994, on progress made on the above. The rapporteur fears that in both consumer and food policy, the influence of the EP is being diminished by the ability of the Council to change the content of proposed legislation after examination by the EP and by the powers delegated to the Commission to amend legislation. Said Mrs. GREEN: "Parliament must be vigilant to these practices and demand the right to re-examine proposals which have been substantially redrawn by the Council or Commission. This is a clear demonstration of the on-going democratic deficit within the EU Institutions - one that only our Parliament seems intent on genuinely tackling."

3. PACKAGING The Committee decided to vote the report of Mr. Luigi VERTEMATI (PES, I)(TO1051) on packaging on 7 April 1994, after that the Council adopted a common position on 4 March 1994. As to this common position, the Council endeavoured to strike the best possible balance between the two aims of the proposal and to reconcile the available possibilities for members starting to create packaging waste management infrastructure with the more sophisticated infrastructures in some Member States, which can achieve more ambitious objectives.

4. CONFERENCE ON THE FOOD CHAIN BEYOND THE YEAR 2000 The Committee will held a conference on the Food Chain beyond the year 2000 on Tuesday 22 March 1994 at 9 a.m. in Room 01 A 02, Espace Leopold, Brussels. Items to be discussed are the land use, the environment and food production, the food industry and consumers, nutritional aspects of the food chain, the budgetary aspects of food policy, the external aspects of EC food production and, finally, the institutional aspects of food policy decisions. There will be introductions from Mr. Francois ROELANTS DU VIVIER, director of GLOBE EU, Mr. Tom RAFTERY, professor of Food Law, University of Cork, Dr. Jean-Michel LERCERF, Institut pasteur de Lille, Mrs. Carla BARBARELLA, Budgetary Expert, Dr. Aart DE ZEEUW, for chairman, Agricultural Working Party to the GATT and Mr. Brian GARDNER, journalist Arga Europe. And a wide range of institutions in the field of food policy will be present at this conference. For more information : Ton HUIJSSOON, tel 284 24 08.

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## **CLOSER SECURITY RELATIONSHIP WITH RUSSIA VITAL - PERRY**

RTw 3/15/94 12:35 PM By Christopher Wilson CAMBRIDGE, Mass, March 15 (Reuter) - Defence Secretary William Perry said on the eve of a visit to Russia that forging a new, warmer post-Cold War security relationship with Moscow is vital to U.S. security and global stability. Perry said Tuesday that continuing financial aid, military cooperation with Moscow, joint ventures to encourage former Soviet states to dismantle weapons of mass destruction and a concerted effort to establish a guarantee of nuclear safety were the central planks of current U.S. policy. "We are forging a new security relationship with Russia that moves beyond the old containment policy of the Cold War to a constructive engagement of Russia," Perry told a group of Russian and American scientists at the Draper defence technology laboratories in Cambridge, Massachusetts. He said the policy was crucial to America's own security as well as global stability. "It is specifically to advance these national security interests that I will be making my visit to Russia," said Perry, who will arrive in Moscow Thursday for week-long visit that will include trips to Kazakhstan, Ukraine and Belarus. He will co-chair a meeting of the joint U.S.-Russian commission on defence conversion and discuss bilateral military cooperation as well as nuclear disarmament. The United States will also work closely with Russia and other former Soviet republics on nuclear non-proliferation, Perry said, adding he hoped other former Warsaw Pact countries would participate in the effort to ensure global stability. "The purpose is to prevent dangerous technology from getting into the hands of rogue nations," he said. Perry told the scientists he hoped to see "first hand" the dismantling of nuclear arms in the former Soviet states and to make progress in facilitating joint Russian-U.S. programmes between private-sector companies to convert Russian defence technology for commercial use. "We're looking for programmes that not only benefit Russia, but benefit the U.S. as well," said Perry, describing such programmes as important building blocks in establishing a stable relationship with "a superpower undergoing revolutionary change." Despite the hopes of a warm



relationship with Moscow, the outcome of the wrenching changes in Russia are unpredictable and Perry said Washington has "a hedge strategy in case there is a negative outcome," possibly in the form of a Russian government hostile to the United States. "These hedge strategies are built into U.S. defence capabilities," Perry said, adding that despite deep cuts in the defence budget, the United States would maintain a sizeable military industrial base in case of any need to protect itself against a resurgent Russia. "The Russians have dismantled the controls of the old system. But they have not yet succeeded in establishing the controls of the new system," Perry said. But he noted it was inevitable that U.S. and Russian interests would at times diverge. "It is a false dichotomy to say that Russia is a partner or a rival. Our relationship has and will continue to have elements of both," he said. "We cannot expect Russia or any other great power to take actions that are against its own national interests. But we do expect Russia to act as a responsible member of the world community." REUTERCopyright 1994 Reuters Information Services, Inc. All rights reserved.

## **NUCLEAR WORKER SETTLES CASE AGAINST POWER PLANT**

RTw 3/14/94 7:19 PM By Leonard Novarro SAN DIEGO, March 14 (Reuter) - A Nuclear Regulatory Commission worker, who says radiation exposure gave her a rare form of cancer, settled her case Monday against the owners of the power plant where she worked. The worker, Rung Tang, 44, agreed to drop her claims against Southern California Edison and San Diego Gas & Electric Co in return for an undisclosed amount of money. Part of the agreement reached before a U.S. magistrate in San Diego was that the sum be kept confidential. A mistrial in the case was declared last month after a jury deadlocked 7-2 over a verdict. A retrial was to have started Tuesday. In a case watched closely by the U.S. nuclear power industry, Tang had sued the owners of the San Onofre Nuclear Generating Station, south of San Clemente, California, claiming practices there exposed her to unsafe radiation levels. As a result, she said, she developed a form of cancer known as myelogeneous leukaemia and was given a 50-50 chance of surviving beyond five years. Her attorneys had asked for between \$16 million and \$25 million in compensatory damages and for a decision making the owners of the plant liable for millions more in punitive damages. Tang could not be reached for comment Monday, but one of her attorneys, Suzelle Smith, said Tang was "delighted with the outcome." She said Tang was still recovering from a bone marrow transplant and a second trial would have been too taxing for her. "She's trying to focus on the medical issue and happy not to be fighting on two fronts," added her other attorney, Don Howarth. "We are very gratified that both sides were able to resolve their differences," said Smith. Edison Vice President Richard Rosenblum said that while the settlement was "in the best interest of both parties," the company was not conceding responsibility for Tang's illness. "The specific circumstances involved in the retrial of this case, combined with the unpredictability of the jury outcome, and the legal costs already incurred on both sides, made settlement the best option for both sides," he said. Tang was employed at San Onofre from June 1985 to December 1986 and was diagnosed with cancer in 1992. REUTERCopyright 1994 Reuters Information Services, Inc. All rights reserved.

## **UKRAINE -- FARMING GIANT WITH A SOVIET LEGACY**

RTw 3/27/94 10:45 AM KIEV, March 27 (Reuter) - Ukraine, a huge farming and industrial nation which became independent in 1991, voted on Sunday in its first post-Soviet parliamentary election. Following are key facts about the republic: POPULATION: 52 million. Seventy per cent are Ukrainians and 20 per cent ethnic Russians. The rest are mainly Jews, Belarussians, Poles and Romanians. AREA: 603,700 square km (233,100 square miles), bounded by Russia and Belarus to the north, Poland and Slovakia to the west and by Hungary, Romania, Moldova and the Black Sea to the south. CAPITAL: Kiev (population in 1989 census -- 2.6 million) LANGUAGE: The official state language is Ukrainian, a Slavonic language closely related to Russian, Belarussian, Polish and others. It replaced Russian as the official language in 1990, but many ethnic Russians in eastern and southern Ukraine have pressed for Russian as a second state language. RELIGION: The Russian Orthodox church and a recent Ukrainian Orthodox offshoot dominate in central and eastern Ukraine. Western Ukraine has an estimated five million members of the Ukrainian Catholic (Uniate) Church. Tensions remain between Catholics and Orthodox believers who oppose attempts to "reclaim" Orthodox churches. ECONOMY: Ukraine's conservative leadership has taken only small steps to switch to a market economy from a centralised Soviet-style system. In Soviet times, Ukraine accounted for about a fifth of the Soviet Union's agricultural and industrial output, but high inflation and plunging production have pushed the majority of Ukrainians into poverty. Economic decline has fanned movements in the Russian-speaking east and Crimean peninsula to demand closer ties with relatively prosperous Russia. Ukraine has yet to introduce a full-fledged currency, the hryvna, but swapped Soviet roubles for a coupon currency, the karbovanets, in 1992. Major industries include iron and steel, mining, machine engineering, construction, manufacture of precision instruments, aircraft engineering and cars. HISTORY: The Ukraine's history has been closely intertwined with Russia's for more than 1,000 years. Kiev was the capital of the first Slav state, Kievan-Rus, which converted to Byzantine Christianity in 988 and flourished until the invasion of the Tatar hordes in the

13th century. Ukrainian national consciousness was gradually forged through opposition to the Tatars, Poles, Lithuanians and Ottoman Turks who all occupied the country at different times. The Cossacks played an important role in the liberation struggle that finally drove the Polish feudal forces from Ukraine. After a controversial decision of a national congress, Cossack leader Bohdan Khmelnytsky led Ukraine's incorporation into the Russian empire in 1654. Parts of western Ukraine were annexed by the Austrian Empire and all Ukrainian lands were only united into a single territory after World War Two. Ukrainian nationalism, suppressed throughout the 19th century, revived in 1918 with the proclamation of a Ukrainian people's republic. But independence was short-lived and Bolshevik forces swept through Ukraine to incorporate it into the Soviet Union in the early 1920s. Predominantly rural, Ukraine suffered terribly in the 1930s under Stalin's policies of breakneck industrialisation and the forced collectivisation of agriculture. After the turmoil of German occupation in World War Two Ukraine fell into an ideological slumber from which it only began to stir in the 1980s. Soviet secrecy was brushed aside in April, 1986, when a reactor at the Chernobyl nuclear power plant exploded. Parliament voted in October 1991 to close Chernobyl down within two years, but this decision was reversed before it went into effect because of severe energy shortages. Hardline party chief Vladimir Shcherbitsky, who held Ukraine with an iron grip for 17 years, was forced from office in September 1989. An ally of the late, discredited Soviet leader Leonid Brezhnev, Shcherbitsky is remembered for his unremitting suppression of dissidents. Elections in March 1990 gave parliamentary representation for the first time to the then-umbrella nationalist organisation, Rukh. On July 16 that year, Communist deputies joined nationalists and radicals to issue a declaration of sovereignty giving Ukrainian law precedence over Soviet law. Ukraine declared independence from the Soviet Union immediately after a failed hardline coup in Moscow in August 1991. During a national referendum and presidential elections that December, Ukrainians approved independence by 90 percent and elected their first president, Leonid Kravchuk. Ukraine was one of the founding states of the Commonwealth of Independent States, a loose confederation of 12 of the 15 former Soviet republics. But it has refused to sign the CIS charter as a full-fledged member, as well as economic union and cooperative security agreements. Parliament this year approved the START-1 arms reduction treaty to remove 1,600 nuclear warheads from its territory, left over from the former Soviet nuclear arsenal. But it has yet to join the 1968 Nuclear Non-Proliferation Treaty. Conflicts with Russia over nuclear weapons, the Black Sea fleet and economic matters have developed into Ukraine's chief foreign policy issue. REUTERCOPYRIGHT 1994 Reuters Information Services, Inc. All rights reserved.

### **15 YEARS LATER, THREE MILE ISLAND LEGACY REMAINS**

UPn 3/27/94 12:17 AM By GARY MILLER HARRISBURG, March 27 (UPI) -- The cooling towers of Three Mile Island's Unit Two reactor still stand like eerie sentinels over the horizon of a quiet central Pennsylvania community, 15 years after the country's worst commercial nuclear accident. Long since idled, the twin towers now serve as monuments to that early spring morning that terrified a nation and changed the face of the nuclear power industry. Middletown resident Joyce Corradi remembers well the morning of March 28, 1979, when a radio bulletin announced there had been an "incident" at the nearby Three Mile Island plant. "I told my husband, 'we have to get the kids out of here'," she said. The couple packed their four children into the car and drove 30 miles to the home of relatives. "We watched the news on television that night and I wondered if I would ever go home again," Corradi said. The drama began to unfold at 4 a.m., when Unit Two's water cooling system malfunctioned and operator inattention allowed it to get out of hand. Over the next 10 days, it was revealed that the reactor had been heavily damaged, radioactive contamination had spread to large areas of the plant's interior, and radioactive gases were released into the air. Several residents have since sued the plant and its owners, claiming the accident created an increased cancer risk. But TMI officials say numerous studies have found no significant correlation between radiation releases from the plant and cancer in the area. The accident attracted an army of reporters to the community of about 10,000 people. Local, state and federal officials scrambled to sort fact from rumor as an atmosphere of tension grew into near panic. "The media took a lot of dramatic license with the story," according to John Comey, a spokesman for the Pennsylvania Emergency Management Agency in Harrisburg, the state capital just a few miles up the Susquehanna River from the reactor. "Harrisburg was never a ghost town," Comey says, suggesting that some of the reporters who made that claim never bothered to check their facts. "Many called (the accident) the end of the nuclear power industry," says Mary Wells, a TMI spokeswoman. "But it wasn't the end, it was a rebirth." "The nuclear industry became more reliable, better and safer because of what was learned at TMI," Wells adds, "We only wish those lessons could have been learned some other way." The accident prompted the Nuclear Regulatory Commission to "completely change its approach to emergency preparedness," said NRC regional spokesman Karl Abraham. Emergency hotlines now connect each nuclear plant's control room with NRC headquarters in Rockville, Md., and resident inspectors are stationed at every operating nuclear plant. Abraham said the accident also led to improved operator training and clearer instrumentation in plant control rooms. At TMI, an \$18 million training simulator is an exact replica of the plant's Unit One reactor control room. That reactor was not affected by the accident and remains in operation. The Nuclear Energy Institute, an industry trade group, says there are 74 training simulators in use nationwide, compared to only 12 in 1979.

The damaged Unit Two reactor will never operate again. TMI's owner, General Public Utilities, has put the facility into what is termed "monitored storage." Unit Two will be decommissioned with the Unit One reactor, which is licensed to operate until 2014. The 15th anniversary of the TMI accident will not pass without protest from nuclear industry opponents. A local group, TMI Alert, plans to hold a vigil and demonstration at the gates of the power plant early Monday morning. There are those in Middletown who would like to forget the TMI accident, but Mayor Robert Reid says many residents will never put it behind them. Reid says municipal switchboards light up every time an emergency siren is sounded as part of a test or drill. Reid, who will retire from the office April 1, feels people should remember what happened in his town: "It's a part of our history. There's no way it should be forgotten." Joyce Corradi can't forget. "I'm still concerned, still cautious," she says, "but where am I going to move to?" Copyright 1994 The United Press International

### **ATOMIC ENCOUNTERS-CONTACTS**

APn 3/26/94 11:00 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By The Associated Press Some contacts for veterans concerned about radiation exposure during their time in the service: -- Veterans Affairs Radiation Help Line, 1-800-827-0365. Information from the federal government about radiation issues and benefits. Line is heavily used, and messages may not be returned for two or three working days. --National Association of Atomic Veterans, 1-800-955-1186. A private organization of concerned veterans who provide guidance to, and lobby for, veterans who believe they were harmed by radiation while on duty. End Adv for Sunday, March 27

### **FULL NUCLEAR TRIALS START AT SECOND CHINESE REACTOR**

RTna 3/25/94 9:36 PM BEIJING (Reuter) - Full-power trial operations have begun in the second reactor at China's Daya Bay nuclear power station near Hong Kong, Xinhua news agency said. The successful test Friday coincided with the opening of a major nuclear power exhibition in Beijing featuring nuclear technologies from 80 Chinese and foreign vendors. Within the decade, China plans to become a leading exporter of civilian nuclear technology and a major producer of nuclear power, which will help sate energy demand as domestic economic growth sizzles in the double digits. "The exhibition aims to promote foreign exchanges and cooperation in this industry and to promote peaceful use of nuclear technology," an exhibition spokesman said. Daya Bay's second reactor was pushed to 100 percent power -- about 900 megawatts -- late Friday, capping a series of tests begun in February at progressively higher output levels, said Xinhua, China's official news agency. "The trial operation, conducted under the supervision of the state Nuclear Safety Bureau, has been a success, meeting all technical and safety norms in all stages," it said. No schedule was disclosed for putting Daya Bay's second unit into commercial operation. The French-designed and Hong Kong-financed station's first unit began commercial production on February 1. China has said completion of Daya Bay will enable it to triple the country's nuclear power generation this year. Output in 1994 will be between 8 billion and 10 billion kilowatts, up from 2.49 billion last year when nuclear power accounted for a scant 0.3 percent of total electricity output. China has only one other nuclear-fired generating plant, a Chinese-designed and built station at Qinshan in east-coastal Zhejiang province. China plans to start construction this year of a third station not far from Daya Bay at Ling'ao, also in Guangdong province. Like Daya Bay, Ling'ao will have twin 900 megawatt reactors and is due for completion in 2002. REUTERCOPYRIGHT 1994 Reuters Information Services, Inc. All rights reserved.

### **RADIATION LEAK INVESTIGATED AT BRITISH NUCLEAR PLANT**

RTw 3/25/94 8:16 AM LONDON, March 25 (Reuter) - Britain's ministry of defence on Friday launched an inquiry into how two workers at an atomic weapons plant in southern England were contaminated by a radiation leak. A defence spokesman said the radiation dose involved was very small but was still above strictly applied safety levels. The leak happened on Thursday during routine work in a laboratory at the plant at Aldermaston, west of London. "A quantity of radioactive material was disturbed when a piece of equipment was being monitored," the spokesman said. "As a precautionary measure all the workers within the laboratory were evacuated and monitored, and a small amount of contamination was found on the overshoes of two individuals." The spokesman added that the incident posed no danger to the public or the environment. REUTERCOPYRIGHT 1994 Reuters Information Services, Inc. All rights reserved.

### **RUSSIAN NAVY SAYS TWO NUCLEAR SUBMARINES ``TOUCHED''**

RTna 3/24/94 4:15 AM (Eds: adds Russian navy comment) MOSCOW (Reuter) - Russia's naval headquarters said Thursday two Russian submarines with nuclear ammunition on board "touched" during exercises in the Barents Sea, but there was no damage. A press statement released by the navy said the incident took place Wednesday and added: "The arms and equipment are in order. No one was hurt. Radiation levels are normal. The submarines returned to base under their own power." "On March 23 1994, in the Barents Sea, during exercises, two atomic submarines of the Northern Fleet touched one another," the statement said. The incident had been reported earlier by the official Itar-Tass news agency, which did not make clear whether the nuclear material on board the submarines was spare fuel or ammunition. A later Tass story said it was ammunition and said the naval press center had confirmed all its information. The Northern Fleet is based in Severomorsk inside the Arctic circle. In 1993, it had more than 300 submarines, including nuclear-powered and nuclear-armed craft. REUTERCOPYRIGHT 1994 Reuters Information Services, Inc. All rights reserved.

## **CHINESE, FRENCH, BRITISH NUCLEAR PROGRAMS DETAILED**

RTw 3/23/94 2:29 PM WASHINGTON, March 23 (Reuter) - China, France and Britain, the "second tier" of nuclear powers, have a combined arsenal of about 1,200 warheads, a number that pales in comparison with U.S. and Soviet stockpiles, a study said Wednesday. The Natural Resources Defence Council, an environmental group that promotes nuclear safety issues, in a 437-page report detailed the development of nuclear weapons in the three countries. Previous reports had focused on U.S. and Soviet weapons. The latest report said that the three countries combined have produced about 2,550 warheads over four decades and have conducted 288 nuclear tests. By comparison, the United States and the states of the former Soviet Union currently possess some 45,000 warheads, have produced a total of 125,000 over five decades and have conducted 1,742 tests. The former Soviet stockpile has been divided among four of the successor states to the Soviet Union -- Russia, Ukraine, Kazakhstan and Belarus. The authors of the report said they were hampered in their research by the "British mania for secrecy" and China's penchant for segregating crucial data. But they said that this is the most exhaustive study yet of the secondary nuclear powers. The study said the stockpiles of the three have already peaked and will not increase in the future since the Cold War has ended. France has about 524 warheads of four types with a cumulative yield of 100 megatons, giving it the most warheads after the United States and the republics of the former Soviet Union. One megaton equals 1,000 kilotons, and the bombs dropped on Hiroshima and Nagasaki near the end of World War II were between 10 and 20 kilotons. China's arsenal consists of some 450 weapons with a cumulative yield of 400 megatons. It has a force of about 300 on land-based missiles, bombers and submarines and 150 tactical nuclear weapons, mainly artillery shells and demolition munitions, according to the study. Britain has about 200 warheads of two types with a total yield of about 35 megatons, it said. REUTERCOPYRIGHT 1994 Reuters Information Services, Inc. All rights reserved.

## **BACKGROUND NOTE ON UKRAINE-EC NEW PARTNERSHIP ...**

RTec 3/23/94 2:25 PM BACKGROUND NOTE ON UKRAINE-EC NEW PARTNERSHIP (PAGE 2/2) + Economic cooperation: the agreement lists twenty-five areas where both sides favour economic cooperation in future. They are: Industrial cooperation, investment promotion and protection, public procurement, standards and conformity assessments, mining and raw materials, science and technology, education and training, agriculture and agro-industrial sector, energy, civil nuclear sector (including cooperation on the consequences of the Chernobyl disaster), environment, transport, space, telecommunications, financial services, money laundering, monetary policy, regional development, social cooperation, tourism, small and medium sized enterprises, information and communication, consumer protection, customs, statistical cooperation, economics and drugs. Cooperation in these fields may be supported as appropriate by technical assistance from the EU through the TACIS programme. Institutional framework: the agreement finally establishes an institutional framework for future cooperation including a Cooperation Council that shall meet at ministerial level once a year, as well as a Parliamentary Cooperation Committee. Trade between the European Union and Ukraine Ukraine is the European Union's second most important trade partner after Russia among the countries of the former Soviet Union. TACIS activities in Ukraine TACIS, the European Union's initiative to foster economic and political stability in the new independent states, has provided nearly ECU 120 million to Ukraine between 1991 and 1993. TACIS funds have been used to found partnerships and links which allow western experience to be combined with local skills and potential. These partnerships are created by experts drawn from a wide variety of non-commercial bodies and private companies in the European Union. Working in close cooperation with the Ukrainian government, TACIS has identified the most important areas where reforms are needed. These are the restructuring and privatisation of state enterprises, fostering the development of the private sector, developing modern transport, energy and communications networks, developing human resources and improving the safety of nuclear facilities. In all, nearly 90 projects have been launched in the Ukraine since 1991. In addition, the Ukraine has benefited from a multi- country environment programme which focuses on Black

Sea. A sample list of projects Energy: A pilot study at the Ugleskorsk power plant into planning the plant's maintenance was so successful that its results are being implemented throughout the Ukraine. Nuclear safety: An early warning system has been designed to detect any nuclear incident and alert the authorities in Ukraine, Belarus and Russia. Environment: TACIS has helped design a seven year plan to manage tourism and industry in the important Black Sea region, based on principles of sustainable environmental improvement. Food distribution: 10 private food shops have been set up to demonstrate how improved distribution and retailing can cut queuing time and improve the quality of produce on sale. Transport: TACIS has started to implement modern cargo handling methods in the port of Odessa. The work done on grain and oil handling has been so successful that the work is being extended to other areas. Military conversion: The research and production association, Hartron, has been helped to switch from producing missile guidance systems to control systems for nuclear power plants and remote control systems to monitor gas supplies in pipelines. Financial services: TACIS has helped establish a banking and insurance training centre at Kiev University to train banking employees in crucial banking and insurance practices. Public administration: The new Commission for Reform of Public Administration is receiving TACIS support to redefine relationships between central and local administrations. Examples of projects that have just been launched. European Bank Advisory Service: In order to help provide Ukraine with an efficient and reliable banking sector, TACIS will give advice to Ukrainian banks on credit analysis and risk management, payment systems, foreign exchange and general management. Employment: TACIS will advise the Ministry of labour on the best ways to improve the services offered by its Employment and Professional Orientation Centres. This advice is tailored to help these organisations cope with the rapidly changing labour market and fall-out caused by the restructuring of state industries. Energy-saving: demand for energy is high in Ukraine because of the concentration of heavy industry, much of which is highly inefficient in its use of energy. TACIS will develop a national energy-saving strategy for the government of Ukraine consistent with the development of a market economy there. TACIS will also provide advice to those involved in implementing the plan. Reduction of losses during food distribution: Currently around 30/40 percent of food is lost between harvesting and sale. TACIS will identify how and where delays and losses are occurring in the marketing chain and develop ways to improve the efficiency in food production and distribution systems. END OF DOCUMENTCopyright 1994 Reuters Information Services, Inc. All rights reserved.

## **COMMISSION GIVES AID FOR CHERNOBYL VICTIMS**

RTec 3/23/94 2:12 PM EUROPEAN COMMISSION PRESS RELEASE: IP/94/243 DOCUMENT DATE: MARCH 23, 1994 + HUMANITARIAN AID FOR THE VICTIMS OF NUCLEAR ACCIDENT IN CHERNOBYL + La Commission Europeenne vient de decider l'octroi d'une aide humanitaire de 1,3 millions d'Ecus (environ 1,5 millions de US\$) en faveur des victimes de l'accident nucleaire de Tchernobyl survenu le 26 avril 1986. L'action sera mise en oeuvre en etroite liaison avec l'activite de recherche que mene la Direction Generale Science, Recherche et Developpement, dans le cadre de la protection contre les irradiations nucleaires et suite a un accord de cooperation sur les consequences de l'accident de Tchernobyl, que la Commission a signe le 23 juin 1992 avec les Republiques de Bielorussie, d'Ukraine et la Federation de Russie. D'apres une recente etude, il apparait que le cancer de la thyroide chez les enfants a augmente dans une proportion considerable. Au cours des dernieres annees, le nombre des enfants atteints a plus que double. Le projet de recherche vise a augmenter les possibilites de depistage du cancer tout en essayant de reduire le risque de developpement de cette maladie. La Communaute Europeenne fournira aux hopitaux de Kiev (Ukraine) et de Minsk (Bielorussie) l'equipement necessaire a la detection du cancer de la thyroide ainsi que les medicaments adaptes au traitement post-operatoire. Une formation medicale appropriee a l'interieur de la Communaute sera prise en charge dans le cadre du programme de recherche. L'operation permettra de rendre leurs chances de survie aux 400 enfants actuellement atteints par ce mal. L'action humanitaire sera mise en oeuvre directement par ECHO (l'Office Humanitaire de la Communaute Europeenne), en etroite collaboration avec la Direction Generale Science, Recherche et Developpement. END OF DOCUMENTCopyright 1994 Reuters Information Services, Inc. All rights reserved.

## **EU GRANTS \$1.43 MILLION IN AID TO CHERNOBYL VICTIMS**

RTw 3/23/94 12:39 PM BRUSSELS, March 23 (Reuter) - The European Union said on Wednesday it had granted 1.30 million European currency units (\$1.43 million) in humanitarian aid for victims of the Chernobyl nuclear accident in Ukraine eight years ago. The aid will go towards furnishing hospitals in Kiev in Ukraine and Minsk in Belarus with thyroid cancer detection equipment and medicines for post-operative treatment, the European Commission said in a statement. REUTERSCopyright 1994 Reuters Information Services, Inc. All rights reserved.

## **RUSSIA, ARMENIA SIGN ACCORD TO RESTART CLOSED NUCLE...**

UPn 3/21/94 1:34 PM Russia, Armenia sign accord to restart closed nuclear plant MOSCOW, March 21 (UPI) -- In a move to help solve Armenia's crippling energy crisis, Russia agreed Monday to help the Transcaucasian republic restart a nuclear power plant that was shut down in the aftermath of the 1988 earthquake. Under the agreement, signed in the Armenian capital Yerevan, Russia pledged to deliver nuclear fuel to the plant and reprocess its spent fuel, as well as ensure its safe re-commissioning and operation. The deal, signed by Russian Deputy Prime Minister Oleg Soskovets and Armenian Prime Minister Grant Bagratian, also envisages Russian's help in training plant operators and inspectors. Armenia's government finally decided to bring the Medzamor station back on stream in the face of paralyzing energy shortages, which brought a third of its industry to a standstill and left the population with only two hours of electricity a day. The recommissioning plan provides for restarting Medzamor for an interim period of five to seven years, by which time other energy resources currently being investigated could be available. The first of the two reactors is due to come on line in early 1995, and will increase Armenia's electricity generating capacity by over 50 percent, and obviate the need for annual imports of one million tons of expensive fuel oil. The power station was closed down in March 1989 amid growing fears about nuclear safety in the wake of a 1988 earthquake which left 25,000 people dead, 503,000 people homeless, and obliterated seven major towns. The 18-year-old twin reactor plant, which is just 24 miles (40 km) from Yerevan and was built in the heart of a major earthquake zone, was the first- ever operating nuclear station to be decommissioned in the Soviet Union. The closure of the plant led to acute energy shortages, exacerbated by a blockade by neighboring Azerbaijan which is locked in a bitter war with Armenian separatists over control of the Nagorno-Karabakh enclave. Copyright 1994 The United Press International

## **IAEA TEAM BRANDS CHERNOBYL NUCLEAR PLANT UNSAFE**

RTw 3/31/94 6:28 AM By Douglas Busvine VIENNA, March 31 (Reuter) - The Chernobyl nuclear power plant, site of the world's worst nuclear disaster in 1986, remains unsafe, the U.N.'s nuclear watchdog said on Thursday. An inspection team organised by the International Atomic Energy Agency (IAEA) examined the Ukrainian power station in mid-March and found safety measures there were inadequate. "The review found numerous safety deficiencies in the two units of the plant which remain operational," the IAEA said in a statement. IAEA Director General Hans Blix wrote after a visit to Ukraine's President Leonid Kravchuk that international levels of safety were not being met at Chernobyl. He proposed Ukraine convene an international meeting in Vienna to consider actions to alleviate the situation and Kravchuk, who replied on Wednesday, agreed, the IAEA said. Talks should take place in the second half of April. IAEA spokesman David Kyd said the eight-member inspection team would draft a 70-page report on its Chernobyl visit ahead of the meeting, but it was too early to say whether it would recommend that the station be shut down. In Kiev, Ukraine's nuclear power authority played down the IAEA report, saying it merely amounted to a "warning" to improve work at the site. "This means nothing. If there was a serious danger, they would simply have ordered the plant shut down," Mikhail Umanets, head of Ukraine's nuclear power authority, said by telephone. But Valentyn Kupny, deputy commandant of the Chernobyl security zone, said the Chernobyl station should be shut down. Two reactors at Chernobyl are still running after the Ukrainian parliament decided last October to postpone shutting them down. Ukraine, suffering from an energy crisis, had originally planned to close them at the end of 1993. The IAEA had checked out other nuclear power plants in the former Soviet Union, but had skipped Chernobyl in the belief that its two reactors would be closed. The agency sought access after the decision to prolong Chernobyl's operations, Kyd said. "We sent in a team as soon as the Ukrainians agreed and the weather conditions permitted us to do an audit of those two plants, and what we saw was alarming," he told Reuters. The greatest concern was over Unit One, an old reactor which restarted last week after three weeks of maintenance. It is now operating at 80 percent of its 1,000 megawatt capacity. "Of particular concern are specific problems in the design of the first generation Unit One, which have not been dealt with sufficiently," the IAEA statement read. Unit Three is operating at its 1,000 megawatt design capacity, but it is more modern and is causing fewer worries. But the tomb built around Unit 4 -- the reactor that blew up, causing 31 immediate deaths -- is deteriorating, and, if it collapses, could have "serious consequences," the IAEA said. Ukrainian authorities say thousands of people died in Ukraine alone as a result of the blast, and the subsequent cleanup still takes up 12 percent of the national budget. Belarus and Russia were also hit by fallout from the explosion and radiation spewed over much of Europe. The World Health Organisation has observed an increase in thyroid cancer rates among the population affected by the 1986 blast. As well as technical problems and lack of new equipment, difficult working conditions and low pay for staff are causing a brain-drain of skilled operators -- itself a safety risk. "An operator is getting the equivalent of about \$16 a month, and you can make a lot more as a cab driver," Kyd said. The review team was composed of eight safety specialists from Russia, Spain, Sweden, Britain and the United States, along with two experts from the IAEA and one from the Group of 24's Nuclear Safety Coordination Secretariat in Brussels. REUTERCOPYRIGHT 1994 REUTERS INFORMATION SERVICES, INC. All rights reserved.

## **UKRAINE OFFICIALS DOWNPLAY CHERNOBYL DANGER**

RTna 3/31/94 6:17 AM KIEV (Reuter) - Ukraine's nuclear power authority Thursday played down an international report describing the Chernobyl plant as unsafe, saying it merely amounted to a "warning" to improve work at the site. But a senior official responsible for the 18-mile security zone around the plant, site of the world's worst nuclear accident, accused officials of making light of deficiencies. He said the report's contents should be heeded. "This means nothing. If there was a serious danger, they would simply have ordered the plant shut down," Mikhail Umanets, head of Ukraine's nuclear power authority, said by telephone. "The experts did not expect to find the plant in such good shape. This report is neither very critical nor full of praise. It is a warning so that we should improve our work." But Valentyn Kupny, deputy commandant of the Chernobyl security zone, said: "The faster the Chernobyl station is shut down the better it will be for both Ukraine and its neighbors. Those who support Chernobyl's continued operation are not talking about upgrading safety but about billions of karbovanets (millions of dollars) invested in Chernobyl." Parliament last year defied international public opinion and reversed a 1991 decision to shut down Chernobyl, where two reactors continue to operate. Ukrainian authorities, who say the 1986 explosion caused thousands of deaths, now say the plant is vital to provide electricity for the former Soviet republic. REUTERCopyright 1994 Reuters Information Services, Inc. All rights reserved.

## **NUCLEAR-CIS-UKRAINE -2 KIEV**

RTw 3/31/94 6:07 AM "This means nothing. If there was a serious danger, they would simply have ordered the plant shut down," Mikhail Umanets, head of Ukraine's nuclear power authority, said by telephone. "The experts did not expect to find the plant in such good shape. This report is neither very critical nor full of praise. It is a warning so that we should improve our work." But Valentyn Kupny, deputy commandant of the Chernobyl security zone, said: "The faster the Chernobyl station is shut down the better it will be for both Ukraine and its neighbours. Those who support Chernobyl's continued operation are not talking about upgrading safety but about billions of karbovanets (millions of dollars) invested in Chernobyl." Parliament last year defied international public opinion and reversed a 1991 decision to shut down Chernobyl, where two reactors continue to operate. Ukrainian authorities, who say the 1986 explosion caused thousands of deaths, now say the plant is vital to provide electricity for the former Soviet republic. REUTERCopyright 1994 Reuters Information Services, Inc. All rights reserved.

## **UKRAINE OFFICIALS DOWNPLAY CHERNOBYL DANGER**

RTw 3/31/94 5:44 AM KIEV, March 31 (Reuter) - Ukraine's nuclear power authority on Thursday played down an international report describing the Chernobyl plant as unsafe, saying it merely amounted to a "warning" to improve work at the site. But a senior official responsible for the 30-km (18-mile) security zone around the plant, site of the world's worst nuclear accident, accused officials of making light of deficiencies. He said the report's contents should be heeded. MORECopyright 1994 Reuters Information Services, Inc. All rights reserved.

## **CIS-UKRAINE-CHERNOBYL -2 VIENNA**

RTw 3/31/94 4:50 AM (eds: pls note slug corrected) A reactor at Chernobyl blew up in 1986, causing 31 immediate deaths. Ukrainian authorities estimated that 12,000 deaths resulted from the blast in that country alone. The Ukrainian parliament decided in October last year to postpone the closure of the two operating units, which had been originally scheduled for the end of 1993. Unit One was restored to operation last week after a three week maintenance outage and is currently operating at 80 percent of its design power level of 1,000 megawatts. Unit Three is operating at its 1,000 megawatt design capacity. The greatest cause for concern was Unit One, which is older than Unit Three. "Of particular concern are specific problems in the design of the first generation Unit One, which have not been dealt with sufficiently," the statement read. REUTERCopyright 1994 Reuters Information Services, Inc. All rights reserved.

## **UKRAINIANS THANK CASTRO FOR AID TO CHILDREN**

RTw 3/30/94 2:23 PM HAVANA, March 30 (Reuter) - The parents of 10,000 Ukrainian children, victims of the Chernobyl nuclear accident who were given medical care here, have praised Cuba for its humanitarianism. In a letter addressed to President Fidel Castro, the parents thanked the tiny island nation for its "show of humanism, hospitality and selflessness." It was sent on the fourth anniversary of the arrival of the first group of 139 children from Ukraine, Prensa

Latina said. A total of 12,000 children -- 10,000 from the Ukraine and 2,000 from Russia and Belarus -- have been to Cuba for medical checkups, treatment and vacations. "It is impossible to put a value on this aid in moments of such difficult economic conditions in both the Ukraine and Cuba," the letter said. The Cuban government has paid for the entire programme, including medicines bought for hard currency. REUTERCOPYRIGHT 1994 Reuters Information Services, Inc. All rights reserved.

## **TEN DIE IN FRENCH NUCLEAR SUBMARINE ACCIDENT**

RTw 3/30/94 8:57 AM (Eds: Previous Paris, adds details) MARSEILLE, France, March 30 (Reuter) - Ten sailors were killed in an explosion aboard a French nuclear submarine in the Mediterranean off the port of Toulon on Wednesday, Defence Ministry officials said. Captain Olivier Lajous said the accident did not affect the submarine's nuclear engine. It was not carrying nuclear missiles and there was no risk of radiation, he said. "One of the two turbo alternators, which generate electrical power on board, exploded while the submarine was off the coast. We don't know why," Lajous said. He said all 10 people in the turbine compartment at the time of the explosion on Wednesday morning were killed. Their next-of-kin had been notified. The vessel, a 2,400-tonne attack submarine of the Rubis class, launched in 1986, was taking part in a training exercise with other navy ships, the defence ministry said in a statement. "This accident in no way affects the vessel's nuclear safety," the statement said. Lajous said the submarine had surfaced and was making its way to Toulon unassisted. It was expected to enter port on Wednesday evening. Defence Minister Francois Leotard and the navy chief of staff were on their way to the port, radio stations reported. The defence ministry said a high command investigation and a judicial inquiry had been opened to establish the cause of the accident. It was the third incident in less than a year involving one of France's six Rubis-class submarines, which are based in Toulon. Between two and four of them are constantly on patrol, armed with Exocet missiles. On March 2, the nuclear-powered submarine Amethyste on a training exercise hit the bottom of the Mediterranean at low speed, damaging its bow. There were no injuries. The Navy sacked the commander of another nuclear-powered submarine which hit a supertanker as it surfaced last August, ripping a small gash in the ship's hull and causing an oil spill in the Mediterranean. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

## **FRENCH MILITARY HAS HIDDEN NUCLEAR INCIDENTS-REPORT**

RTw 3/29/94 11:27 AM By Nelson Graves PARIS, March 29 (Reuter) - French military authorities have hidden from the public more than 1,000 incidents at top-secret nuclear bomb factories that caused radioactive contamination, according to a report to be broadcast on television this week. The report, shown to reporters ahead of its planned transmission on France-3 television on Wednesday, cites previously undisclosed government documents detailing incidents at two sites. It does not say how serious the contamination was or whether any lives were endangered. The inspector general for safety at the Atomic Energy Commission (CEA), Francois Cogne, said the incidents did not pose any threat to the environment or humans. "We have never exceeded legal limits," Cogne told Reuters, referring to international and European standards. A 1990 report by experts at the Valduc hydrogen bomb factory north of Dijon said there were 4,233 "radiological events" at the site between 1981 and 1990, including 1,450 that caused contamination, it said. Cogne said the incidents were minor "anomalies" that did not contaminate any humans but in some instances caused minor radioactive contamination of facilities that had been cleaned up. The Valduc installation burned tritium waste in the open air between 1968 and 1975, polluting the surroundings, according to the broadcast. Tritium is a radioactive isotope, or species of atom, of hydrogen. The CEA official confirmed that tritium waste was burned but said it produced insignificant amounts of radiation and had no effect on either the environment or humans. A 1975 CEA report cited a leak at the Marcoule nuclear bomb factory along the river Rhone earlier that year, the broadcast said. A 450-metre (yard) wall was built under the site to contain leaking contamination, according to a 1990 CEA report. Cogne said insignificant amounts of contamination escaped before the wall was built. An environmentalist told the broadcast that radioactive waste had contaminated thousands of tonnes of sediment in the Rhone, contrary to expectations by nuclear experts that the fast-flowing river would remove any dangerous waste. The televised report concluded that secrecy by defence officials "permitted (authorities) to hide errors, accidents, pollution in the name of an imperative -- acquisition of the nuclear bomb." France, along with the United States, Russia, China and Britain and India, is one of the world's confirmed nuclear powers. Cogne said the same rules and methods were used in civilian and military nuclear installations. The programme said in a statement that a confidential report by a group of experts based on secret CEA and army documents found military nuclear authorities paid less heed to public safety than their civilian counterparts. "We realised that 'practices' considered dangerous and banned in the civilian sector were knowingly employed in military centres," the statement quoted the confidential report as saying. Cogne said the statement apparently referred to the burning of tritium waste at Valduc, which was halted in 1975. REUTERCOPYRIGHT 1994 Reuters Information Services, Inc. All rights reserved.



## **UKRAINE MOVES TO SHUT CHERNOBYL PLANT;ACTION NOT ...**

WP 4/9/94 11:00 PM Ukraine Moves to Shut Chernobyl Plant;Action Not Imminent Because of Need for Infamous Station's Electricity By Thomas W. Lippman Washington Post Staff Writer The government of Ukraine has agreed "in principle" to shut down the remaining nuclear power reactors at Chernobyl, site of the world's worst commercial nuclear accident, the U.S. Energy Department announced yesterday. Closure of the infamous power station near Kiev is not imminent because Ukraine still needs the electricity it produces. But Deputy Energy Secretary William White said the agreement he signed Friday night in Kiev "puts Ukraine unalterably on the fast track to shutdown." He refused to offer a timetable, but said it will be easier than Ukraine had previously thought to find substitutes for the power station's output. If nothing else, he said, U.S. experts have convinced the Ukrainians that simple conservation measures such as installation of electricity meters and modest price increases can cut electricity use enough to warrant rapid closure of the most dangerous of Chernobyl's reactors. Much of Europe has lived in fear of Chernobyl since the 1986 accident there spread radioactive fallout over several countries. The official death toll from that accident is still listed as fewer than 100, but public health authorities in Ukraine and neighboring Belarus have said thousands more have died of diseases apparently related to the accident. The International Atomic Energy Agency reported last month it had found "numerous safety deficiencies" at Chernobyl, and also said the concrete sarcophagus built to encase the reactor that exploded in 1986 was deteriorating rapidly. White confirmed that finding. "Even the plant manager told me during my visit yesterday he thought the sarcophagus was dangerous," he said at a news conference after returning to Washington. During his meetings in Ukraine, he said, officials of several ministries said they favored shutting down Chernobyl as soon as possible, but nuclear industry officials insisted it had to be kept open at least till 1998 and could be operated safely. White praised Vice Premier Valeriy Shmarov for coming down on the side of closure and signing an agreement that White said "commits Ukraine to cease operating Chernobyl at the earliest possible time." According to a text of the U.S.-Ukraine agreement distributed by the Energy Department yesterday, however, the closure agreement is somewhat less clear-cut than that. It says "the Ukrainian side agreed to cease operation of the Chernobyl plant once it reached a balance in the energy system and found resources to take the plant out of operation." According to White, the Ukrainians want to be sure they have at least enough electricity to get them through next winter. But he said a joint study of available resources, to be completed in early summer, is expected to show Ukraine that conservation and alternate fuels can make up the difference. Within the past 10 days, he said, Russia has agreed to accept barter payments from cash-poor Ukraine for natural gas, a key to providing alternate sources of electric power. Conditioned as it is on finding alternate sources, the U.S.-Ukraine agreement is similar to a deal Energy Secretary Hazel R. O'Leary signed with the Russians last month under which Russia will cease operating two plutonium-producing nuclear reactors as soon as the United States helps them find alternate energy sources. White said Western European nations, fearful of repeating what he called "the worst public health disaster in modern history," are expected to offer some financial aid to help Ukraine find alternate power sources at the Group of Seven meeting of industrialized nations in Naples, Italy, this summer. The Chernobyl power station consisted of four reactors of the type known as RBMK-1000, the oldest Soviet design and the least compatible with western safety standards. Nuclear engineers consider it inherently unsafe for two reasons. It has a "positive void coefficient," which means the nuclear chain reaction accelerates as the temperature in the reactor rises. That is the opposite of what occurs in U.S. nuclear plants, where a loss of coolant leads to an automatic reactor shutdown. And it lacks a radiation-proof containment structure that would keep radioactivity inside in the event of an accident. In addition, the RBMK uses graphite, rather than water, to surround the nuclear fuel and moderate the chain reaction. Graphite can burn, as happened in the 1986 accident, when Chernobyl Unit 4 blew up and spewed radioactive debris and dust across a wide swath of Europe. A second unit has been closed since 1991 because of a turbine fire. But Ukraine has continued to operate the other two Chernobyl reactors - and has been planning to restart the third - despite widespread public opposition to their continued operation. Ukraine is one of the most nuclear-dependent nations in the world, drawing about 40 percent of its electricity from nuclear power, and is becoming more dependent on nuclear power as time goes by because it lacks fossil fuels for conventional power plants. The United States relies on nuclear power to generate about 20 percent of its electricity and Russia uses nuclear facilities to produce 11 percent of its electricity. Eleven RBMK-1000 units are still operating in Russia. Western experts have argued for years that rather than invest money to upgrade the units, Ukraine and Russia should shut down the RBMK-1000s immediately because of their safety deficiencies. Other Soviet and Ukrainian nuclear plants are of a superior design, western experts say, and can be operated safely if equipment and procedures are modernized. Special correspondent Robert Seely in Ukraine contributed to this report. Copyright 1994 The Washington Post

## **UKRAINE, U.S. REACH DEAL TO CLOSE CHERNOBYL REACTORS**

RTw 4/9/94 3:27 PM (Eds: Recasts, adds Energy Department official comments) By Vicki Allen WASHINGTON, April 9 (Reuter) - Ukraine agreed to close the two remaining operating reactors at the Chernobyl nuclear power plant if the country gets alternative power sources, the U.S. Energy Department said Saturday. The department said Ukrainian Vice Prime Minister Valeriy Shmarov and a U.S. delegation reached an agreement in principle to shut down the reactors at the Ukrainian plant that was the site of the world's largest nuclear accident in 1986. Ukraine had said it would close Chernobyl only if it was replaced with other nuclear energy sources, but with this deal it will consider using other energy sources and conservation measures, an Energy Department official said. The official, who declined to be named, said this was the first time a deal was put in writing to close the Chernobyl plant once viable alternatives are in place. "And there are viable options," he said. With this deal, the Energy Department said the two governments will conduct a joint analysis of ways to close the plant as quickly as possible. The analysis will assess alternative power sources and conservation measures to meet Ukraine's energy demands when the plant is closed. The official said financing for the alternative power supply was not addressed in the agreement. "The money commitment will be large enough that they will need the World Bank, AID (the Agency for International Development) and other G7 nations to come to the table," the official said. He said there was no specific timeframe for closing the reactors, but said the analysis is to be finished in June. In Kiev, Mykola Bekeshko, a duty officer for the national nuclear power authority, said Chernobyl could only be closed by order of the parliament, and said it could not be shut down unless replacement power sources were found. "We are all for closing the plant. But this can only be ordered by parliament," Bekeshko said. "And closure is possible only if replacement sources of energy can be found. Chernobyl's electricity output is vital." Deputy Energy Secretary Bill White, who led the U.S. delegation, said in a statement that Shmarov also agreed to form a joint task force to look into using clean coal technology to help meet Ukraine's energy needs. Ukraine's Energy Ministry will work with the U.S. Energy Department and the Agency for International Development on the task force. "Ukraine's leaders have made a courageous and creative decision," White said. "This agreement will benefit the people of Ukraine and of the world. It represents an important step toward reducing the danger of another nuclear catastrophe and will lead to better use of scarce energy resources." The Clinton administration, concerned about the potential for another disaster at the flawed Chernobyl plant, has argued for its quickest possible shutdown. The plant's explosion and fire in April 1986 spewed clouds of radiation across Europe and contaminated vast stretches of land in Ukraine, Belarus and Russia. Ukrainian authorities say it has caused at least 8,000 deaths. REUTERCopyright 1994 Reuters Information Services, Inc. All rights reserved.

## **UKRAINE SAYS ALTERNATIVE NEEDED FOR CHERNOBYL**

RTna 4/9/94 11:34 AM KIEV, Ukraine (Reuter) - Ukrainian nuclear authorities said Saturday the Chernobyl power plant could be closed only by authority of parliament and after alternative power sources were found. Mykola Bekeshko, a duty officer for the national nuclear power authority, said a U.S.-Ukraine agreement on closing down the station eight years after the world's worst nuclear accident was subject to certain conditions. "We are all for closing the plant. But this can only be ordered by parliament," Bekeshko said by telephone. "And closure is possible only if replacement sources of energy can be found. Chernobyl's electricity output is vital." The U.S. Department of Energy announced in Washington that American and Ukrainian delegations had agreed after talks in Kiev to close down as soon as possible Chernobyl's two reactors still in operation. It said the two governments would analyze ways of closing the plant, described as unsafe last week in a report by the Vienna-based International Atomic Energy Agency. This would assess alternative sources to make up for electricity provided by the plant. Ukraine's parliament last year shocked world public opinion by reversing a decision to close down Chernobyl by the end of 1993 and lifted a moratorium on construction of new reactors. Deputies cited critical energy shortages in the former Soviet republic and the need to ease heavy dependence on imported Russian oil and gas. Bekeshko said Ukrainian officials were concerned about safety within the plant's RBMK reactors, particularly the older first reactor. But they had little choice other than to keep the plant working. "At the moment there is nothing to make up for the electricity produced at Chernobyl," he said. "We believe that given current conditions, the first reactor could continue working for another three years and the third reactor for four years beyond that." Nuclear industry officials have said they would like to restart Chernobyl's second reactor, closed after a 1991 fire, but Bekeshko said he believed this proposal was unrealistic. Plans call for at least three reactors, virtually completed when the construction moratorium was imposed, to be brought on stream within 18 months. The explosion and fire at the Chernobyl plant in April 1986 spewed clouds of radiation across Europe and contaminated vast stretches of land in Ukraine, Belarus and Russia. Ukrainian authorities say it has caused at least 8,000 deaths. Coping with its aftermath still soaks up 12 percent of the national budget in Ukraine and even more in Belarus. REUTERCopyright 1994 Reuters Information Services, Inc. All rights reserved.

## **NUCLEAR-UKRAINE-USA -2 WASHINGTON**

RTw 4/9/94 9:35 AM The Energy Department said the two governments will conduct a joint analysis of options on ways to close the plant as quickly as possible. It will assess alternative power sources and conservation measures to meet Ukraine's energy demands once the plant is closed. White in a statement said Shmarov also agreed to form a joint task force to look into using clean coal technology to help meet Ukraine's energy needs. White said the Chernobyl agreement "represents an important step toward reducing the danger of another nuclear catastrophe and will lead to better use of scarce energy resources." REUTERCopyright 1994 Reuters Information Services, Inc. All rights reserved.

## **NUKE PLANT ACCIDENT**

APn 4/8/94 6:56 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By MARIA PANARITIS Associated Press Writer TRENTON, N.J. (AP) -- About a gallon of radioactive water escaped the Salem I nuclear plant's reactor system and spilled onto the floor of the containment building, but none of the water got outside, the plant's operator said Friday. The contaminated liquid ruptured a spillover tank during a malfunction of the plant's cooling system Thursday, said Bill Stewart, spokesman for Public Service Electric and Gas Co., which runs the plant. None of the water seeped outside the building, no radiation was released and radiation levels inside did not increase after the spill, said Stewart and a spokeswoman for the federal Nuclear Regulatory Commission. "The fact that water spilled out of there is no big deal," said Diane Screnci, the NRC spokeswoman. Two employees at the utility donned protective overalls and mopped up the area, Stewart said. Public Service Electric has agreed not to attempt to restart Salem I without the consent of the NRC's regional administrator. The reactor is expected to remain out of service for several weeks. Plant operators declared a seven-hour alert during the incident Thursday. An alert is the second-lowest of four emergency grades. Grass in the Delaware River had blocked the flow of water into the plant's cooling system, forcing operators to reduce power output. A cooling system pump then cut off, triggering an automatic shutdown of the reactor. Operators lost control of the shutdown when the reactor's emergency core cooling system kicked in. The reactor's pressurizer, which normally contains equal amounts of water and steam, completely filled with water, forcing the steam and water into a relief tank located in the building's basement. It was only the second time since Salem I's 1977 start-up that an alert was declared at the complex, the second-largest commercial nuclear facility in the country.

## **NORWAY TO LEAD RUSSIAN NUCLEAR WASTE CLEAN-UP**

RTna 4/8/94 11:17 AM By Alister Doyle OSLO, Norway (Reuter) - Norway said Friday it would lead international efforts to clean up dangerous atomic and chemical waste in Russia's Arctic northwest, site of the biggest concentration of nuclear arms in the world. "The Cold War has been replaced by detente...but we face new challenges over the environment and disposal of nuclear and chemical weapons," Foreign Minister Bjoern Tore Godal told a news conference. "A broad international cooperation is needed to solve the problems," he said, releasing a report to parliament on chemical and nuclear weapons in Russia. "Norway has decided to take on a driving role internationally." Norway is the only NATO member bordering Russia and says that the Arctic Kola peninsula, base of the vast Northern Fleet, has the biggest concentration of atomic warheads in the world along with aging nuclear power plants. Godal said Norway would push organizations like NATO, the North Atlantic Cooperation Council, the European Community, the OECD and the European Bank for Reconstruction and Development to contribute aid. Norway's own aid so far has been scant, including \$2.7 million to help improve safety at nuclear plants on the Kola peninsula. "We need an increase of funds, not only from Norway but from all other states," Godal said. "The potential dangers are very considerable." He noted that Russia and Eastern European states already faced huge economic problems, making it hard for them to focus on the longer-term threats from nuclear and chemical waste. The report to parliament said that Russia had about 100 nuclear-powered vessels in its northern areas, and another 50 decommissioned nuclear vessels, many of which still had radioactive fuel aboard. Under international disarmament treaties and normal aging, a further 30 nuclear-powered vessels would be decommissioned in the next five years, it said. Russia lacks sufficient facilities for safe disposal of waste, and has dumped nuclear reactors in the past in the Arctic Kara Sea. Norway also said it would work for a permanent nuclear test ban to close Russia's test site on the Arctic archipelago of Novaya Zemlya. It also wants nuclear power plants on the Kola peninsula, near St Petersburg and in Lithuania to be closed. REUTERCopyright 1994 Reuters Information Services, Inc. All rights reserved.

## **RUSSIAN NUCLEAR INDUSTRY THREATENED BY DEBT CRISIS**

RTw 4/8/94 10:18 AM By Brian Killen MOSCOW, April 8 (Reuter) - Russia's nuclear power chiefs asked the government for help on Friday to resolve a financial crisis that threatens to undo progress in improving safety since the

1986 Chernobyl disaster. "We have to think about the safety of nuclear power stations. We are working at the limit," said Gennady Shchapov, head of the Kalinin plant in central Russia, at a meeting of senior government and nuclear industry officials. Atomic Energy Minister Viktor Mikhailov told the meeting that safety standards were steadily improving but reactors had barely enough fuel to keep working until summer. "A special credit should be allocated for fuel," he said, without saying how much cash the government should offer. Other industry representatives said reactors could be shut for want of resources. They called for emergency funds for fuel and other urgent needs. The meeting discussed a draft government resolution proposing a big injection of funds to help the nuclear sector back on its feet. Since the 1986 explosion and fire at Ukraine's Chernobyl plant spilled radiation over much of Europe, the former Soviet nuclear industry has struggled to restore its image and obtain investment funds. Mikhailov said Russia's nine atomic power plants were owed more than 450 billion roubles (\$250 million), mostly by the electricity giant EES Russia. For their part, the power plants owed 395 billion roubles (\$220 million), including 67 billion (\$40 million) for fuel and 19.5 billion (\$11 million) for salaries, he said. Nuclear workers, many of whom have not been paid for three months, picketed the Russian government's White House headquarters this week. "We cannot ensure safety when operators are hungry," one union representative told the meeting, which was open to reporters. Mikhailov said power stations could keep functioning on existing resources until about the middle of this year. The draft resolution suggested a credit of 50 billion roubles (\$28 million) to help EES Russia, a virtual monopoly electricity supplier, settle its accounts with power stations. The resolution also called for unspecified budget support for nuclear plants to help them pay fuel debts. Other proposals included deferral of federal taxes and creation of "extra-budgetary investment funds" and possible long-term investment credits. The nuclear officials also favoured breaking up the virtual monopoly of EES Russia, allowing stations to deal with regional bodies instead. Fuel and Energy Minister Yuri Shafranik said he favoured a tougher stance towards non-payers. He cited the example of Ukraine, where threatened cut-offs in Russian oil and gas supplies have prompted efforts to pay debts. "The Economics Ministry and others must examine the non-payers, assess the state of their finances," he said. REUTERCOPYRIGHT 1994 Reuters Information Services, Inc. All rights reserved.

### **COOLING PROBLEM SHUTS N.J NUCLEAR PLANT**

UPn 4/7/94 4:05 PM LOWER ALLOWAYS CREEK, N.J. April 7 (UPI) -- The Salem I nuclear power plant in New Jersey was placed on a state of alert Thursday after the flow of cooling water into the reactor was blocked. Officials with Public Service Electric and Gas, which operates the plant, said the reactor about 40 miles southwest of Philadelphia shut down automatically at 10:47 a.m. and there was no release of radiation. Company spokesman William Stewart said an emergency core cooling system was activated after excessive grass in the Delaware River blocked the flow of cooling water. Stewart said an alert was declared at 1:32 p.m. as a precaution and there was no danger to the public. He said federal, state and local authorities were notified and that an investigation into the shutdown was under way. Stewart said all plant employees not involved with handling the emergency were sent home. Copyright 1994 The United Press International

### **RUSSIAN NUCLEAR SAFETY RECORD IMPROVES - MINISTRY**

RTw 4/7/94 9:30 AM MOSCOW, April 7 (Reuter) - Russia's nuclear facilities recorded fewer violations of safety procedures in January to March, compared with the same period last year, the Atomic Energy Ministry said on Thursday. The ministry said in a statement that there were only 40 violations since the beginning of the year, compared with 43 for the same period last year. Out of these 40, eight led to temporary shutdowns at reactors. Russian nuclear officials said the violations were either violations of safety instructions laid down by the ministry in accordance with international standards or violations in day-to-day labour discipline. These were "administrative violations" without implications for the safety of the environment and neighbouring population, the officials added. The number of incidents that merited a rating on the International Atomic Energy Agency's nuclear events scale dropped to three from seven, the ministry said. The events were all "one-rated," falling into the category of functional or operational anomalies which do not pose a risk but which indicate a lack of safety provisions. Russia has nine nuclear power stations, with 13 pressurised water-type reactors (VVER), 15 graphite Chernobyl-type (RBMK) reactors and one fast breeder type, with a total capacity of 21,242 megawatts. Total electricity output from the plants in January-March was 30.55 billion kilowatt-hours, two percent less than in the same period last year. VVER reactors accounted for 13.66 billion kwh and RBMK reactors 16.89 billion kwh. The VVER-type reactors raised output by more than nine percent compared with last year, while RBMK output fell, the statement said. REUTERCOPYRIGHT 1994 Reuters Information Services, Inc. All rights reserved.

### **NUKE EMERGENCIES**

APn 4/6/94 4:35 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By MICHAEL BLOOD Associated Press Writer WASHINGTON (AP) -- Dismissing claims the public could be endangered, federal regulators have ruled that the emergency plan at the Three Mile Island nuclear plant is sufficient. A petition that sought to shut down the Pennsylvania plant's remaining reactor "has not raised any substantial health or safety concern," said a Nuclear Regulatory Commission staff report released Wednesday. "There is reasonable assurance that adequate ... protective measures can and will be taken to protect the health and safety of the public" if an accident takes place, said the report by William T. Russell, director of the NRC's office of nuclear reactor regulation. A petition filed by the Pennsylvania Institute for Clean Air argued that thousands of residents live just outside the 10-mile emergency-planning zone around TMI. The plant is located about 10 miles south of the state capital, Harrisburg. In an emergency, the zone "can and will be expanded if the conditions of a particular accident warrant it," the report said. The environmental group contended that chaos could occur if the area had to be evacuated following a nuclear mishap. Robert Gary, an attorney who filed the petition, said the group was outraged and would seek congressional hearings. The decision came 15 years after the accident that crippled TMI's Unit 2 reactor. A \$1 billion cleanup has ended and there are no plans to restart the plant. The 10-mile planning zone has been an issue at other nuclear plants around the nation. The Shoreham nuclear plant on Long Island, N.Y., was closed before going into commercial operation after a dispute over whether the area could be safely evacuated during an accident.

### **UKRAINIAN ``GREENS'' DEMAND CLOSURE OF CHERNOBYL**

RTw 4/5/94 12:52 PM KIEV, Ukraine (Reuter) - Environmental groups Tuesday demanded closure of the Chernobyl plant that was the site of the world's worst nuclear accident in 1986, and a review of plans for the former Soviet republic's nuclear industry. "We have united in one bloc to demand that President Leonid Kravchuk withdraw his decree on the development of the Ukrainian nuclear industry," Serhiy Kurykin, deputy head of Ukraine's Green party, told a news conference. Kravchuk issued a decree in February to speed up the opening of five nuclear reactors, including one in the Chernobyl plant near Kiev, after parliament lifted a moratorium on building nuclear plants. The shift back to nuclear power reflected Ukraine's acute dependence on Russia for other energy imports, including oil and gas. Earlier four Ukrainian ministers responsible for health, the environment, Chernobyl and nuclear safety, appealed to Kravchuk to suspend the decree. Last week the International Atomic Energy Agency (IAEA) issued a report describing the Chernobyl plant as unsafe. But Ukrainian nuclear authorities played down the report, arguing that the world community had agreed to supply Ukraine with safety technology. Organisations at Tuesday's news conference included Greenpeace-Ukraine, the Ukrainian Green party and the parliamentary Chernobyl commission. REUTERCopyright 1994 Reuters Information Services, Inc. All rights reserved.

### **RUSSIAN NUCLEAR WORKERS WARN OF ``SECOND CHERNOBYL''**

RTw 4/5/94 8:10 AM MOSCOW, April 5 (Reuter) - About 50 Russian nuclear power station workers protested outside government headquarters on Tuesday, warning that failure to pay their wages could lead to a major disaster. The demonstrators, demanding timely salary payments, held banners reading, "The road to Chernobyl is non-payment!," "Hungry nuclear workers could mean another Chernobyl!" An explosion and fire at Ukraine's Chernobyl station in 1986 contaminated much of Europe and Scandinavia. Ukrainian officials say thousands of people were eventually killed by the massive radiation leak. The Russian workers picketing the White House in Moscow, some wearing white coats and hats, handed out leaflets to those entering the riverside building. They called for "100 percent financing" of the nuclear sector, tax relief and a special government meeting to discuss the sector's financial plight. "We do not have the right to strike, but we do have the right to meet the president," one banner said. Many nuclear sector employees, coal miners and oil and gas workers have not been paid for three months or more. Some have staged hunger strikes. Enterprises say they cannot afford to pay salaries or invest in maintenance because they are owed huge sums by consumers. The protesting nuclear workers represented stations from throughout Russia, where reactors have been working below capacity because of problems in paying for fuel. The stations, which produce about 12 percent of Russian electricity, are owed more than 600 billion roubles (\$340 million) by consumers. REUTERCopyright 1994 Reuters Information Services, Inc. All rights reserved.

### **NUCLEAR PROCESS BEGUN AT JAPAN PLANT**

UPn 4/5/94 6:18 AM By MICHAEL DI CICCIO TOKYO, April 5 (UPI) -- Scientists began a sustained nuclear reaction at a prototype plutonium-fueled reactor Tuesday, moving Japan toward what the government says will mark the end of its

dependence on foreign fuel but critics charge amounts to a nuclear time bomb. Workers removed the last control rod from the Monju fast breeder nuclear reactor late Tuesday morning bringing it to criticality, the stage at which a nuclear chain reaction is self-sustaining. The semi-official Power Reactor and Nuclear Fuel Development Corp. said after further tests the plant, located in Tsuruga, central Japan, is scheduled to go on line with 280,000 kilowatts of electricity in 1995. About 300 anti-nuclear protesters marched a short distance from the plant to demand the firm halt operation of the facility and abandon its plutonium-based fuel program. Japan is an economic superpower but poor in natural resources and the government sees the \$5.7 billion Monju project as an important step toward ending dependence on increasingly unstable foreign energy sources. Fast breeder reactors produce more plutonium than they consume and that extra fuel can be used to fire other reactors, creating what some hope will be an efficient fuel cycle. But plutonium is also a key component in nuclear weapons and critics, ranging from environmental groups to national governments, charge Japan's fast breeder program dramatically increases the threat of nuclear disaster. While most other industrialized countries have scrapped fast breeder programs for safety and cost reasons, Japan has made developing the plants a cornerstone of its energy policy. Tokyo pledged in February to continue its longstanding ban on nuclear weapons development regardless of widespread suspicion that its communist neighbor North Korea was working to develop nuclear weapons. But critics warn of possible accidents at Japan's fast breeder reactors or terrorist attempts to seize the plutonium those reactors produce. "It is quite possible that in an accident Monju's plutonium fuel could compress, leading to a nuclear explosion," scientists from environmental watchdog Greenpeace warned. "On our calculations, it would be like a three kiloton nuclear bomb," they said. "Millions of people in Japan and throughout Asia would be exposed to radiation above the permitted levels." The International Atomic Energy Agency has warned Japan its fast breeder program could pose "political and security problems" in Asia, and urged that its plutonium supplies be placed in international custody. When Tokyo transported 1.7 tons of plutonium nuclear waste from Europe to Japan by ship in 1992, dozens of countries across the Pacific refused it permission to sail through their territorial waters. Japan's Science and Technology Agency played down criticism of Japan's program Tuesday. "Considering the issue has been internationally debated, we hope to try to get understanding both at home and abroad," agency head Satsuki Eda said. The Monju project has been delayed several times by technical problems since it was started in 1985, but the Power Reactor and Nuclear Fuel Development Corp. maintains the plant is now safe. "The reactor will provide a stable supply of energy for Japan and will enable the country to make an international contribution to energy development," firm spokesman Ryuji Murata said. Copyright 1994 The United Press International

## **RADIATION TESTS**

APn 4/4/94 11:09 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By JOHN DIAMOND Associated Press Writer WASHINGTON (AP) -- The Energy Department should monitor more closely the 41 research projects it conducts that expose 5,000 people to small amounts of radiation, a lawmaker says. A report submitted to the Senate Governmental Affairs Committee and released Monday indicates that all of the testing is done with the consent of the subjects and approval of an independent review board. But Sen. John Glenn, D-Ohio, chairman of the committee, said that while he was reassured by the overall report, more oversight is needed. "I would feel more reassured if the Energy Department was going out making spot checks and making sure that some doctor on some project isn't taking liberties," Glenn said. In January Glenn's committee asked the department to report on its testing. The committee released the report and its own summary on Monday. None of the projects involve the 1950s radiation testing that was disclosed earlier by Energy Secretary Hazel O'Leary. Nor do any of the tests seek to study the effects of radiation on humans, the report said. Rather, they use radiation as a diagnostic tool. Energy department spokesman Jeff Sherwood said institutional review boards, which include consumer advocates and experts not affiliated with the research institutions they oversee, closely monitor the medical testing they approve. Glenn countered that the department should check on the experiments and on the work of the review boards. He said the department has conducted no investigations of its own testing in the past three years. The report detailed an array of other studies the Energy Department conducts on human subjects. In all, the department is funding or overseeing 175 studies that involve 725,000 individuals in the United States. One long-term study is also following 138,000 survivors of the atomic bombs dropped by the United States on Hiroshima and Nagasaki, Japan, in 1945. Most of these studies involve questionnaires or tracking of medical histories with no human experimentation. The department spends a total of \$46 million on the research. Other agencies fund an estimated \$10 million in research at Energy Department labs. The 41 projects involving radiation break down into three groups, the largest covering patients who are exposed to trace amounts in nuclear medicine tests similar to those carried out in hospitals. Other projects involve routine diagnostic X-rays and use of radiation in searching for new treatments for cancer. In the latter category, at Brookhaven National Laboratory in Upton, N.Y., department scientists are developing "radiopharmaceuticals" for detecting tumors. At the Memorial Sloan-Kettering Cancer Center in New York, a project

financed by the Energy Department is using a radioactive isotope to develop antibodies known as "magic bullets" for detecting and treating cancer. Copyright, 1994, U.S. News & World Report All rights reserved. U.S.NEWS & WORLD REPORT, APRIL 4, 1994

## **NUKES FOR SALE? ARMS MERCHANT TO THE WORLD**

A North Korean nuclear arsenal threatening South Korea, 37,000 American troops and Japan would be bad enough. But an Iranian nuclear capability might be even worse. And as the Clinton administration continues its effort to stop or reverse Pyongyang's clandestine nuclear program, U.S. officials are acutely aware that failure could add nuclear weapons technology and material to Pyongyang's already hefty export catalog. "A number of countries around the world are proliferation problems," CIA Director James Woolsey said last week. "But North Korea is in a league of its own." In the past three decades, North Korea has developed chemical and biological weapons and, more recently, the ballistic missiles needed to deliver them hundreds of miles. Eager for hard currency, Pyongyang has increasingly become a major arms supplier for countries that can no longer buy all the weapons they want from Moscow or Beijing. North Korea may have shared chemical or biological weapons technology with Syria, Iran and Libya. But it is North Korea's expanding trade in ballistic missiles that worries Clinton administration officials most. "North Korea is the only unabashed seller of missile systems covered by the MTCR," or Missile Technology Control Regime, says one White House official. During the past few years, Pyongyang sold Syria and Iran Scud-C missiles it developed after reverse-engineering Soviet Scud-Bs; it also sold both countries the know-how to build their own Scuds. The Scud-C, with an approximate range of 300 miles, can hit any point in Israel from Syria. DELIVERY. Now Pyongyang is in the final stages of developing a follow-on missile, the No-Dong, which has a range of about 600 miles, and is working on two others with approximate ranges of 1,200 and 2,200 miles. The No-Dong, which has been developed with Iranian financial support and cooperation, is capable of carrying nuclear or chemical warheads and could enable Iran to threaten an arc from Jerusalem to Riyadh in Saudi Arabia. American officials worry that sales of nuclear weapons technology and material could follow the missiles, with Iran the most probable customer. "They have shown an inclination to sell anything at all that they can," says a senior administration official. North Korea's nuclear ties to Iran are murky, but last month the two countries agreed to step up military and nuclear cooperation, and North Korean nuclear scientists reportedly are working in Iran. According to CIA estimates, outside help could sharply reduce the seven to nine years analysts now think Tehran needs to produce its own nuclear weapons. Worse, Pyongyang's proliferation potential could mushroom in the next few years. North Korea's only operating nuclear reactor--a 5-megawatt plant--can produce enough plutonium to manufacture only a single atomic bomb every year or two. The North has both a 50-megawatt and a 200-megawatt reactor under construction and could have both running in 1996. Experts say that with all three reactors in operation, North Korea could process sufficient plutonium for 20 or more nuclear weapons a year. Peddling plutonium and nuclear technology would be risky but tempting: It could earn billions of dollars for a cash-starved regime. And according to Woolsey, the proceeds from North Korea's existing arms sales go directly into the coffers of the military, a key constituency in the byzantine succession process underway in Pyongyang between President Kim Il Sung and his erratic son Kim Jong Il. "This is a rogue state selling to rogue states," says one State Department official. The only solution, U.S. officials conclude, is to stop Pyongyang from making its own nuclear weapons. BY TIM ZIMMERMANN Copyright, 1994, U.S. News & World Report All rights reserved. U.S.NEWS & WORLD REPORT, APRIL 4, 1994

### **A NEW POLITICAL ORDER RISES IN RUSSIA**

In Moscow, history seems to be repeating itself. A dozen years ago, the pretenders to the ailing Soviet leader Leonid Brezhnev's throne began warring long before his death. KGB chief Yuri Andropov had his aides leak stories that Brezhnev was so ill he could work only two hours a day. The message: Only Andropov was strong enough to replace the top leader--and it was time to back the winning candidate. Last week, a strikingly similar fiasco of leaks claimed Boris Yeltsin is too ill to run the country and will soon be removed in a coup d'etat. Both reports were hotly denied, but the message was clear: The struggle to succeed a declining Yeltsin is underway. "Yeltsin is already marginalized in Russian politics," says Andrei Kortunov, a political analyst. Health is a factor. Yeltsin, who suffers from back and heart trouble, was not well enough to receive foreign visitors during two weeks earlier this month. There are other reports--largely dismissed by Western analysts--that he is dying from cirrhosis of the liver or a brain tumor. Yeltsin also is politically adrift: His candidates lost parliamentary elections last December that they were expected to win, and his confrontational, uncompromising style--ideal in a crisis--is unsuited for the give-and-take of a more democratic government. Yeltsin could remain as a figurehead leader for some time, but already a new, mostly centrist political constellation is replacing him atop Russian politics. Its most visible leader is Prime Minister Victor Chernomyrdin. A former top Soviet energy official and factory director, Chernomyrdin has surprised critics by sticking with reform. His approach is less radical than that of Yeltsin's original team but effective enough to have reduced inflation to 10 percent in February and convinced the International Monetary Fund that Russia qualifies for a new \$1.5 billion loan. While Yeltsin battled with the increasingly powerful new Russian parliament, Chernomyrdin's government is trying to make alliances. The government and parliament differ over key issues such as the budget, but so

far they have kept their differences in check--partly because neither side wants to provoke Yeltsin's anger and draw him back into the political fray. Ivan Rybkin, the chairman of the State Duma, or lower house of parliament, and a former hard-line Communist, has earned respect from both conservatives and reformers. Conservatives remain bitterly opposed to Yeltsin, but they are divided. Communist leader Gennadi Zyuganov heads a large parliamentary faction but is reviled by nationalists, who blame the Communists for ruining Russia. Ultranationalist Vladimir Zhirinovsky's star has dimmed somewhat because of his buffoonish behavior, and some of his support is likely to shift to former Vice President Alexander Rutskoi, who led last October's revolt against Yeltsin and now, freed from jail, is eager to re-enter politics. Yeltsin's political demise would be a heavy blow to the Clinton administration, which has supported him as the embodiment of reform and therefore has been slow to build ties with the more conservative new leaders. The administration must now adjust to more modest reforms and a more assertive Russian foreign policy. Last week, Deputy Secretary of State Strobe Talbott said that the United States "will need to find ways to minimize the damage" from growing foreign-policy differences with Moscow. Russian sources expect trouble as early as May 1, the day of traditional Communist rallies to mark International Workers' Day. Demonstrations could turn violent because millions of workers blame Yeltsin's more radical reforms for lost pay and lost jobs. An explosion would give Yeltsin's hard-line foes a pretext to try to oust him. Sources close to Yeltsin say he is considering whether to take emergency powers in April to limit the dangers. Measures being discussed include barring strikes, freezing prices to discourage protest and even suspending parliament. This could be wishful thinking by Yeltsin's backers, aimed at reinvigorating their fading leader for yet another all-out fight. To win, Yeltsin would need the Army's support, no longer a sure thing. It would be his last political gamble--one he could not afford to lose. BY FRED COLEMAN IN MOSCOW

## **RADIATION LEAK**

APn 4/1/94 7:18 AM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By PAT MILTON Associated Press Writer UPTON, N.Y. (AP) -- A small amount of radiation leaked from the Brookhaven National Laboratory for a half-hour after some nuclear research equipment caught fire. Seven workers were contaminated but no one was injured. Th seven workers had radiation on their skin and clothes but none in their lungs, said Brookhaven spokeswoman Mona Rowe. They washed and were declared radiation-free. The radiation was released outdoors through a vent stack. Robert Casey, head of Brookhaven's Safety and Environmental Protection Division, said a person outside the lab would have received about one-half microrem of radiation. By comparison, an X-ray gives 10,000 microrems. A rem is a measurement of radiation; a microrem is one-millionth of that. Two other employees who were in the building were not contaminated. Casey said it was the first emergency at Brookhaven since the laboratory opened in 1965. Brookhaven is owned by the federal Energy Department and administered by a group of universities. The fire began around 2:30 a.m. Thursday in a building that houses a small nuclear reactor. It did not involve the reactor, Rowe said. Casey said the electrical fire began in research equipment that contains uranium foil. Uranium is radioactive. But "I caution you not to confuse the 5 grams of uranium on the foil being used in the experiment with uranium fuel used in a reactor," Casey said. The reactor was shut down after the leak and the building was evacuated. Casey said it will take a few days to decontaminate the building. Other buildings at Brookhaven remained open.

## **BLAST HITS NUCLEAR REACTOR ``BUT NO CONTAMINATION'**

RTna 3/31/94 5:57 PM (Eds: updating with death) By Thierry Cayol MARSEILLE, France (Reuter) - An explosion set a closed nuclear reactor on fire in southern France Thursday, killing one man and injuring four people, but authorities said no radiation contamination was detected. The Atomic Energy Commission said the blast knocked down a giant, 3,200-square-foot slab of concrete, sparking a sodium fire in a tunnel some distance from the core of the experimental reactor. The state commission said there was no sign of radiation contamination, and local authorities there was no plan to evacuate the area, 45 miles northwest of Marseille. "Tests carried out at the site did not detect any contamination of the injured workers or of the surrounding environment," the CEA said in a statement. The experimental 40-megawatt fast-breeder reactor, called Rapsodie, was closed down in 1983 and was being dismantled. A spokeswoman for the state agency Safety at Nuclear Facilities said it was too early to tell whether radioactivity had spread through the inside of the facility, where several thousand people worked. A CEA spokesman said there was no nuclear fuel in the reactor and very little radioactive material. He said the cause of the explosion was still not known. The commission said the blast took place when workers were cleaning a tank of sodium "slightly contaminated by caesium 137 and by tritium." Liquid sodium is used to cool the radioactive core of fast-breeder reactors. A spokeswoman for DSIN said the blast, in an outlying tunnel away from the core of the reactor, may have been caused by the decontaminating fluid. After the explosion, about



70 firefighter with dogs searched the rubble for a missing person, who was found several hours later in a tunnel encircling the core of the reactor. A CEA spokesman said the exact cause of the man's death was not known, but he was believed to have been killed by the force of the blast. One of the injured was seriously hurt. The fire was quickly brought under control by security workers at the site, the CEA said. REUTERCopyright 1994 Reuters Information Services, Inc. All rights reserved.

### **CHERNOBYL SAFETY MEETING SCHEDULED FOR APRIL**

UPn 3/31/94 8:54 AM VIENNA, March 31 (UPI) -- The International Atomic Energy Agency, or IAEA, will organize a meeting to discuss safety factors at Ukraine's Chernobyl Nuclear Power plant in the second half of April, an IAEA press release said Thursday. An international expert safety assessment team, organized by the IAEA, claimed sufficient safety measures were not being met at the plant following a 10-day IAEA visit to Chernobyl earlier this month. The inspection had been agreed to by the Ukrainian government after its decision to postpone the plant's closure, which had been scheduled for the end of last year. Among the numerous safety deficiencies discovered at Chernobyl were operations and design problems in the plant's three functioning reactors. In addition, the fourth reactor, which malfunctioned on April 26, 1986, may still be too dangerous to be handled. According to the IAEA experts, the confirmed rapid deterioration of the shelter protecting the destroyed fourth reactor could have serious consequences for the area surrounding the plant. Further, the difficult working conditions for the staff and the continuous loss of highly skilled personnel could also affect the overall safety of the plant. Copyright 1994 The United Press International

### **"SECRET NUCLEAR RESEARCH ON PEOPLE COMES TO LIGHT."**

Magazine: The Journal of NIH Research Issue: March 1994 Title: radiation Tests: Secret? No. Worth Examining? Yes. (a new slant on a widely reported story) Author: Robert Taylor "Secret Nuclear Research on People Comes to Light."

In recent months, headlines such as that one have commanded the public's attention. And the decades-old studies described in the accompanying news stories sounded dreadful. Disadvantaged boys were duped into drinking radioactive milk at the Fernald State School in Waltham, Mass. Hundreds of pregnant women were dosed with radioactive iron at Vanderbilt University in Nashville, Tenn. Eighteen unwitting patients were injected with plutonium at four different hospitals across the country. Since last December, the press has vigorously pursued stories about human "radiation experiments." The public outcry has prompted a far-reaching review of government records that date back to World War II. Such scrutiny of past research on human subjects will be worthwhile if it makes today's researchers and participants aware of the principles that should guide human experimentation, such as the need for truly informed consent. Violations of these principles are less likely to be repeated if everyone understands what happened in the past. Unfortunately, two important points have been buried in the current barrage of news reports, congressional hearings, and indignant editorials. First, despite numerous reports to the contrary, many of the studies now in the news were never secret. Accounts of most of the experiments have been available in medical libraries for decades. The attention now being paid to these old studies is new; the information about them is not. Second, the radiation experiments now in the spotlight are very diverse. Some were low-risk studies of metabolic processes that used radioactive tracers and had nothing to do with war, cold or hot. Other studies involved higher risks to the people used as test subjects, and were carried out to benefit the military. To further muddy the waters, biomedical experiments that exposed people to radiation have become entangled with tales of radiation exposure that were unrelated to research. These include the widespread--but, in retrospect, foolhardy--use of radiation in the 1930s, '40s, and '50s to treat everything from acne to sinus infections, as well as secret releases of radioactive material from U.S. government nuclear-weapons facilities in the 1940s, '50s, and '60s. Some of the releases were accidental, but others were deliberate "experiments" to test how far the radioactive material would travel. The misplaced allegations of secrecy, combined with the tendency of press reports to lump radiotracer experiments, studies of the biological effects of radiation, weapons research, and recklessness by officials at nuclear weapons facilities together under the heading of "radiation experiments," has severely distorted an important issue. An examination of the Fernald School, Vanderbilt University, and plutonium-injection studies shows that not all of the "experiments" should be tarred with the same brush as some of those conducted by officials at government nuclear-weapons facilities. Department of Energy (DOE) Secretary Hazel O'Leary touched off the current wave of public concern. At a Dec. 7 press conference that she called to announce her intention to declassify huge amounts of information about the nuclear-weapons industry, O'Leary said she had ordered DOE to find and release all information in its possession about experiments that exposed humans to radiation. She has not yet released any new information about the experiments. The radiation-experiments story took off a week later when the national press began to pursue it. DOE set up a telephone hotline for people who believe they were involved in government-funded experiments that exposed them to radiation, which was immediately swamped with calls. Members of Congress called

hearings to examine various aspects of the issue--and to hop on the bandwagon. Then, in early January, President Clinton ordered several government agencies to search their files for records of human exposure to ionizing radiation during experiments, and he authorized the formation of an advisory committee to oversee the government's review (see box). The hullabaloo inspired reporters to poke around in the old medical literature for experiments that involved radiation. On Dec. 26, 1993, the Boston Globe reported that researchers from the Massachusetts Institute of Technology (MIT) had conducted a study of calcium absorption at the Fernald State School for mentally retarded boys in the early 1950s. The experiments at the Fernald School were designed to answer what at the time was an important question for people whose diet included much cereal grain and not much meat or milk. The study addressed whether various forms of inositol hexaphosphate (also known as phytate), which occurs in some cereal grains, interfere with the absorption of calcium into the blood from the lumen of the small intestine. Felix Bronner, Robert Harris, and their colleagues fed 19 boys milk containing  $^{45}\text{Ca}$  as a tracer, mixed with either phytate-rich oatmeal, phytate-free farina, or farina supplemented with phytates. After the boys had consumed a single dose of the radiolabeled calcium, the researchers measured the amount of  $^{45}\text{Ca}$  in blood, urine, and feces over a period of five days. Each boy participated in two experiments three weeks apart. The study showed that although phytates inhibit calcium uptake, the effect is too small to be a problem in most cases. The researchers reported their results in the *Journal of Nutrition* in 1954. Francis Masse, a radiation physicist at MIT, testified at a Jan. 25 hearing of the Senate Governmental Affairs Committee chaired by Sen. John Glenn, D-Ohio, that the maximum radiation dose the boys received was about 0.12 mSv (12 mrem), well within the current recommended limit of 5 mSv (500 mrem) for human subjects in tracer studies. Although the boys' parents had given consent for them to participate in a nutritional study, the researchers did not tell the boys or their parents the boys would receive a radioactive tracer. Like the Boston Globe, the Nashville Tennessean found a local study to write about. On Dec. 25, 1993, the paper reported that researchers at Vanderbilt University conducted in the late 1940s to measure iron uptake and metabolism in pregnant women. Paul Hahn, G.S. McLellan and their colleagues gave 819 white women a single dose of radioactive  $^{59}\text{Fe}$  at various stages of pregnancy. The researchers determined the percentage of iron that the women absorbed by measuring the radioactivity in their red blood cells two weeks later; they determined the amount of radiolabeled iron that found its way to the fetus by measuring the concentration in the newborn infants' blood. The researchers concluded that the maternal uptake of iron increases between the 15th and 30th weeks of pregnancy, and that the percentage of a single dose that is absorbed decreases as the size of the dose is increased. They reported the results in the *American Journal of Obstetrics and Gynecology* in 1951. The Vanderbilt study may well have killed some of the children born to the mothers who participated in it. In 1969, almost 20 years after the initial experiment, a different team of Vanderbilt epidemiologists led by Ruth Hagstrom published a follow-up report in the *American Journal of Epidemiology* on the incidence of cancer and birth defects among the children exposed to  $^{59}\text{Fe}$  in utero. They found no increased incidence of birth defects. But among the 679 children the researchers were able to locate, they found four cases of cancer, all fatal. There were no malignancies in an untreated control group drawn from the same population. Hagstrom and her colleagues concluded that one case of liver cancer in the treated group was probably hereditary. But the others--one case of leukemia and two of sarcoma--represented a small but statistically significant increase in cancers in the treated group. Although the 1969 follow-up study does not prove that exposure to  $^{59}\text{Fe}$  caused the cancer deaths, it was one of many in the 1960s and 1970s that suggested that radiation doses previously considered safe pose long-term risks. Unlike the Fernald and Vanderbilt studies, the plutonium injections were done in the utmost secrecy. Between April 1945 and June 1947, doctors in charge of monitoring the health of workers who handled plutonium during the manufacture of nuclear weapons injected plutonium into 18 seriously ill patients at hospitals in Rochester, N.Y., Berkeley, Calif., Chicago, and Los Alamos, N.M. The purpose of the experiment was to determine the relationship between a known plutonium dose and plutonium concentrations in blood, urine, and feces. Officials in the nuclear-weapons program needed the data to calculate the plutonium body-burden of nuclear workers. The patients received doses between 1.5  $\mu\text{g}$  and 92  $\mu\text{g}$ ; most received approximately 5  $\mu\text{g}$ , about nine times the 1940s estimate of the plutonium dose that would cause no ill effects. The doctors chose patients for the plutonium study whom they expected would live less than 10 years. However, follow-up of the injected patients, begun in 1968, showed that nine of the 18 people survived more than three years after their injections, and four of them lived more than 25 years. None of the people injected with plutonium died of liver or bone cancer, the most common maladies associated with long-term exposure to plutonium. In at least 16 of the 18 cases, no one asked the patients for permission to inject them with plutonium. In some cases, it is not clear that the patients even knew they were participating in an experiment. The very existence of plutonium was a closely held secret until after the destruction of Hiroshima and Nagasaki, and information about its chemical or biological properties was not declassified until July 1947. Los Alamos National Laboratory in New Mexico declassified the results of the plutonium-injection studies in 1950. Several radiation experts have testified before Congress that the data gleaned from the experiment were extremely useful for determining the plutonium dose a person can carry reasonably safely. The data were deemed so important that, in 1980, the Health Physics Society, based in McLean, Va., chose to reprint the 1950 Los Alamos report in its journal, *Health Physics*, as part of its 25th anniversary commemoration. The morality of the Fernald, Vanderbilt, and plutonium studies, as well as others featured in recent press accounts, will be debated for a long time to come. But there is a qualitative ethical

difference between the Fernald and Vanderbilt studies and the plutonium injections. In the first two studies, the researchers who designed them stated in their published reports that the radioactive elements used posed minimal risk to their subjects. The Fernald researchers were apparently correct; the Vanderbilt researchers were probably incorrect. But the doctors who carried out the plutonium injections knew they were putting their subjects at risk. The subjects they chose were not only sick, but economically disadvantaged as well. The impact of publicity about past radiation experiments remains to be seen. The ongoing review of old government records may uncover evidence of crimes that make the plutonium injections seem benign. But dragging old mistakes and dark secrets out into the open, although painful, can be beneficial. Since 1974, an ever-expanding set of guidelines, regulations, and review boards has been in place to protect people who participate in biomedical experiments. The regulations were created in response to public pressure in the wake of the infamous Tuskegee Syphilis Study, a 40-year-long conspiracy funded by the Public Health Service in which hundreds of African-American men were denied treatment so that researchers could study the effects of untreated syphilis. The controversy surrounding the radiation studies is already having at least one beneficial effect, says Gary Ellis, director of the NIH Office for Protection from Research Risks in Bethesda, Md. "The more attention paid to these historical misadventures, where voluntary informed consent may not have been part of the study, the better," says Ellis. "We've had more calls about human-subject protection in the last few weeks than we've had in the last several years put together. And that's a positive outcome."

NIH Exhumes radiation Studies Acting on orders from the top, officials throughout the federal government are searching old files for information about any federally funded research since World War II that exposed humans to radiation. On Jan. 3, President Clinton created the Human radiation Interagency Working Group to investigate all such research. The working group includes the secretaries of the departments of Health and Human Services (HHS), Veterans' Affairs, Defense, and Energy, as well as the U.S. attorney general, the NASA administrator, the director of the Central Intelligence Agency, and the director of the Office of Management and Budget. Within each department, smaller working groups are being formed to do the necessary legwork. On Jan. 19 Clinton established an advisory panel to oversee the governmental review, and report back to him in one year. Ruth Faden, a Johns Hopkins University bioethicist, will chair the advisory panel, which is scheduled to report back to the president early next year. Wendy Baldwin, NIH acting deputy director for extramural research, and D.A. Henderson, deputy assistant secretary of HHS for Health and Science, are co-chairs for the Public Health Service working group, which will collect information from NIH, the Centers for Disease Control and Prevention, the Indian Health Service, and the Food and Drug Administration. Gary Ellis, director of the NIH Office for Protection from Research Risks, is in charge of the NIH effort. The mandate for the government investigation is very broad: Review all experiments that exposed people to ionizing radiation. The only exception from the review is for radiation exposure during routine diagnostic or therapeutic procedures. The NIH working group will review both intramural and extramural NIH research. Ellis says the group will examine old NIH records of research grants, review published papers and internal reports, and talk to researchers who were active in the 1940s and 1950s. The working group also hopes to get tips from the Department of Energy's review of shipping records from the laboratories that were the sole suppliers of radioactive compounds until the mid-1950s. Ellis says a task force of 20 NIH staff members will meet weekly for the foreseeable future to conduct the review.

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## **THE DIM GLOW OF HISTORY**

### **AN EERIE NEVADA DESERT PRESERVE TESTIFIES TO THE COLD WAR'S FADING NUCLEAR**

#### **VISION**

Most tourists probably wouldn't call this tourism. Drive past the ALPHA RADIATION warning signs, pull on a pair of bright yellow boots, then follow the man with the Geiger counter across the barren desert landscape strewn with twisted steel girders. The square mile of ground, still black after the passage of 37 years, is littered with lead bricks, stray bits of cable and thousands of ominous, amber-colored pebbles that set the Geiger counter clicking. Bill Johnson, the

archaeologist who is showing this group of visitors around the Nevada Test Site, points out a hard, black film covering what is left of a guy-wire stanchion. The material is "trinitite"--desert sand fused into glass by the heat of the explosion.

To be sure, what Johnson does here is not anything that most archaeologists would call archaeology, either. As he stands amid the remains of a tower blown to pieces by the nuclear bomb that perched atop it during the 1957 test, Johnson's voice swells with an enthusiasm that his colleagues generally reserve for Indian cliff dwellings or Mayan temples or Civil War battlefields. "This is one of those sites that HAVE to be preserved," he says. "It's one of the most important places in the history of mankind."

The satirical songwriter Tom Lehrer once ruefully observed that if we're going to have any songs from World War III we'd better start writing them now. But Johnson and his co-workers at the Desert Research Institute realize that the cold war's abrupt end brought a more ironic threat: History that was saved from the annihilation of nuclear war was suddenly at risk of being permanently lost in the nuclear demobilization. Since last summer, the archaeologists have been cataloging the remnants of the more than 100 atmospheric nuclear explosions that were set off at the test site before above-ground tests were halted by the 1963 Limited Test Ban Treaty. The researchers are due to issue a report this spring identifying buildings and objects associated with the testing program that may be eligible for inclusion on the National Register of Historic Places.

EVERYDAY THINGS. Never, perhaps, has the rubbish heap of history taken on such a literal connotation. The dry lake bed known as Frenchman Flat is covered with an eerie assortment of junk: a bank vault, a railroad bridge, an underground parking garage, hangars, a wood-frame house, a motel--all built in the middle of a 1,350-square-mile tract of desert in the middle of nowhere and blown up by atomic bombs. But the debris tells a story that words cannot, a story of cold war fears and cold war fantasies, of technological naivete and of the unimaginable power that man unleashed and glibly proclaimed his own. Some of it was research into the genuinely unknown; some of it was publicity stunts; some of it was just a bureaucracy playing the old game of finding new ways to keep busy.

Some of it, inevitably, was a circus. A car dealer from Las Vegas was invited to park his wares in the underground garage during one of the blasts; he drove them home afterward and advertised a "used atomic car sale." In an effort to instruct the public on the virtues of civil-defense measures, entire mock-up towns were built and blown up. The aim was to show enough damage to persuade people to take the threat seriously, but not so much as to engender hopelessness; it was a fine line. The bank vault, 1,150 feet from ground zero, came through fairly well. The railroad bridge did not--a boxcar parked atop it was knocked off, and the girders bowed out several feet in a smooth arc. What the take-home lesson was is still a bit hazy. Stay out of trains during nuclear attack? Keep your papers in a safe-deposit box?

Elsewhere, the lesson remains unmistakable. The number of people on this planet who have witnessed a nuclear explosion dwindles each year; the site of the 1957 test, code-named SMOKY, is the sole place on Earth that bears unedited testimony to a destructive power that most know only by reputation. The archaeologists, with unintended irony, call it a "pristine" site. Every other blast site had at least some minimal cleanup; SMOKY was simply roped off and left as it was. Its starkness is eloquent.

NUKED VISION. A few miles away it is glibness that is on display: A 320-foot-deep crater, 1,280 feet across, blown out of the ground in a test in 1962 code-named "Sedan" to test the idea that nuclear explosives might be handy civil-engineering tools. At the other corner of the test site stand test beds constructed to develop the nuclear rocket engine. Great ideas, all of them; too bad the radiation problem spoiled the vision.

Even the oldest structures have generally been preserved by their isolation and the dry desert climate. But the archaeologists found, to their surprise, that even many of the scientists and technicians who have worked in the test program for years were unaware that they are still standing--a fact that has underscored the urgency of the archaeological effort.

A few structures are in serious trouble, however. Mock-ups of Japanese houses, built to reconstruct the radiation doses received by survivors of Hiroshima and Nagasaki, are falling down. A \$40,000 grant from the Department of Energy this year will be used to complete the historical evaluation of the buildings and stabilize them.

The DOE's office in Las Vegas offers limited tours of the test site. At some point in the future, there may be more regular tours with a more fully developed interpretative program. Johnson, who did his Ph.D. research on ancient Indian mounds in Florida and who continues to do prehistoric archaeology on Indian remains that turn up on the test site, still gets

grief from his fellow archaeologists, but he is unwavering in his belief in the cause. Civil War battlefields were neglected in the immediate aftermath of the Civil War; it is only because the cold war took place in our own lifetimes that we fail to appreciate the historic significance of its artifacts, he argues. "I'm studying a continuum of time from 2 million years ago, the first stone tools, to today," Johnson says. "And the most significant thing to have happened at the test site in that continuum was the nuclear-testing program."

BY STEPHEN BUDIANSKY

### **UKRAINE GIVES \$1.6 MILLION WORTH OF AID TO CUBA**

RTw 4/14/94 2:55 PM HAVANA, April 14 (Reuter) - Ukraine, grateful for help given by Cuba to victims of the Chernobyl nuclear disaster, has donated fertiliser, powdered milk, canned meat and medicines to the Caribbean island worth some \$1.6 million, official media said Thursday. Granma, newspaper of the ruling Communist Party, quoted Ukrainian trade attache Alexander Gnedik as saying at a ceremony in Havana Wednesday that the aid was a "show of solidarity" for Cuba, currently deep in economic crisis. The Caribbean island treated some 10,000 children affected by the disaster at Ukraine's Chernobyl nuclear plant in 1986. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

### **SIBERIAN RIVER SAID THREATENED BY NUCLEAR WASTE**

RTw 4/13/94 4:43 AM By Jean-Christophe Peuch MOSCOW, April 13 (Reuter) - A Russian environmental group said on Wednesday that a river near the eastern Siberian city of Krasnoyarsk risked contamination by leaks from a military nuclear waste site. "The possibility of radioactive contaminated water escaping...into the River Bolshaya Tel is not excluded..," the independent Social-Ecological Union said in a statement. The statement said pollution from the site was already seeping towards the river at a rate of 100-200 metres (110-220 yards) a year. The Bolshaya Tel is a tributary of the River Yenisei. The dump covers an area of 11,000 sq km (4,246 sq miles), about 60 km (40 miles) northeast of Krasnoyarsk. Social-Ecological Union representative Vladimir Chechyotkin said the site was first commissioned in the late 1960s and was used to bury waste from three nuclear reactors and an isotope chemical plant. He wrote in the statement that authorities were considering building a new plant for reprocessing nuclear fuel at the site, which environmentalists say could increase the danger. Central government and local authorities have already been asked by independent ecologists to exert tougher control over the site and to abandon the new processing plant project. A Krasnoyarsk administration official, contacted by telephone from Moscow, told Reuters the question was still "under consideration." A representative of environmental organisation Greenpeace said he believed the Krasnoyarsk site, one of four Russian dumps for liquid nuclear waste, posed a real threat. The reprocessing plant would increase the amount of waste and potential danger for the environment, said Dmitry Tolmatsky, responsible for nuclear energy at the Greenpeace Moscow office. Tolmatsky said several countries from Southeast Asia already planned to send nuclear waste to Krasnoyarsk for processing. The Social-Ecological Union said that, despite official claims that the site represented no danger to the environment, on-site tests showed high contamination around the pipeline which takes nuclear waste from the reactors to the dump. Chechyotkin said the dump was located in an earthquake zone where formation of cracks in geological structures was inevitable. This could lead to various nuclear substances rising to the surface of the soil and their further migration along the Bolshaya Tel river, he said. The environmental group said it was also concerned by plutonium contamination of soil and vegetation within the protected area around the site. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

### **ATOMIC AGENCY TO HOLD CONFERENCE ON CHERNOBYL**

RTw 4/13/94 1:58 AM TOKYO, April 13 (Reuter) - The International Atomic Energy Agency will host a special meeting next week to discuss safety at Chernobyl, site of one of the world's worst nuclear accidents, IAEA chief Hans Blix said on Wednesday. "At the IAEA we are at present particularly concerned about the situation at Chernobyl, where two reactors are still in operation and where many skilled operators have left," the agency director general told the Japan Atomic Industry Forum in Hiroshima. Blix's deputy, Boris Semenov, said later the meeting would take place in Vienna on April 21 and 22. The nuclear reactor involved in the 1986 accident was never reactivated. The Ukrainian government continued to operate two other reactors at the site, however, and has asked the IAEA to check on safety. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

## **REPORTER WINS PULITZER FOR EXPOSING HUMAN ...**

RTw 4/12/94 8:18 PM REPORTER WINS PULITZER FOR EXPOSING HUMAN RADIATION TESTS ALBUQUERQUE, NM, April 12 (Reuter) - An obscure footnote in a declassified report put Albuquerque Tribune reporter Eileen Welsome on the trail of Americans who had unknowingly been used in government radiation experiments nearly 50 years ago. Tuesday, Welsome won the Pulitzer Prize for national reporting for exposing the government's role in injecting 18 people with plutonium as part of experiments to test the effects of radiation on humans. Welsome, 43, said she first came across the reference to the human radiation tests in the spring of 1987 while researching a story about animals being injected with radioactive materials. She spent most of her spare time over the next five years trying to track down the human subjects of the experiments, which were conducted between 1945 and 1947. "It was the wildest goose chase of my newspaper career because the trail was 50 years old," Welsome said in a telephone interview from New York City, where she was accepting another journalism award for her series of articles. The Tribune identified 16 of the 18 victims of the plutonium injections, and Welsome's articles prompted Congressional hearings and other government inquiries into the human radiation experiments. Welsome said it was especially gratifying to win a Pulitzer while working for a newspaper with a circulation of only 35,000. "I think this Pulitzer shows that newspapers, whether big or small, are one of the greatest forces for change in our society," she said. Welsome, who has worked as a general assignment reporter at the Tribune since 1987, said she plans to take a leave of absence from the newspaper to write a book on the subject. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

## **RUSSIANS HAVE BASEBALL-SIZED NEUTRON BOMB - TV**

RTna 4/12/94 2:10 PM LONDON (Reuter) - Russian scientists have designed a miniature nuclear bomb the size of a baseball, British television researchers said Tuesday. The small "clean" neutron bombs are not made from "dirty" plutonium and so are not covered by non-proliferation treaties. Independent Channel Four in a program to be broadcast Wednesday shows how Russian scientists have used a compound red mercury to make neutron weapons which destroy human life but leave buildings and machinery intact. It said the development of radioactive red mercury was an extraordinary scientific breakthrough which has eluded American researchers for 40 years while the small size of the bombs poses a serious threat from terrorist attacks. Dr Sam Cohen, the U.S. nuclear scientist and inventor of the neutron bomb in the 1950s, told a news conference Tuesday: "I find the entire business terrifying. Conventional mass destruction nuclear weapons use plutonium to create fission and trigger off nuclear fusion which kills largely by blast and heat. The pure fusion device is thought to use red mercury to trigger fusion without any plutonium. Dr Cohen said a pure fusion bomb -- which he believes Russia has created -- the size of a coffee mug would have the yield of 10 tons of TNT high explosive and kill humans within 600 yards by radiation while leaving little lingering radiation. "It's not going to be the size of a football. It's going to be more the size of a baseball," he added. Fusion bombs contain a form of hydrogen called tritium, but no plutonium or uranium. Speculation about the existence of red mercury has emerged in recent years, highlighted by Channel Four director Gwynne Roberts' report last year on the existence and uses of the compound. But western governments insist it is a hoax. "To the best of our knowledge no unique substance called red mercury exists. Substances called red mercury have been tested and proved to be useless," said a spokesman for the British Ministry of Defense. The program used British nuclear scientist Frank Barnaby to interview a Russian military scientist about red mercury and he concluded: "I'm sure he was telling the truth." REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

## **PLUTONIUM TESTS**

APn 4/11/94 3:55 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By H. JOSEF HEBERT Associated Press Writer WASHINGTON (AP) -- Human plutonium experiments may have been more widespread in the 1940s than previously thought, with more than two dozen patients possibly involved, new documents suggested Monday. The documents, hidden among Energy Department records recently opened for public view for the first time, disclosed that six people drank plutonium as part of medical tests in 1946. Other documents alluded to two additional patients who may have had plutonium injected as early as 1944 and a third who was injected with a highly radioactive material similar to plutonium. Previously the plutonium injections were believed to have been limited to 18 patients in tests conducted between 1945 and early 1947. The additional tests involving patients who drank a plutonium solution were described in a June 20, 1946, memorandum between two scientists at the University of Chicago. The experiments in which plutonium was mixed in a solution of water and hydrochloric acid was conducted in May of that year to "gain some idea as to the rate of intestinal elimination" of plutonium in humans, according to the memo. Rep. Edward Markey, D-Mass., on Monday sent a letter to Energy Secretary Hazel O'Leary asking for more information about

the previously unknown tests and said they represent "another part of the iceberg of human experiments with this deadly substance." Markey, who made available copies of the documents, said it appeared that the solution drunk by the six patients contained fairly low-level doses of plutonium -- much less than the amount used in the injections -- but that they, nevertheless, represent additional examples of questionable human testing. The 1946 memo, characterized as a monthly summary of activity involving medical radiation experiments, was written by Dr. E.R. Russell to Dr. J.J. Nickson, both at the University of Chicago. The two men were among a handful of scientists who in the 1940s were trying to learn how plutonium is distributed in the body and how rapidly it is excreted. It could not be learned from the memo where these additional tests took place, the identity of any of the patients, nor whether any had been properly informed of the experiments or given consent. Markey also asked the Energy Department to provide additional documents to explain two cryptic references in records from the early 1970s that suggested that at least two additional cases where humans were believed injected with plutonium -- both in 1944. The Energy Department records include at least three references to the two additional injections, but give no details about them. One describes a telephone conversation in 1974 between Sidney Marks, who at the time led an Atomic Energy Commission investigation into the plutonium injection experiments, and Louis Hempelmann, a scientist who had been involved in the 1940s experiments. The document said that Hempelmann had discovered in files pertaining to the 18 injection experiments "a reference to injection of plutonium in 1944 into two patients who were fatally ill ... in addition to the 18." A separate memo on the progress of the 1974 investigation refers to "possibly 2 others in 1944" in a list of injection experiments. No further details were included in any of the documents. Another document refers to the 18 previously known plutonium injection cases and makes reference to a 19th patient -- a teen-ager of Asian ancestry -- who was injected with a radioactive material similar to plutonium. Markey asked the Energy Department to provide any additional documents that might shed light on the previously undisclosed experiments. The test subjects were all believed to be in poor health and had been expected to die within 10 years. However, some lived for decades after the tests were conducted.

## **RADIATION MINIMAL AFTER FRENCH DISUSED REACTOR BLAST**

RTw 4/11/94 11:21 AM PARIS, April 11 (Reuter) - French authorities said on Monday that radioactive contamination from an explosion in a disused experimental nuclear reactor last month had been minimal and no one had been contaminated. The Nuclear Energy Commission (CEA) said the radioactivity released at the Cadarache nuclear complex was about 1.7 percent of what the sprawling facilities were authorised to release annually. The CEA said the hydrogen blast was due to excess pressure in a sodium tank which was being cleaned of residues with heavy alcohol prior to being dismantled. One worker died in the blast and four were hurt. The injured showed no sign of contamination and were recovering. The CEA said rubble hurled by the blast up to 30 metres (100 ft) away showed some Caesium 137 contamination. There were very faint traces of radioactivity up to 100 metres (330 ft) from the tank. The explosion happened on March 31 in the experimental fast-breeder reactor Rapsodie which was being dismantled at Cadarache, 70 km (45 miles) northwest of Marseille. The 40-megawatt reactor was halted 11 years ago. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

## **IRAN SUPPORTS PAKISTAN'S NUCLEAR PROGRAM**

UPn 4/11/94 11:20 AM By ANWAR IQBAL ISLAMABAD, April 11 (UPI) -- The visiting speaker of the Iranian parliament Monday told the Pakistani National Assembly that Iran supports Pakistan's right to acquire nuclear technology, and condemned the West for opposing the transfer of this technology to all Islamic states. Ali Akbar Nategh Noori told a special session of Pakistan's National Assembly that Western opposition to Pakistan's nuclear policy was discriminatory and was "actually a conspiracy of the West to keep the Islamic world at their mercy." The Iranian speaker's declaration of support for Pakistan's nuclear policy comes a day after the visit of U.S. Deputy Secretary of State Strobe Talbott, who demanded that Pakistan put a verifiable cap on its nuclear program. Talbott, the most senior official of the administration of U.S. President Bill Clinton to visit India and Pakistan, met Pakistani Prime Minister Benazir Bhutto over the weekend and urged her to "cap, reduce and eliminate" Islamabad's controversial nuclear program. The Iranian speaker flew into Islamabad Sunday, a few hours after Talbott's departure, amid opposition party allegations that the Bhutto government failed to accord an adequate reception for the Iranian guest. There is no nuclear cooperation agreement between Pakistan and Iran. Noori said the United States and other Western powers are "making so much fuss about Pakistan's nuclear facilities only because it is an Islamic nation." "The old war between Islam and kufir (or, non-believers) still continues in different shapes and forms," he told the Pakistani legislators. Iran and Pakistan will discuss increased economic cooperation during Noori's five-day visit, particularly the setting up of an oil refinery and the laying of a gas pipeline from Iran to India, via Pakistan. Copyright 1994 The United Press International

## **EU WANTS TO HELP SHUT CHERNOBYL PLANT**

RTw 4/19/94 12:07 PM LUXEMBOURG, April 19 (Reuter) - The European Union wants to help Ukraine close the Chernobyl nuclear power plant permanently and to investigate reported safety defects there, Greek European Affairs Minister Theodoros Pangalos said on Tuesday. Pangalos, whose country holds the EU's presidency, said help with Chernobyl would feature in a broad-ranging plan of economic aid for Ukraine to be drawn up by the European Commission. Speaking at a news conference after a two-day meeting of EU foreign ministers, Pangalos was asked whether the aim was to close for good the Chernobyl plant, which was the scene of the world's worst nuclear accident eight years ago. "Yes," he replied. "Not only that but also see what the situation is there, because we have some information that it might be more difficult than initially we thought. "There is a tendency to forget. We have thrown lots of concrete on it and think it (danger of radioactive leakages) has gone. But it's not gone. It's creeping (back)." Ukrainian nuclear authorities said earlier this month the Chernobyl power plant could be closed only by authority of parliament and after alternative power sources were found. The Ukrainian stance complicated an earlier announcement by the U.S. Department of Energy that American and Ukrainian delegations had agreed after talks in Kiev to close down as soon as possible the two reactors still in operation at Chernobyl. It said the two governments would analyse ways of closing the plant, described as unsafe this month in a report by the Vienna-based International Atomic Energy Agency. Ukraine's parliament, citing energy shortages, last year shocked world opinion by reversing a decision to close down Chernobyl by the end of 1993 and lifted a moratorium on construction of new reactors. The explosion and fire at Chernobyl in April 1986 spewed clouds of radiation across Europe and caused at least 8,000 deaths according to Ukrainian authorities. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

## **RUSSIA FLOODS PUT NUCLEAR WASTE IN PERIL-COMMITTEE**

RTw 4/19/94 11:02 AM MOSCOW, April 19 (Reuter) - Severe flooding in Russia's Ural mountains is causing concern that buried radioactive waste might seep into the region's water systems, a government spokeswoman said on Tuesday. Marina Ryklina of the Government Committee for Emergency Situations told Reuters that some of the worst flooding for 30 years posed a possible risk to nuclear materials buried near Chelabinsk, 1,200 km (750 miles) southeast of Moscow. "The situation in Chelabinsk is dangerous....with the flood waters (radioactive waste) can get into the rivers and into the water supply," she said. Ryklina said a team of experts had been dispatched to the region to assess the situation. The Chelabinsk area was the site of a series of nuclear disasters in the 1940s and 1950s hushed up by the Soviet Government during a headlong drive to achieve arms parity with the United States. Residents have long complained of high rates of cancer, miscarriages and other medical problems which began with the dumping of raw radioactive waste from plants producing weapons-grade plutonium into local rivers. Numerous nuclear dump sites still litter the region. Experts have often expressed concern about the safety of the dumps. The flooding, caused by the melting of the winter's heavy snows, has affected a wide swathe of territory from around Saratov, south of Moscow, to the Urals. More than 10,000 people have been forced to flee their homes and nearly 9,000 buildings have been swamped by the waters, which began overflowing their banks over a week ago. "Many people who have lived there all of their lives have said that they have never seen anything like it," Ryklina said. Efforts to evacuate people in danger have been complicated by fears of looting. Officials in Saratov said some residents in that region had refused to leave, preferring instead to defend their property by perching upon rooftops with rifles. Despite the havoc wreaked by the floods, the approaching growing season was not expected to be seriously affected. The region boasts some of Russia's most fertile farmland. Some livestock fodder had, however, been destroyed. Ryklina said the Russian government had released eight billion roubles (\$4.5 million) to help pay for cleaning up the disaster. But she insisted this was insufficient to cope with the emergency. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

## **NRC WARNS OF LEAKS AT IDLE NUKE PLANTS**

UPn 4/18/94 5:50 PM KING OF PRUSSIA, Pa. (UPI) -- Eight closed nuclear plants around the country are being warned to check for leaks in their storage pools of spent nuclear fuel. The Nuclear Regulatory Commission says water pipes burst in one idled plant in Illinois, and says the fuel rods could give off dangerous radiation if exposed to the air. Copyright 1994 The United Press International

## **RUSSIA SAYS UNABLE TO PROCESS OWN NUCLEAR WASTE**



RTna 4/18/94 10:16 AM ST PETERSBURG, Russia (Reuter) - Russia does not have the technical or financial capacity to process the nuclear waste produced by its 15 Chernobyl-style reactors, a senior nuclear industry official said Monday. Yuri Vishnevsky, president of the state committee for the supervision of nuclear and radiation safety, said economic difficulties were preventing Russia from solving the problem of burying and processing its nuclear waste. "Due to the present economic crisis, this problem can't be solved as quickly as it should be," he told a news conference at the start of a five-day seminar on control of nuclear materials. Viktor Gubanov, head of the committee for safety and ecology at the ministry for atomic energy, said Russia was finalizing a federal program to process nuclear waste and considering ways to improve environmental safety around existing dumps. But cash shortages could prevent the program being implemented in full, he said. Gubanov said the ministry was ready to pay \$290,000 towards the project but it would actually cost five or six times more that. "Russia still probably has the greatest potential to process nuclear waste and in this sense, it can consider itself as a full-right partner of Euratom," he said. The Chernobyl nuclear power plant in the Ukraine was the site of the world's worst commercial nuclear accident in October 1986. Russia has 15 nuclear-power reactors like those at Chernobyl, which are RBMK graphite-moderated reactors. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

### **HUMAN ERROR CAUSED NUCLEAR SHUTDOWN -- UTILITY**

RTw 4/16/94 5:53 PM LOWER ALLOWAYS CREEK TOWNSHIP, NJ, April 16 (Reuter) - Human error was principally to blame for last week's emergency shutdown of the Salem One nuclear power plant here, according to a company report released Saturday. The report by the Public Service Electric and Gas Co (PSE&G) said its technicians had erred in the April 7 incident, which began when grass in the adjoining Delaware River clogged intakes for the plant's emergency cooling system. It said the plant's operators had overshot their mark in cooling the plant by trying to raise the temperature within the core too quickly. That rapid ascent triggered the emergency cooling system in the reactor, one of three built by PSE&G on Artificial Island here. Federal authorities had initially expressed concern that mechanical error alone had led to the shutdown, which came after water flooded the system designed to keep the reactor under pressure. Roughly a gallon (3.8 liters) of contaminated water leaked to the floor of the reactor during the incident, but no radiation was released, according to both federal regulators and utility officials. A separate report from the Nuclear Regulatory Commission (NRC), which had an emergency response team on site, is not expected for at least another month. The plant remains closed until the NRC approves its re-opening. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

### **RWE FINDS RISE IN RADIATION IN COOLANT AT REACTOR**

RTna 4/16/94 11:15 AM WIESBADEN, Germany (Reuter) - German electricity group RWE AG Saturday reported measuring increased radioactivity in coolant at its Biblis A nuclear reactor, the Hesse environment ministry said in a statement. The ministry said radiation had exceeded the level at which the company was obliged to inform nuclear authorities. It was insufficient to warrant shutting down the plant. A routine safety check Friday morning had revealed increased emissions which were probably caused by a fuel rod leaking the radioactive gas iodine 131, the ministry said. "Thus with immediate effect the radioactive content of the cooling water must be controlled twice a day, instead of once a day as normal," the ministry said. Biblis A was restarted on April 8 after a forced closure following a series of mishaps. The ministry said the reactor would have to be shut down if radioactivity was 10 times higher than Friday's increased level for a period of seven days. That might happen if more than one fuel rod developed leaks, it said. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

### **NUCLEAR WASTE-LIST**

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Energy Department sites still under consideration for a future disposal site for the department's low-level radioactive and hazardous waste: California

Energy Technology Engineering Center

General Atomics

General Electric Vallecitos

Lawrence Livermore National Laboratory Colorado

Rocky Flats Plant Florida

Pinellas Plant Idaho  
Idaho National Engineering Laboratory Illinois  
Argonne National Laboratory-East  
Site A, Plot M, Palos Forest Preserve Kentucky  
Paducah Gaseous Diffusion Plant Missouri  
Weldon Spring Site Remedial Action Project Nevada  
Nevada Test Site New Mexico  
Los Alamos National Laboratory  
Sandia National Laboratory New York  
Brookhaven National Laboratory  
Knolls Atomic Power Laboratory, Kesseiring  
Knolls Atomic Power Laboratory, Niskyuna  
West Valley Demonstration Project Ohio  
Fernald Environmental Management Project  
Mound Plant  
Portsmouth Gaseous Diffusion Plant Pennsylvania  
Bettis Atomic Power Laboratory South Carolina  
Savannah River Site Tennessee  
Oak Ridge Reservation Texas  
Pantex Plant Washington  
Hanford Site

### **BRF--SALEM REACTOR**

APn 4/15/94 7:47 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. LOWER ALLOWAYS CREEK TOWNSHIP, N.J. (AP) -- Human error, not mechanical failure, caused last week's shutdown at the Salem I nuclear reactor that forced plant operators to declare an emergency alert, officials said Friday. After first lowering the reactor's temperature too far, operators increased it too quickly, thus triggering the automatic shutdown, said Steven E. Miltenberger, vice president and chief nuclear officer for Public Service Electric & Gas Co., which operates the plant. The two reactor operators and senior shift supervisor who mishandled the power reduction will not be disciplined, Miltenberger said, adding that the utility will review training and operating procedures at the plant. The alert -- the second lowest of four emergency classification -- was the second in the history of the 17-year-old complex. No radiation was released. The Nuclear Regulatory Commission is investigating the shutdown. Salem I awaits NRC permission to go back on line.

### **RADIOACTIVITY**

APn 4/15/94 3:14 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. WASHINGTON (AP) -- Less than four months after new limits on radiation exposure took effect, the government is being asked to dramatically tighten the restriction again. The Nuclear Regulatory Commission is accepting public comments on a proposal to allow people living near nuclear power plants and other radiation generators to be exposed to less than 1 millirem of radiation each year. The current limit, in effect since January, is 100 millirems per year, down from 500 millirems. The higher limit had been in effect essentially since 1960, said NRC spokeswoman Sue Gagner. A medical X-ray typically exposes a person to between 20 and 30 millirems of radiation. The NRC has not decided whether any change is necessary, Gagner said. That decision will be made after commissioners consider the written opinions submitted by the industry and the public, she said. The public comment period, which ends June 28, was initiated by a request filed by Steve Gannis, an activist from suburban Cleveland. Gannis said he is coordinator of a local group, Ohio Citizens Against a Radioactive Environment, which last year was behind a losing ballot initiative in Perry, Ohio, that attempted to ban radioactive emissions from a nuclear power plant. Even though the government is not required to act on his petition, Gannis said he thinks there will be some decision. "This forces a public debate for the NRC to defend and justify how much cancer they're going to permit" from exposure to radioactivity, he said.

## **MISHAPS EMBARRASS UKRAINE DURING CHERNOBYL PROBE**

RTw 4/20/94 8:29 AM By Lida Poletz KIEV, April 20 (Reuter) - Two technical mishaps occurred during an international inspection of the Chernobyl nuclear power station, officials said on Wednesday, embarrassing Ukrainian authorities resisting pressure to close the plant. Ukraine's nuclear safety inspectorate said the incidents took place on Monday and Tuesday at the plant, site of the world's worst nuclear accident in 1986. There was no increase in radiation but one of the incidents was recorded at level one on the seven-point international scale of nuclear accidents. It delayed reconnection to the power grid of one of two reactors still in operation at Chernobyl. Both took place during a 10-day inspection by experts from the International Atomic Energy Agency (IAEA) following a report which said Chernobyl was unsafe. Their conclusions will be discussed at a meeting opening in Vienna on Thursday. "It was unfortunate this happened on the eve of the IAEA report," Tatyana Yagish, a spokeswoman for the state nuclear authority said by telephone. "It could emotionally influence the inspectors who were here." Vadim Hryshchenko of the nuclear safety inspectorate said an alarm system was set off on Monday in the third reactor as officials were trying to reconnect it to the power grid after two weeks of scheduled maintenance. They said the incident, rated one on the international scale, was triggered by a drop in water levels after a short circuit in a cable. On Tuesday, a controlling arm failed while moving nuclear fuel into place in the older first reactor, sending a container banging into adjacent installations. There was no damage and the incident was rated zero. In Vienna, IAEA spokesman David Kyd said officials were examining the two latest incidents. "Details so far are sketchy and we have nothing in writing from the plant," he said. "I suspect that we will find that the incident will rank no more than zero or one on our scale." The IAEA team was inspecting Chernobyl after the Vienna-based agency issued a report saying the plant's continued operation was unsafe, especially that of the first reactor. The United States has demanded Chernobyl's closure. A U.S.-Ukrainian agreement signed this month provides for the plant to be shut down once the former Soviet republic finds alternative energy sources. Ukraine's parliament last year reversed a 1991 decision to close down Chernobyl for good, citing energy shortages and dependence on expensive Russian fuel. Ukrainian authorities say the April 1986 fire and explosion in the fourth reactor caused more than 8,000 deaths and still soaks up 12 percent of the national budget. Large stretches of land remain contaminated in Ukraine, Belarus and Russia. The concrete "tomb" encasing the stricken fourth reactor has developed serious cracks. An international competition was held last year to design and build a replacement but no action has yet been taken. Officials in the demoralised nuclear industry, hit by mass desertions to better paid jobs in Russia, say structural problems have been eliminated and safety improved at Chernobyl. Figures issued by the nuclear safety inspectorate showed an increase of more than 20 percent in reported incidents at Ukraine's five nuclear plants in 1993 compared with the previous year -- 175 to 142. Mishaps at Chernobyl nearly tripled from six to 16. "If you have a number of incidents where no radiation is released, next time you won't be so lucky," said Antony Froggatt of the environmental group Greenpeace. "It must be realised in Vienna that Chernobyl must be closed immediately." REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

## **TWO ``MISHAPS'' AT CHERNOBYL REPORTED**

RTna 4/20/94 5:11 AM KIEV, UKRAINE (Reuter) - Two "technical mishaps" occurred on consecutive days at the Chernobyl nuclear power station during a lengthy international inspection of the plant, Interfax Ukraine news agency said Wednesday. The agency said the incidents took place Monday and Tuesday at the plant, site of the world's worst nuclear accident in 1986. There was no increase in radiation but both mishaps were recorded at level one on the seven-point international scale. Interfax quoted nuclear industry officials as saying that alarm systems were set off on Monday in Chernobyl's third reactor after water levels had dropped in its cooling system as the reactor was being reconnected after planned maintenance. On Tuesday, a mechanical unit moving nuclear fuel into place failed and a container banged against adjacent installations. There was no damage to installations and nuclear officials said by telephone the incident rated zero on the international scale. A team from the International Atomic Energy Agency has been inspecting the two reactors still functioning at Chernobyl for more than a week after the agency described the plant as unsafe in a report. The United States has also demanded Chernobyl's rapid closure. Ukraine's parliament last year reversed a 1991 decision to close down Chernobyl for good, citing energy shortages and dependence on Russian fuel. Ukrainian authorities say the 1986 explosion and fire at Chernobyl caused at least 8,000 deaths. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

## **CHERNOBYL TO STAY OPEN, UKRAINE TELLS NUKE AGENCY**

RTw 4/22/94 4:57 AM By Douglas Busvine VIENNA, April 22 (Reuter) - Ukraine is refusing to close down its incident-prone Chernobyl nuclear plant, scene of the world's worst nuclear disaster in 1986, a spokesman for the International Atomic Energy (IAEA) said on Friday. "The Ukrainians are taking a firm line, that Chernobyl will continue to operate...even as and when new nuclear power stations are brought onstream," IAEA spokesman David Kyd

told Reuters as two-day emergency talks in Vienna drew to a close. Chernobyl's operators were due to issue a statement in Kiev adopting an uncompromising line on keeping the plant open, officials there said. "I have seen the statement and we are getting the same message here. No deals," Kyd said. He quoted the Ukrainian statement as saying: "If you want to help us, we are delighted, but whatever happens Chernobyl will continue to produce electricity in this decade." Officials of the IAEA, the U.N.'s nuclear watchdog, were due to hold a news conference later (eds: 1030 GMT) after nuclear experts from 13 countries met Ukrainian officials to discuss "numerous safety deficiencies" found last month at the plant by an eight-man inspection team. Key areas of concern are two reactors kept running on the orders of the Ukrainian parliament last year beyond their planned closure date, and a crumbling concrete tomb encasing reactor four, which blew up eight years ago, killing 31 and spewing a radioactive cloud over Europe. Kyd said there was now a risk that the sarcophagus, designed to last 20 years, might partially collapse, stirring up radioactive dust still trapped inside. Chernobyl has also lost around 20 percent of key staff in the last year alone because of the plant's uncertain future and poor working conditions, making safety even harder to ensure. Ukrainian officials were deeply embarrassed by two safety lapses that occurred this week at reactors one and three as an IAEA team carried out follow-up tests to its March inspection. The U.S., the European Union and environmental groups have already demanded Chernobyl's closure, but Ukraine wants to keep the plant operating to bridge an energy crisis. Ukrainian officials in Kiev said on Thursday the West's attempts to close the plant were politically motivated, adding that other reactors of Chernobyl's RBMK type still operating in the former Soviet Union were being ignored. "We think the level of safety at Chernobyl is no different from that at RBMK reactors in Russia. Let's make the issue RBMKs, not Chernobyl," Nur Nigmatullin, deputy head of Ukraine's nuclear power authority, told reporters. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

### **PROSECUTOR RECOMMENDS CHERNOBYL REVIEW**

UPn 4/22/94 4:37 AM MOSCOW, April 22 (UPI) -- The Russian prosecutor investigating the 1986 Chernobyl disaster says it occurred as a result of severe faults in the design and construction of the plant's nuclear reactor. Boris Uvarov says the staff at the power station who were blamed for the world's worst nuclear accident should have their sentences reviewed. Copyright 1994 The United Press International

### **SHUT CHERNOBYL DOWN, NUCLEAR EXPERTS SAY**

RTna 4/21/94 11:43 AM STRASBOURG, France (Reuter) - French and German nuclear experts said Thursday the Chernobyl nuclear plant, site of the world's worst nuclear accident, was unsafe and should be shut down. "The greatest risk is of an accident in the two reactors still in operation," Philippe Vauresson, director of the Nuclear Protection and Safety Institute (IPSN), told a meeting of French and German nuclear experts. The scientists were meeting in the eastern French city of Strasbourg to mark the eighth anniversary of the Chernobyl accident on April 26, 1986 in Ukraine. They said the first and third reactors were increasingly unstable because of the departure of engineers to Russia, the difficulty in getting new parts and maintenance problems due to conflicting decisions. "Getting (the reactors) to a level of safety appears to be technically and economically impossible," the scientists said in a joint statement. The said the first reactor should be shut down between 1996 and 1997, and the third reactor at a later date. Ukraine's parliament last year reversed a 1991 decision to close down Chernobyl for good, citing energy shortages and dependence on Russian fuel. Ukrainian authorities say the explosion and fire at Chernobyl caused at least 8,000 deaths. Nuclear experts and neighboring countries began an emergency conference with Ukraine Thursday to discuss the creaking nuclear plant but Kiev said it could not immediately cut off the power. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

### **UKRAINE SAYS WE CAN'T CLOSE CHERNOBYL NOW**

RTw 4/21/94 9:57 AM VIENNA, April 21 (Reuter) - Nuclear experts and neighbouring countries began an emergency conference with Ukraine on Thursday to discuss its creaking Chernobyl nuclear plant but Kiev said it could not immediately cut off the power. Delegations from the Ukraine and 15 other countries, plus the European Union and the European Bank for Reconstruction and Development (EBRD), were attending the talks at the Vienna headquarters of the International Atomic Energy Agency (IAEA). Fresh safety lapses at Chernobyl this week were expected to lead to renewed calls for the plant -- scene of the world's worst nuclear accident in 1986 -- to be shut down entirely. The high cost of replacing Chernobyl's output with oil-fired electricity prompted the Kiev parliament last year to keep Chernobyl running after its planned shutdown. Ukrainian deputy prime minister Valery Shmarov was expected to tell the Vienna meeting his country simply could not afford to turn off such a major source of electrical power. "There is no prospect

of an immediate closure of the Chernobyl nuclear plant," the Austrian news agency APA quoted him as saying before the two-day, closed-door meeting began. Two low-level safety incidents, which did not involve release of radioactivity, were reported on Wednesday. IAEA inspectors who examined the four-reactor plant in March said they found "numerous safety deficiencies" at Chernobyl. The United States, the European Union and environmental groups say the plant should be closed entirely. The IAEA said the concrete "sarcophagus" built over unit four, which exploded in April 1986 spewing radioactive dust into the atmosphere, was visibly weakening. "It was quite clear that the sarcophagus is corroding and...becoming more and more vulnerable because of climatic conditions and other factors," IAEA spokesman David Kyd said. The tomb was originally designed to last 20 years but the IAEA said there was now a risk it might collapse, stirring up radioactive dust inside. Kyd said closure was just one of a range of possibilities. "There are ways of making a decision in the future that will prevent closure of Chernobyl, but all of them cost money and all of them require some sort of assistance from the West," Kyd said in an interview on Wednesday. "A package of measures, we hope, will emerge. But this is not a conference at which money will be pledged -- that will be the next stage in the process." Besides Ukraine, delegates from Canada, Finland, France, Germany, Italy, Japan, Lithuania, Poland, Russia, Spain, Sweden, Switzerland, the United States, Britain and Austria are attending the conference. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

### **UKRAINE STILL DEPENDS ON CHERNOBYL FOR ENERGY**

UPn 4/21/94 9:07 AM UPI NewsFeature release at will (850) By ROMA IHNATOWYCZ KIEV (UPI) -- Despite the eight years since April 26, 1986, when an explosion at the Chernobyl nuclear power station sent a radioactive cloud halfway across Europe, the plant's future remains a major policy dilemma. To the consternation of environmental groups and world leaders, the first and third reactors at Chernobyl are still operating and, according to a recent presidential decree, the second reactor will be turned on as soon as repairs are completed. "Chernobyl provides enough energy for two Ukrainian provinces," said Tatyana Yagysh, spokeswoman for Ukraine's nuclear power operating organization, Ukratomenergoprom. "This," she said, "cannot be ignored." Ukraine is an energy-poor country facing a serious economic crisis and an enormous oil and gas debt to Russia. Ukraine needs all the energy it can produce. President Leonid Kravchuk's decree not only outlines plans to reopen the second reactor at Chernobyl by 1995, but to open three other Ukrainian reactors at which construction was stopped by a 1990 moratorium that was canceled last October. The decree also envisions increasing nuclear energy exports by at least 20 percent and establishing a full-cycle atomic energy industry in Ukraine. This includes the production of nuclear fuel, which Ukraine now imports from Russia and which, according to Yagysh, makes up two-thirds of the final cost of the energy produced. It also includes the elimination of the used-fuel from the plants. At the moment the processed fuel is being stored temporarily in containers at plants all over Ukraine until Russia agrees to take it for reprocessing. Russia stopped accepting the fuel when Ukraine balked on disarming itself of its nuclear weapons. Western experts continue putting pressure on Ukraine to shut down Chernobyl altogether. Earlier in April, U.S. Deputy Energy Minister William White visited Ukraine with, according to Ukrainian officials, one goal in mind -- to convince Ukraine to close down Chernobyl. But without alternative sources of energy, Ukraine didn't budge. The International Atomic Energy Agency also sent a group of experts to Ukraine to examine the Chernobyl plant. The resulting safety evaluation didn't mince words. "Numerous deficiencies" with the two operating reactors were cited, as well as "serious consequences" from the accelerated deterioration of the shelter enclosing the destroyed fourth reactor. A Vienna meeting on the problem of Chernobyl was set up to coincide with the eighth anniversary of the accident so Western and Ukrainian experts could look for solutions together. Ukrainian officials made it clear that all the advice in the world won't amount to anything unless Ukraine receives financial aid to deal with the problem. "So far, we haven't received any money to solve the Chernobyl question, neither from the World Bank nor the European Bank for Reconstruction and Development," Yagysh said. "The exact same type of RBMK reactors (as Chernobyl's) exist in Russia, but no one puts this question to them," she said. "It appears that someone wants to squeeze Ukraine out of the energy market." The financial burden of dealing single-handedly with Chernobyl is a major headache for Ukraine. A 1992 competition on building a proper shelter for the decaying sarcophagus containing the damaged reactor fell flat after a tender was announced but no funds forthcoming. Environmental workers in Kiev question how their leaders can pursue an active and growing nuclear energy policy when they are so short of funds and have not yet even solved the Chernobyl question. "If they don't even have enough money to build a proper sarcophagus around the fourth reactor, then where will they get money to start up four new reactors and a complete nuclear energy cycle?" questioned Hanna Tsvetkova of Greenpeace in Kiev. Tsvetkova claimed Ukraine could live without the nuclear energy that currently makes up 33 percent of its total energy needs. A recently published report by the independent German environmental agency Okoinstitut backs her up. If Ukraine were to modernize its traditional energy industries such as coal, it could shut down its atomic power plants altogether, Tsvetkova said. "We know that at least 8,000 people died as a result of Chernobyl," Tsvetkova said. "If another nuclear accident occurs it will affect all Ukrainians and therefore let all

Ukrainians decide what should be done with Chernobyl." Neighboring Russia and especially Belarus, which took the brunt of the fallout, are nervously watching Ukrainian nuclear policy evolve. But Moscow, too, has put many of its own environmental concerns aside to deal with more pressing economic problems. The fire and explosion at Chernobyl ranks as the world's worst nuclear power accident. It destroyed one unit of the plant and contaminated a large area of Ukraine, Russia and Belarus -- parts of which are still classified as a contamination zone. ----- release at will Copyright 1994 The United Press International

## **HANFORD RADIATION**

APn 4/22/94 4:22 AM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By AVIVA L. BRANDT Associated Press Writer PASCO, Wash. (AP) -- Radiation exposure in cities 60 and 130 miles from the Hanford nuclear weapons complex may have been up to 10 times higher than previously estimated. The estimates, released Thursday, are based on a new computer model of fallout from the 560-square-mile Hanford site, where the government for decades produced plutonium for bombs. The report is an attempt by scientists to estimate the amount of radiation received by residents in parts of Washington, Oregon and Idaho. The \$26 million study was conducted by the Pacific Northwest Laboratory and paid for by the Centers for Disease Control and Prevention. It concluded that people close to Hanford may have been exposed to less radiation than previously thought, but that even the new, lower exposure estimates remain far above recognized safe limits. Exposure farther from the site may have been higher than previously estimated, the researchers said. The radiation being estimated came from iodine 131, a byproduct of plutonium production that concentrates in the thyroid. Infants are considered at special risk because of the likelihood they drank milk from cows raised in pastures where the element might have settled. The study made no attempt to estimate the health risks. Still, "the doses for iodine are large enough for people to be concerned," said John Till, chairman of the panel that oversaw research for the Hanford Environmental Dose Reconstruction Project report. People living in Spokane, 130 miles northeast of Hanford, or Ritzville, about 60 miles away, received up to 10 times more radiation than estimated in the project's 1990 report, the report said. People in Spokane could have received 2.8 to 44 rads during the mid- to late 1940s. But estimated radiation dosages for people who lived close to the installation are one-third what they were believed to be in 1990, the scientists said. The report estimates that a person who began living at Ringold, near Hanford, as an infant could have received up to 870 rads, mostly from 1944 to 1947, when the largest releases occurred. The 1990 maximum estimate for the same area was 2,900 rads. A rad is a measure of radiation exposure roughly equal to 12 chest X-rays. The Nuclear Regulatory Commission requires that facilities it licenses limit yearly radiation exposure from airborne emissions to 15 thousandths of a rad. Hanford is considered the nation's most contaminated nuclear site. A cleanup expected to take at least 30 years and cost more than \$50 billion is under way there. Tom Foulds, an attorney for about 1,700 of 3,000 people who have sued over Hanford emissions, questioned the new computer model, saying it didn't account for all variables. The defendants in the case -- DuPont Co., General Electric Co., Atlantic Richfield Co., Rockwell International, UNC Inc. and Westinghouse Co. -- have denied wrongdoing and say there is no proof anyone living near the site was harmed by radioactivity. But the Energy Department has admitted that not only were high levels of radiation detected off the site, but that some emissions were deliberate.

## **RADIATION EXPERIMENTS**

APn 4/21/94 10:54 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By KATHERINE RIZZO Associated Press Writer WASHINGTON (AP) -- A presidential commission is embarking on a probe of radiation experiments conducted by the government in the years after World War II. The committee was formed in the aftermath of revelations about a variety of experiments on unknowing human subjects, including some who were injected with plutonium. President Clinton called the inquiry an important first step to learn whether the U.S. government "treated its own citizens wrongfully." Every federal department and agency that might have conducted radiation research has been combing its archives for records in an effort to create an inventory of the experimentation. "The history of the government's conduct and sponsorship of radiation experiments is one that has too long been cloaked in secrecy," said Attorney General Janet Reno. Reno, whose staff searched federal prison records to determine whether any inmates were used as test subjects, was one of four Cabinet secretaries who appeared Thursday at the committee's inaugural meeting. The 15-person committee -- composed of experts in medicine, science, ethics and law -- is to examine whether the government did appropriate medical follow-up on its radiation test subjects; whether there was informed consent; and whether the experiments were medically or scientifically necessary. The Advisory Committee on Human Radiation Experiments has been given a year to evaluate experiments done between 1944 and 1974. Sen. John Glenn, D-Ohio, who has revealed incidents of deliberate releases of radiation into the environment, told the presidential

committee, "I don't envy what you're about to get into here. ... It will be a tough job." Energy Secretary Hazel O'Leary, who is leading the administration effort, said the task is a difficult one because some of the data are 40 and 50 years old, many of those involved have died, and many hospitals and other institutions have closed. "It is a tough job but it goes speedily," O'Leary said at a briefing later at the White House. "And you may have noted that at the Department of Energy we are releasing information as soon as we have it at hand and can declassify it," she said. Clinton said in a statement that he considers the effort to collect, analyze and then disseminate the information an attempt "to have an honest and open approach to the investigation of Cold War-era experiments. "Both those Americans who were the subject of these questioned experiments and the scientists who performed them deserve a fair and thorough investigation," Clinton said. "Only by dealing honestly with the past can we hope to build a better future." The tests on 18 patients were revealed by Rep. Ed Markey, D-Mass., in 1986, but the Albuquerque Tribune last year tracked down and identified some of the plutonium injection victims in a series of reports that won a Pulitzer Prize for reporter Eileen Welsome. The Energy Department subsequently located documents indicating two other people may have had plutonium injections in 1944 and six others drank plutonium as part of medical tests in 1946. Markey on Thursday introduced a bill requiring the Energy Department to recommend appropriate compensation for people injured by government radiation tests. The Energy Department said it has identified about 2,500 records of radiation experiments over the years in a massive document search that began in January.

## **MASSIVE RADIATION FALLOUT DETAILED IN STUDY**

RTna 4/21/94 9:07 PM By Martin Wolk SEATTLE (Reuter) - People living nearly 300 miles from a nuclear weapons plant in eastern Washington state received huge doses of radioactive fallout in the years after World War Two, according to a study released Thursday. The \$30 million study, funded through the U.S. Centers for Disease Control and Prevention, found that radioactive iodine released in the production of plutonium for nuclear bombs from 1945 to 1951 traveled farther than previously assumed. The study also found that radiation doses -- while still hundreds of times higher than normal -- were lower than previously estimated in the area immediately surrounding the Hanford Nuclear Reservation in Richland, Washington. The Hanford plant was one of three that produced radioactive material for nuclear warheads used in World War Two and then stockpiled by the thousands during the Cold War. The Hanford facility produced plutonium used in the bomb dropped by the United States on Nagasaki, Japan, in 1945. As part of its plutonium production process, the Hanford plant until 1951 routinely released airborne radioactive iodine-131, an isotope of iodine which has been associated with thyroid cancer. According to the study, the most massive doses of iodine-131 would have been received by people living in the community of Ringold, Washington, about 15 miles east of the weapons facility. An infant living in Ringold in 1945 probably received a radioactive iodine dose of 240 rad, more than 2,500 times the normal background dose. Children are particularly susceptible to the iodine radiation that builds up in the thyroid. A rad is a measure of radiation. The study found that the maximum dose received by any individual was probably no more than 870 rad, compared with a maximum of 2,900 rad estimated in 1990. "While many of the doses estimates from 1990 have come down, the doses from iodine are still high enough for concern," said John Till, chairman of the Technical Steering Panel that produced the massive study. The panel estimated that an infant living in 1945 in northwestern Montana, about 260 miles from the Hanford facility, would have received a dose estimated at 4 rad, about 40 times the level from normal background radiation. The study looked at radiation doses in a 75,000-square-mile area around the plant, but the panel found that some radioactive iodine probably fell outside that area. The panel did not attempt to determine the health effects of the radiation releases, which is the topic of a separate study being done at the Fred Hutchinson Cancer Research Center in Seattle. The study, however, could provide fresh ammunition for "downwinders" who have several lawsuits pending against weapons contractors, alleging health problems associated with the radiation releases. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

## **NUCLEAR FUEL**

APn 4/21/94 6:56 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. WASHINGTON (AP) -- The Energy Department is moving ahead with a plan to move spent nuclear fuel from foreign research reactors to South Carolina, an official said Thursday. The department plans to release an environmental report on the planned move Friday, said Thomas Grumbly, assistant secretary for environmental management. Under the plan, 409 rods of spent fuel from eight reactors will be moved to the Savannah River site for storage, Grumbly said. The fuel was produced in the United States and sold to foreign countries on the condition that it be returned to U.S. officials after its use. "This fuel is highly enriched uranium that could be used to produce nuclear weapons," Grumbly said. "What we are trying to do is accept spent fuel for storage and reduce over time or eliminate as much as we can the commerce in highly

enriched uranium." Sen. Strom Thurmond, R-S.C., said he had cautioned the department against bringing in the spent fuel without a commitment for its final disposal. "I am dismayed that today the Department of Energy would inform me of the intent to import nuclear waste into our state without having addressed fundamental issues which I previously raised," he said in a statement.

## **ACTIVISTS PLEDGE TO BLOCK BULGARIAN NUCLEAR PLANT**

RTw 4/21/94 12:43 PM SOFIA, April 21 (Reuter) - Bulgaria's largest environmental movement Ecoglasnost said on Thursday it would block the construction of the country's second nuclear power plant. Energy officials are considering restarting work on a plant at Belene, 250 km (160 miles) north of Sofia, despite a history of problems with the existing plant at Kozloduy. "We have stopped the project for the construction of the Belene plant once and we will stop it whatever it costs us, whatever powers stand in front of us," Ecoglasnost president Edvin Sugarev told a news conference. Work on the Belene plant began in the 1980s but stopped three years ago in the face of local opposition, Ecoglasnost and a lack of cash. Bulgaria, which is poor in alternative energy resources, relies on its Kozloduy nuclear plant for up to 40 percent of its needs, and will have to close some of the oldest units by the end of the century. Officials have said the construction of the Belene station has so far cost the country more than \$1.2 million and already a Soviet-made 1,000-megawatt reactor is at the site. "We don't want a second Chernobyl," said Sugarev, referring to the 1986 explosion in Ukraine which ranks as the world's worst nuclear accident. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

## **EP ADOPTS PROPOSAL ON RADIATION PROTECTION FOR WORKERS**

RTec 4/21/94 4:45 AM EUROPEAN PARLIAMENT SESSION NEWS PRESS RELEASE DOCUMENT DATE: APRIL 20, 1994 + Radiation protection (A3-147/94 - Lannoye) + Wednesday, 20 april - The proposal to update safety standards to protect workers against ionising radiation was adopted with amendments from the environment committee. These seek to limit exemptions. There is also a call for a review of radiation dose limits three years after adoption of the directive. END OF DOCUMENT Copyright 1994 Reuters Information Services, Inc. All rights reserved.

## **BRF--JAPAN-NUCLEAR ACCIDENT**

APn 4/20/94 7:04 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. TOKYO (AP) -- Radioactive material was detected in a worker's nose at a plutonium processing plant in central Japan Wednesday, the nuclear power company said. Routine tests on the 22-year-old man turned up unspecified high levels of radiation, said Osamu Yazawa, spokesman for the semi-governmental Power Reactor and Nuclear Fuel Development Corp., which runs the plant. The hands of two other workers also were slightly contaminated, Yazawa said. No radiation was detected in the air inside the plant at Tokai, 75 miles northeast of Tokyo. Kyodo News Service said the accident was the 17th at the plant since 1984. It comes as Japan's plans to use highly toxic plutonium as fuel for nuclear power are coming under widespread criticism.

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## **CHERNOBYL'S LINGERING LEGACY**

\* NANT PERIS, WALES--Good Methodist that he is, Meirion Pritchard thanks his maker that he lives in Snowdonia, the picturesque land of craggy peaks, windswept cliffs and medieval castles watched over, Welsh legend tells us, by King Arthur and his knights. But the 62-year-old sheep farmer figures that sometime back in the spring of 1986 "I must have missed chapel." Why else, he asks, would he still be plagued by a rain that fell eight years ago next week? To be sure, it was not just an April shower. Pritchard's son John was on the mountain behind the family home that day, shepherding ewes and lambs trucked in from lowland pastures. "He came down drenched," the father recalls. "It was a helluva rain, but we didn't know for a month that anything was wrong, didn't we? Then we heard the news." A cloud from Chernobyl--the worst nuclear disaster ever--had drifted west from Ukraine and dumped radioactive cesium dust on the British uplands. Britain's government put nearly 9,000 farms with 4.2 million sheep under rigid controls. POISONED PEAT.



Within months, 90 percent of the farms were declared safe. But today restrictions remain intact on 590 farms at very high elevations, including Pritchard's 1,600-acre Ty Isaf spread, which reaches 3,400 feet above sea level and faces Wales's highest mountain, snowcapped Mount Snowdon. "We were told it would all be clear in three months," Pritchard recalls over a cup of tea. "But it's been eight years, mind you, and we still cannot move or sell sheep without a permit." There is a simple reason for that: The grass and soggy peat that blanket Snowdonia's highest levels still hold radioactive cesium, and sheep that graze there in the spring and summer--including nearly all of Pritchard's 5,000 hardy Welsh Mountain stock--absorb the fallout. They remain tainted until brought down to a lowland pasture; it takes five weeks of lowland grazing to cleanse them. The shift from high ground to low--for Pritchard's prize-winning flock, a tract on the nearby island of Anglesey--requires a permit and a big dab of red paint on the head of each animal that is moved. When he wants to sell sheep, he must give the Agriculture Ministry five days' notice; the government then scans them for radiation with Geiger counters. It has been three years since any of Pritchard's sheep were rejected, he reports, but "we're still losing terribly." The government gives him roughly \$2 for moving a sheep, while his actual cost, he figures, tops \$4.50. He displays a stack of forms--red, blue and peach-colored. "They kill us with paperwork." Especially costly is the delay. "If there is a good price on the lambs this week, and we want to get a hundred to the market today, we can't take them, can we, because we have to scan them, haven't we? And by the time we scan them, the price has come down a pound and a half, hasn't it?"

#### NO RELIEF SOON.

Each year, the Agriculture Ministry frees a few more farms from its list. And radiation levels have dropped significantly among Pritchard's sheep. Still, he has no idea how much longer he must endure restrictions. A ministry official recently told Parliament it is "impossible to tell" when the rules will be completely lifted in northern Wales, Scotland, England's Lake District and Northern Ireland. Scientists expect radiation to linger in some British mountains into the next century. It is a burden, Pritchard says, "we have to live with." But the government's goal, he stresses, is right on target. "We can exchange the sheep, but we cannot exchange the health of people, can we?"

STORY AND PICTURE BY LEWIS LORD

### ISRAEL-CHERNOBYL CHILDREN

APn 4/25/94 1:46 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By ARIEH O'SULLIVAN Associated Press Writer JERUSALEM (AP) -- About 200 Jewish children exposed to the world's worst nuclear plant accident marked the eighth anniversary of the Chernobyl explosion by releasing 1,000 balloons on Monday. The balloons symbolize the children from Ukraine and Belarus who have been brought to Israel for treatment for radiation. "My mother sent me here because she was afraid I would become sick and there would be no doctor to take care of me," said 12-year-old Zalman Chenov. "I'm glad to be here, but miss my mother and my friends. They are not as lucky to be here as I am." Chernobyl reactor No. 4 exploded on April 26, 1986, releasing a cloud of radioactive particles. The explosion killed at least 32 people, and thousands may have died from radiation exposure. The accident contaminated a huge area and forced the evacuation of tens of thousands of people. According to the World Health Organization, thyroid cancer among children in the Chernobyl contaminated area is a thousand times above the norm and is expected to increase over the next 50 years. Since August 1990, the ultra-Orthodox Chabad movement has brought 950 children to Israel. A group scheduled to arrive in June will bring the 1,000th child. Chabad is a movement of Lubavitcher Hasidim, followers of the New York-based Rabbi Menachem Schneerson. In Moscow, a solemn memorial service for Chernobyl victims was held Monday in the ornate Epiphany Cathedral. In Kiev, only 50 miles south of the plant, Greenpeace announced plans to erect a model of the sarcophagus enclosing the damaged reactor Tuesday on St. Sophia Square. French and German researchers have warned that the concrete and steel shell, eroding from severe weather, might not last more than five years. "We must close Chernobyl. We must stop the reactors as soon as possible ... for them and for us," France's environment minister, Michel Barnier, said at a forum in France on Monday. In Bonn, inspectors from the private Society for Reactor Safety said radioactive contamination at the site is worsening by the day. Western leaders have long urged Ukraine to shut the plant, which the International Atomic Energy Agency says does not meet safety standards. But Ukrainian officials say they simply can't afford to close it. Chernobyl generates 7 percent of Ukraine's electricity and is said to be vital for a nearly bankrupt country which depends on foreign -- mostly Russian -- oil and gas and other energy sources. In 1991, a fire closed down the No. 2 reactor. It is still closed. The other two operational reactors have been plagued with problems. More than a dozen Chernobyl-type, graphite reactors are scattered across the former Soviet Union. Although there have been modifications since Chernobyl, most experts say the design has serious, inherent problems.

### CHERNOBYL PROBLEMS LIVE ON EIGHT YEARS LATER

RTw 4/25/94 11:10 AM By Lida Poletz POLISKE, Ukraine, April 25 (Reuter) - Eight years on, the Chernobyl disaster is still present for people living in the shadow of the nuclear plant. Their gardens produce contaminated vegetables and dust kicked up by their children is dangerous. The town of Poliske, a 10-minute drive from the edge of the restricted 30-km (18-mile) zone enclosing the Chernobyl power station, is slowly -- too slowly -- becoming a ghost town as its residents are resettled to "ecologically clean" areas. Poliske's 4,000 residents live out of boxes, waiting to leave the area contaminated with radioactivity after Chernobyl's fourth reactor exploded on April 26, 1986, in the world's worst nuclear accident. Many homes are already boarded up. But until the government builds new housing, those left have nowhere to go. "We are insisting on resettlement. I see illnesses in children here at school. My own younger son has headaches and strange rashes. He's getting cataracts," said Klavdia Sdobnyakova, principal of Poliske's last working school. "Even worse is the psychology of these kids. They have zero attention span and when they play they turn into aggressive animals," she said. "We want to save these kids somehow. For me that's even more important than educating them." President Leonid Kravchuk last week ordered the resettlement of Poliske's remaining residents by September. The people of Poliske were pleased but remained doubtful. There have been too many broken promises. "The Poliske area is a sore spot. Funds are very tight to build new settlement areas. The builders are willing but are not getting paid," said Vasyl Kovalchuk, spokesman for the government ministry in charge of the accident's aftermath. Reminders of the disaster are everywhere. Cars bound for the town must register at a checkpoint dominated by a huge sign warning: "Attention. You are entering a zone of increased background radiation! Caution!" Ukrainian doctors have noted an increase in incidence of thyroid cancer and leukaemia since the disaster. Officials say 8,000 people have already died from the blast's aftermath. Radiologists say ground contamination can vary every few square meters (yards), making it nearly impossible to regulate an individual's exposure. Most food grown in the area has abnormal levels of radioactivity. Shipments of subsidised groceries from "safe" areas have long dried up, eliminated by post-Soviet Ukraine's stumbling economy. "It's hard to say now what we'll see in 40 years time, what with strontium and caesium building up in the liver and bones," said Poliske's chief radiologist Valentyn Syvolap. "They should have evacuated everyone right away, when radioactive iodine fell on everything. Now the people here no longer believe in anything." No one under 18 is allowed into the 30-km zone. But in villages on its fringe, children born since the disaster run and play in the streets. Residents are well aware of the risks. But there are still regrets at leaving. In Martynychi, a pretty village of 520 houses three km (two miles) outside the zone, Mykola Maksymenko, 65, was preparing to leave the home he built in 1957. He had already carefully torn out the floorboards and window fittings, to fix up the skeleton house waiting for him in a resettlement town, New Martynychi, about 100 km (60 miles) away. His wife, ordered by doctors from the area because of breathing problems, was there waiting for him. It was impossible to stay anyway, he said, because the local store offered nothing but bread -- once a week. "See what I'm giving up," he said sadly, pointing through an empty window frame to rolling fields and a pond. "There's only steppe where I'm going." REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

## **KRAVCHUK SAYS WEST NOT HELPING CLOSE CHERNOBYL**

RTw 4/25/94 12:34 PM By Ron Popeski KIEV, April 25 (Reuter) - President Leonid Kravchuk accused the West on Monday of offering advice but no money to help Ukraine close the Chernobyl nuclear power station eight years after the world's worst nuclear accident. "At the moment, there is no solution to the Chernobyl problem," Kravchuk said. "All we have from the West is advice and slogans about helping us. We have received none of the funds and money everyone talks about." Memorial services and a series of other events were planned to mark Tuesday's eighth anniversary of the 1986 fire and explosion in Chernobyl's fourth reactor. Kravchuk's comments during a tour of a large Kiev newspaper reflected Ukraine's frustration and defiance at intensifying calls in the West to close down the two reactors still in operation at the plant. German Finance Minister Theo Waigel said ministers from the world's seven top industrial countries agreed at a weekend meeting in Washington that a five-year grace period to close Chernobyl was too long. French Environment Minister Michel Barnier told a conference that Chernobyl and 14 stations of similar design operating in the former Soviet Union had to be closed urgently. Kravchuk said standards had been improved at the station, 80 miles (140 km) north of Kiev. It was impossible, he said, to shut it down without taking due account of safety procedures and guarantees to replace electricity it produced. "Closing the station is a complicated problem which cannot be resolved hastily," he said. "We have to observe all safety rules. Otherwise this could lead to a big tragedy." Kravchuk said he could provide no figure on the amount of money required. But Deputy Prime Minister Valery Shmarov told an international conference last week in Vienna that Ukraine needed \$4 billion to improve safety standards. "For eight years we've been bearing the burden of Chernobyl. We're poor," he told delegates debating a report on the plant undertaken by the International Atomic Energy Agency. Shmarov told Interfax Ukraine news agency on Monday that Ukraine would keep operating Chernobyl's two working reactors. He said IAEA officials viewed Ukraine's position

"with understanding." "The degree of risk with Chernobyl's reactors is acceptable," he told the agency. The IAEA report debated in Vienna described the plant's continued operation as unsafe. During a tour of the plant by a second IAEA team of experts earlier this month, minor incidents occurred in the first and third reactors still in operation. Parliament last year reversed a decision to shut down the plant by the end of 1993, citing energy shortages and Ukraine's deepening economic crisis. Authorities blame the accident for 8,000 deaths and say the aftermath soaks up 12 percent of the national budget. An international competition was held last year to replace the crumbling "tomb" encasing the stricken fourth reactor, but officials say it cannot be completed before the year 2000. Parliament also lifted a 1991 moratorium on construction of six incomplete reactors. Three nearly complete units could be on stream within two years. Ukraine's five nuclear power plants produce more than 30 percent of the country's electricity, with Chernobyl accounting for about seven percent. Chernobyl's newly appointed director, Sergei Parashin, said last weekend that calls to close the station were unjustified and accused his opponents of politicising the issue. His predecessor left Chernobyl last week for a job at a nuclear plant at Kursk in southern Russia -- one of thousands of specialists who have opted for better pay and conditions.. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

### **FRANCE CALLS FOR URGENT CLOSURE OF 15 CIS PLANTS**

RTw 4/25/94 9:51 AM CHAMBERY, France, April 25 (Reuter) - French Environment Minister Michel Barnier said on Monday Ukraine's Chernobyl plant and 14 other nuclear reactors in the former Soviet Union must be closed urgently. Barnier, addressing a seminar on the consequences of the world's worst commercial nuclear disaster at Chernobyl eight years ago, called for more international aid to help stem the risk of nuclear contamination from former Soviet republics. "Environment has a price. Refusing to pay today means having to pay more later," he said. Barnier suggested helping substitute nuclear energy with gas which he said former Soviet republics were often wasting. He also suggested twinning nuclear plants in the East with reactors in the West which could help with technical and safety advice. Ukraine has said urgently needed nuclear safety measures would cost \$4 billion and it could not afford to close down its Chernobyl plant which blew up on April 26, 1986, killing 31 and spewing radioactive dust over Europe. Ukraine's President Leonid Kravchuk said on Monday the West had offered advice and slogans but no money. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

### **ATOMIC LEAK HOAX SETS OFF PANIC IN SOUTH NORWAY**

RTna 4/25/94 5:04 AM OSLO, Norway (Reuter) - A hoax about an atomic leak after a military accident triggered panic in south Norway over the weekend. "We got about 500 calls from people worried about the report. A number of people took this very seriously," police inspector Terje Sjoevold at Follo police station said Monday. A telephone caller identifying himself as a Norwegian lieutenant-colonel tricked his way on to a live broadcast on Norway's national P4 radio to say a rocket had gone out of control during a military exercise and was leaking radiation. "Mamma, I don't want to die," Norway's biggest selling daily Verdens Gang quoted one child as saying as the family scrambled to get out of the supposedly contaminated area. Sjoevold said police would try to catch the trickster from a tape-recording made by the commercial radio station and would also see if P4 had broken the law by failing to check the information. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

### **MARKET SLIDE UNSETTLING TO RADIATION SYSTEMS DEAL**

WP 4/24/94 11:00 PM By Stan Hinden Washington Post Staff Writer The stock market confounds us all. It humbles investors. It baffles traders. It wrecks the dealmakers' deals. And it wields its power when people least expect it. If anyone needed a reminder of the market's ability to bedevil its players, it can be found in the events surrounding the pending sale of Radiation Systems Inc. to Communications Satellite Corp. - otherwise known as Comsat. The surprise in this instance is that the deal could turn out to be worth less to shareholders of Radiation Systems than they first expected. Radiation Systems, located in Sterling, is a \$122-million-a-year company that makes antenna and communications systems. Comsat, headquartered in Bethesda, is a \$645-million-a-year company that transmits electronic data and video images by way of satellites. The merger would create a new Comsat technology subsidiary called Comsat-RSI. The deal, originally estimated to be worth \$151.5 million, is based on a stock swap - but one that seems more complicated than usual. When the deal was made in January, the two sides agreed that each share of Radiation Systems would be worth \$18.25. But not in cash. It would be paid to Radiation shareholders in Comsat stock. How many shares it would take to equal \$18.25 would depend on the price of Comsat shares when the deal closed. However, the dealmakers set limits on how far the Comsat shares could float. They decided that 100 Radiation shares would be exchanged for not less than 63.8 Comsat shares or more than 78 Comsat shares. That meant that a Radiation Systems shareholder would get the

minimum of 63.8 shares if the Comsat share price went up to \$28.61. The shareholder would get the maximum of 78 shares if the price of Comsat went down to \$23.40. At the time of the agreement, Comsat stock was trading for about \$27. Clearly, the dealmakers did not anticipate Comsat stock would fall below \$23.40. Well, guess what? Last week, as the stock market continued to suffer from interest rate jitters, the shares of Comsat dropped as low as \$21.75. They closed on Friday at \$22.12 1/2 - well below the dealmakers' limit. The slide promptly gave Radiation Systems shareholders a case of their own jitters. When Comsat shares fell to \$22, it meant that the \$18.25 exchange rate should have required the payment of 83 shares of Comsat. But, because of the agreement, the limit was 78 shares! By sticking to the 78-share limit, it also meant that each Radiation Systems share was worth only \$17.16 of Comsat stock - not \$18.25. The news was a blow to stock market arbitrageurs. Typically, when a buyout is announced, the arbs come rushing in - hoping to lock in a gain between what it costs to buy shares of the target company - and the price they'll get in the merger. But last week, it looked like their profit was far from locked in. The arbs moved into Radiation System stock, starting Jan. 31, the day the deal was announced. Radiation Systems stock was then trading at \$13.50. On news of the merger, Radiation shares quickly moved up to \$17.62 1/2, a gain of \$4.12 1/2. The volume was 15 times the normal amount. A lot of stock presumably was bought by the arbs in the \$16 to \$17 range. Since then, the Radiation Systems price has remained mostly in the \$17 to \$18 area, as the arbs and others waited to receive \$18.25 in Comsat stock. If it turns out they get only \$17.16 worth of Comsat stock for each Radiation share, a lot of people won't be too happy. Richard E. Thomas, the chairman of Radiation Systems, said he was sure the deal would go off as planned. "At this point in time," he said, "I believe the Comsat stock will come back and when we get to the closing, we will be able to deliver what was initially promised." Thomas owns about 170,000 shares, or about 2 percent, of Radiation Systems stock and therefore stands to lose, too, if Comsat shares did not rebound. Thomas said he had not gotten much reaction from shareholders to the drop in the Comsat price but that he planned to meet with Alex. Brown & Sons Inc., his firm's financial adviser, to discuss the matter. The deal was supposed to close after Radiation Systems shareholders approved the merger at a meeting planned for May 26. By that time, officials will have arrived at an official exchange price for Comsat stock. It will be based on an average of 20 days trading. The countdown began last week. At Comsat, a spokesman said that despite the downward move in Comsat stock, "We're still looking toward a May vote on the merger." He said there had been no discussions between the two companies about the falling share price. Presumably, if the price of Comsat were to fall much further, it could become an issue at the Radiation Systems shareholder meeting. Two lawsuits attempting to block the merger have been filed in Nevada. One of the reasons for the drop in the price of Comsat stock may have been the activities of arbs who sold Comsat stock short. Although Comsat short sales have spiked before, the amount of short-selling increased sharply after the Radiation Systems deal was announced. Ordinarily, short-sellers have a single goal. They hope to profit when the price of a stock drops. To do so, they sell borrowed shares. If the price falls, they buy new shares and replace the borrowed ones - and pocket the difference. In this case, however, the arbs may have been shorting Comsat to drive down its price and thus improve their position in Radiation Systems. As we've seen, the lower the price of Comsat, the more Comsat shares would go to a holder of Radiation Systems stock. However, Comsat shares have gotten so low the holders of Radiation System stock, including the arbs, could be penalized. If so, the arbs may have outsmarted themselves. For most Radiation System investors, a smaller than expected payment on their stock won't be fair - but it won't be a major setback, either. Radiation Systems shares haven't performed very well in the last two years. At this point, Comsat stock seems to have much greater potential. Wendie L. Wachtel, a vice president of Wachtel & Co., Washington, said she was not upset by the drop in the price of Comsat shares. The investment banking firm has had a long relationship with Radiation Systems and the Wachtel family and its customers own a substantial number of Radiation shares. "We're not fazed," Wachtel said, "We plan to hold our stock for the long term." It's a cruel, cruel world out there. Ask Gerald M. Birnbach, chairman of Rowe Furniture Co., headquartered in Arlington. In February, things were looking downright optimistic for the firm, which specializes in upholstered furniture. Its stock rose to an all-time high of \$18.87 1/2 - a long way from its \$4 trading price only eight months earlier. Then, in March, the company was able to sell another 1.4 million shares at \$14.50. And business was pretty good. So why, in the space of only 12 weeks, has the stock plummeted to \$8.87 1/2 - which is a loss of almost 53 percent? Birnbach said furniture stocks generally have been hurt by the upward move in interest rates, even though the rate increases are not likely to have a dramatic impact on the furniture business. As for inflation, Birnbach said he had not seen any serious increase in the prices of raw materials. Because the trading in Rowe stock became so active, Birnbach recently announced the firm expects to ship \$26 million worth of furniture and to earn 13 cents a share profit in the second quarter, which ends May 29. That compares favorably to the same quarter last year when the company shipped \$21 million in goods and earned 8 cents a share. But did that satisfy the stock analysts? No, said Birnbach, some of the analysts were hoping for 16 cents instead of 13 cents and went ahead and cut their estimates on Rowe's earnings for the year. Birnbach, who has been in the furniture business for 37 years, said he recently returned from the spring furniture show at High Point, N.C., where he found his industry colleagues to be in a very optimistic mood. "It bodes well," Birnbach said. Copyright 1994 The Washington Post

## **UKRAINE SAYS NUCLEAR SAFETY TO COST BILLIONS**

RTec 4/22/94 10:31 AM By Douglas Busvine VIENNA, April 22 (Reuter) - Ukraine on Friday slapped a \$4 billion price tag on urgently needed nuclear safety measures, and said it could not afford to close down its Chernobyl power plant -- scene of the world's worst nuclear disaster in 1986. Topping the list of vital measures is the \$1 billion reconstruction of a crumbling concrete "sarcophagus" encasing Chernobyl's reactor four, which blew up eight years ago next Tuesday, killing 31 and spewing radioactive dust over Europe. Vice-prime minister Valery Shmarov told a news conference Ukraine also needed western cash to speed the construction of new reactors and the eventual decommissioning of Chernobyl. He was speaking at the end of two-day emergency talks here on Chernobyl safety with officials from the International Atomic Energy Agency (IAEA) and nuclear experts from 13 governments. IAEA assistant director general Morris Rosen, responsible for nuclear safety, said he was satisfied with what he called technical-level talks, at which most delegates called for Chernobyl's closure as part of a national energy strategy. "There was a consensus that this is a national decision, that has to be made by the government of Ukraine...(but) the majority of participants urged that the solution include the closure of the Chernobyl nuclear power plant," Rosen said. Ukraine's parliament decided last October to keep Chernobyl open beyond a planned shutdown at the end of 1993, because of an energy crisis that followed the breakup of the Soviet Union. Rosen reiterated concerns over safety expressed by an inspection team which examined Chernobyl last month and found "numerous safety deficiencies" at the plant. A full report will be completed soon and presented to the Ukrainian government. He said dire economic conditions had led to 20 percent of qualified personnel quitting the plant in the last year. The sarcophagus was deteriorating and "could lead to a situation involving the release of radioactive dust," he added. Monitoring reactor four's safety cannot be guaranteed, because some 40 percent of the sarcophagus cannot be accessed due to high radiation levels, said Mykhaylo Umanets, head of the Ukrainian State Committee on Nuclear Power Utilisation. He said a leak of radioactive dust was a possibility, but added it would be unlikely for the fallout to travel more than 30 km -- the extent of an evacuation zone around Chernobyl. Rosen said Ukraine's dependency on Chernobyl could be reduced by speeding the construction of three new pressurised water reactors now in an advanced state of construction. This could be done with western help at a cost of just \$100 million. He also said it would be possible eventually to bring safety at Chernobyl up to the standards of other RBMK-type reactors still running in Russia. "But no matter what efforts are taken there will be a number of years when it will operate at levels below other RBMKs in Russia," he said. In Moscow, however, an official who investigated the Chernobyl blast told a news conference on Friday that Russia's 15 Chernobyl-style graphite-moderated reactors should be closed to prevent a repeat of the disaster. "I do not share the optimism of those who say our nuclear reactors are safe, especially the RBMK ones...and I recommend closing all these," Boris Uvarov told reporters. The environmental group Greenpeace, monitoring the Vienna talks, branded them a failure. A study commissioned by Greenpeace concluded Ukraine would be able to manage without nuclear power if it carried out energy-saving measures. "Yet another opportunity has been lost to get Ukraine on a path to close the reactors quickly and to build an energy system which will strengthen its economy and protect the environment," said Simon Carroll of Greenpeace International. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

## **ARMENIA CONSIDERING SECOND NUCLEAR POWER STATION**

RTw 4/22/94 10:01 AM YEREVAN, April 22 (Reuter) - Armenia, whose existing nuclear power station worries its neighbours because of the risk of earthquakes, is considering building a second one, a top government official said on Friday. Deputy Prime Minister Vigen Chitechyan told a news conference one of the two reactors at the existing Chernobyl-style power station would be restarted by the end of the year. The other would possibly be reopened later. The plant, 25 km (16 miles) west of the Armenian capital Yerevan, has two reactors with a capacity of 410 megawatts each. First commissioned in 1976, it was closed down in early 1989 shortly after a devastating earthquake. Armenia, desperately short of energy because of the collapse of the Soviet Union and its undeclared war with neighbouring Azerbaijan, says it has no choice but to reopen the plant. Some international nuclear officials and environmentalists have criticised the decision, saying the risk of another earthquake causing a nuclear disaster is too great. But Chitechyan said Armenia was already thinking about building a second nuclear plant. This question would probably be raised only "in the distant future." The existing power station could resist an earthquake of up to eight points on the Richter scale, he said. The 1989 quake measured 7.5 at its epicentre, in the Armenian town of Spitak. Earlier this month, Finance Minister Levon Barkhudaryan said the plant would be reopened for five or seven years while landlocked Armenia developed new energy resources. Armenia, which produced 755 megawatts of electricity this year, suffers from heavy energy shortages which have forced the authorities to close down hundreds of factories. Power is only on for a few hours a day even in mid-winter. One gas pipeline, through Azerbaijan, has been closed by the territorial conflict over Nagorno-Karabakh. The second, through Georgia, is often blown up by unidentified saboteurs. To reopen just one of the two existing reactors, Armenia needs between \$70 million and \$100 million, Chitechyan said. The government is

holding talks on obtaining a Russian loan. Both countries signed an agreement last month under which Russia pledged to provide technical aid, ensure nuclear fuel supplies and monitor safety at the plant in cooperation with the International Atomic Energy Agency. Armenia would finance restoration work. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

## **RUSSIA SHOULD SHUT CHERNOBYL-TYPE REACTORS-EXPERTS**

RTw 4/22/94 8:43 AM By Jean-Christophe Peuch MOSCOW, April 22 (Reuter) - Russia should close its 15 Chernobyl-style nuclear reactors to prevent another disaster like the one at Ukraine's Chernobyl plant, an official who investigated the 1986 disaster said on Friday. "I do not share the optimism of those who say our nuclear reactors are safe, especially the RBMK ones...and I recommend closing all these," special investigator Boris Uvarov told a news conference marking the eighth anniversary of the tragedy. But other officials said there was no need to close the RBMK plants, which were built to the same design as the Chernobyl one before the Soviet Union broke up in 1991. "Another tragedy similar to the Chernobyl one is impossible now in Russia," Boris Antonov, deputy head of atomic energy generating firm Rosenergoatom, told the news conference. He said repair works conducted since the accident had made Russia's nuclear facilities safe. "I am optimistic for the future... We can rest assured," Antonov said. The Chernobyl accident, on April 26, 1986, sent radiation over much of Europe in the world's worst nuclear disaster. The damaged graphite-moderated reactor now is entombed in concrete but other reactors at the site are still operating and Ukraine says it cannot afford to shut them down because it depends heavily on them for its national electricity supply. In Kiev, Ukrainian Deputy Prime Minister Valery Shmarov told a news conference urgent safety measures at Chernobyl and other investment to boost power capacity would cost up to \$4 billion. Shmarov was speaking at the end of two-day emergency talks on nuclear safety at Chernobyl. Ukrainian officials say they are willing to attend talks in June in Brussels to review a safety study into Soviet-made RBMK Chernobyl-type reactors. The United States, the European Union and environmental groups have all called for Chernobyl to be shut down immediately as a serious safety menace. In Moscow, Uvarov said that, although several improvements had been made to Russia's 15 RBMK reactors, they suffered from design deficiencies which made them unsuitable. "These reactors should not be in service now," he said. He added it was impossible to build concrete containment structures at these reactors to serve as final barriers against radiation in case of nuclear accident. Russia has currently nine nuclear power plants, with a total of 13 VVER pressurised water reactors, 15 RBMK reactors and one fast breeder reactor. Total nuclear power generating capacity is 21,242 megawatts, although officials at the nuclear power ministry plan to increase capacity sharply in coming years. Vyacheslav Grishin, President of the "Chernobyl" association, said more than 5,000 of the 300,000 nuclear workers and soldiers who fought the blaze at Chernobyl had died and 30,000 had been maimed for life. About 60 percent of that 5,000 had committed suicide, emergency ministry official Valery Sorokin. Grishin said the government had not done enough to support the firefighters. He said his organisation would ask parliament to grant victims of the Chernobyl tragedy additional funds. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

## **CHERNOBYL**

APn 4/26/94 7:56 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By LIAM McDOWALL Associated Press Writer KIEV, Ukraine (AP) -- Eight years after the world's worst nuclear plant accident, the horrors of living on Chernobyl's doorstep show few signs of abating. As victims were mourned in Moscow and elsewhere Tuesday on the anniversary of the 1986 catastrophe, many Ukrainians still battle Chernobyl-related health problems or live with fears that disaster could strike again. An explosion in Unit 4 of the four-reactor power plant released a huge cloud of radioactive material on April 26, 1986. At least 32 people were reported killed in the immediate aftermath of the explosion and fire. But scientists and doctors have long said the actual death toll was in the thousands. The explosion haunts Kiev, the Ukrainian capital, 50 miles downstream from the Chernobyl plant, and its population of 3 million. "Since the blast, I guess not a day has passed without Chernobyl cropping up in the conversation," said Helen Chychyryko, a student at Kiev University. "We try to joke about where the food we buy was grown, about our strange drinking water. But then we hear about someone with cancer and we remember -- this is serious." About 250 people attended a memorial service outside the Chernobyl museum in Kiev on Tuesday. The environmental group Greenpeace built a huge mockup of the cement tomb around the damaged reactor. Schoolchildren, politicians and passersby daubed messages in red paint on the monument calling for Chernobyl's shutdown. In Moscow, 60 relatives of victims gathered at the Kiev railway station, and a service was held at a city cemetery. Ukraine still spends about 15 percent of its annual budget on Chernobyl-related cleanup and health campaigns, Ukrainian Deputy Prime Minister Valery Shmarov told the Interfax news agency. Chernobyl Union, an environmental group, estimates that 5,000 people have died and 30,000 were

disabled as a result of the disaster, most of them soldiers, police and firefighters sent into the disaster zone in the days following the explosion. The Russian government newspaper Rossiiskaya Gazeta said Tuesday that a third of the 5,000 had committed suicide because they couldn't cope with the debilitating effects of radiation. Inspectors from the Society for Reactor Safety in Bonn, Germany, said Monday that ground water is seeping into the sealed-off reactor and the danger of contamination from the site is worsening. Western leaders have urged Ukraine to shut down the three remaining reactors, which the International Atomic Energy Agency says don't meet international safety standards. Authorities permit only the several thousand Chernobyl workers to enter a 18-mile area around the damaged reactor, though Ukraine's Chernobyl Ministry recently has begun offering escorted tours to the area for thrill-seeking visitors. Ukrainian President Leonid Kravchuk said again Tuesday that his country cannot afford to close the plant without outside financial assistance. Of the 50,000 people forced to evacuate their homes in 1986, about 700 have returned -- willing to accept the risk of life in the reactor's shadow rather than living as refugees in temporary shelters. They do so despite government warnings that the land will be unsuitable for human habitation for 26,000 years.

## **CHERNOBYL TOURS**

APn 4/26/94 7:48 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. KIEV, Ukraine (AP) -- Thrill-seeking tourists, take note. The site of the world's worst nuclear plant disaster is open for visitors. Ukraine's Chernobyl Ministry has begun offering escorted tours of the nuclear power plant where an explosion and fire devastated one reactor on April 26, 1986. At least 32 people died in the immediate aftermath, but scientists say thousands more died later of related illnesses. Visitors drive to the edge of a restricted "dead zone" established within an 18-mile radius of the ruined reactor. They park in a "clean" area and hop into a "zone car" to tour the site, all for \$100 zone car fee plus \$25 a person. There was no immediate word from the government on how the tours, which began recently, are faring. Thousands of Chernobyl workers regularly enter the dead zone of deserted villages, towns, and rusting machinery. International inspectors say the entire nuclear plant should be shut down because of the danger of radioactive contamination.

## **CHERNOBYL CHIEF ASKS TO GET ON WITH HIS JOB**

RTw 4/26/94 12:27 PM By Rostislav Khotin CHERNOBYL, Ukraine, April 26 (Reuter) - The director of the Chernobyl nuclear power plant said on Tuesday, the eighth anniversary of the disaster at the plant many want closed, that it was no worse than others in the industrialised world. Sergei Parashin said he wanted only one thing from Western countries clamouring for the plant's shutdown -- to leave him in peace to get on with his job. The 4,500 staff under his command, accustomed to the threat of closure hanging over their heads, laid flowers at a monument to the thousands of scientists and rescue workers who died in 1986 trying to put out the blaze in the fourth reactor. "What happened in 1986 is now impossible. We receive information from stations in the West and understand that not everything is well there and not everything is so bad here," Parashin, appointed director last week, told journalists and officials touring the plant. "Some 200 safety measures have been taken here. Safety at Chernobyl is no lower and probably higher than in other stations of this type," he said. "I only ask one thing -- leave us in peace and let us get on quietly with our work." As the tour entered the working third reactor, separated by a series of walls from the entombed fourth unit, a radiation meter suddenly began chattering and then whining incessantly. The radiation reading was up to 400 times the background level in Kiev, 140 km (80 miles) to the south. A large sign on the edge of a pond adjacent to the station warned: "Hunting and Fishing Prohibited." Western countries, led by France, Germany and the United States, have called for the rapid closure of Chernobyl, saying the plant does not meet international standards. President Leonid Kravchuk, addressing a memorial gathering in Kiev, repeated calls for the West to provide large sums of money to help overhaul Ukraine's energy sector and allow Chernobyl to close. Chernobyl had been due to close by order of parliament at the end of last year. But deputies, facing a devastated economy and severe energy shortages, reversed the order, unleashing an international outcry, and lifted a moratorium on construction of new plants. Deputy Prime Minister Valery Shmarov told employees what they wanted to hear -- the government had no intention of closing Chernobyl for the moment. He said the chief concern for the present was to replace the concrete and steel "tomb" around the stricken fourth reactor -- which Ukrainian and foreign experts say is cracking. Like most of Ukraine's nuclear industry eight years after the disaster, Chernobyl's staff are demoralised, though philosophical. Parashin's predecessor left his job to work at the Kursk nuclear plant in Russia, for about five to six times the pay. The average qualified worker at Chernobyl earns between 1.5 and two million karbovanets (up to \$50) a month -- less than half a miner's pay in eastern Ukraine. "Our pay is pretty bad. Everything revolves around money," said Andrei Tikhomirov, the third reactor's chief engineer. "When the weather gets warm, they close us down. When we get our first cold snap, no one objects to us staying open. We

no longer pay any attention to such talk. The fact remains that Ukraine cannot manage without nuclear power." REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

### **RUSSIANS MOURN CHERNOBYL DEAD**

UPn 4/26/94 10:35 AM By GUY CHAZAN MOSCOW, April 26 (UPI) -- "Chernobyl is a constant pain in my heart," said Lyuda Luzganova. "Because of it, I lost not only the person I held dearest in the world, but my home, and the town where I gave birth to my children." Luzganova was sitting by the grave of her mother, Klavdia, a security guard at the Chernobyl power station who remained at her post during the April 26, 1986, explosion and fire and who died 96 days later of acute radiation sickness, one of 31 people who perished in the tragedy. Luzganova was one of thousands of people evacuated from Pripyat, the small Ukrainian town built to house workers at the Chernobyl plant, in the aftermath of the accident. Now Pripyat stands empty, unfit for human habitation -- a ghost town that still haunts the memory of those who were forced to abandon their homes there forever after Chernobyl. "My father helped build Pripyat, and we lived there from the moment it was built," says Luzganova, who now lives with her family in the Ukrainian capital Kiev. "My children are still asking me -- when are we going home?" Luzganova was one of many relatives of Chernobyl victims attending a special liturgy at Moscow's Mitino cemetery to commemorate the eighth anniversary of the accident, the world's worst nuclear disaster. The presence of Orthodox priests, lawmakers, government ministers, nuclear energy chiefs and other officials at the ceremony proved that for most Russians -- not just the victims' families -- Chernobyl is now seen as a national tragedy. It was a tragedy which not only contaminated large parts of Russia, but also Ukraine and Belarus. Up to 100,000 had to be evacuated from areas of Ukraine contaminated in the blast, which left 490 population centers uninhabitable. At Mitino cemetery, special concrete slabs had to be built beneath the coffins of all 31 victims to prevent radionuclides seeping into the soil from their contaminated bodies. Speaker after speaker took the podium to praise the efforts of the 300,000 nuclear workers, fire-fighters and soldiers who helped in the rescue and clean-up operation -- 6,000 of whom have since died. Vyacheslav Grishin of the "Chernobyl" association said one of his aims was to clear the names of those among the power station's operational staff who died in the accident and were posthumously blamed for causing the explosion. "A commission later ruled that the blame lay not with the staff, who remained at their posts till the end and showed tremendous courage in trying to put out the fire, but with the creators of the Chernobyl-type reactor, which had serious design deficiencies." Despite repeated calls to have the Chernobyl station closed down, two of its original four reactors are still operating, providing Ukraine with roughly 7 percent of its electricity. Nikolai Skreka, Chernobyl's deputy general manager, denied safety standards at the plant were inadequate. "What happened in 1986 could never happen again," he said. "We have taken many measures to improve safety and any accidents are localized swiftly and effectively." Meanwhile, Grishin complained that the state was not doing enough to support the Chernobyl "liquidators," especially the 30,000 who were permanently disabled after exposure to radiation from the damaged reactor. "Not one kopeck from the state budget is being allocated to these people," says Grishin. "They lost their health, then often lose their jobs, their families break up ... 60 percent of the 6,000 liquidators who have died committed suicide." Lyuda Luzganova's health did not suffer in the accident. But it has left an indelible mark of sorrow which grows darker every April, when the time comes to commemorate the most chilling of anniversaries in the post-Soviet calendar, "It's so hard to understand this grief," she says, staring at her mother's grave. "It's a shock I will never come to terms with. How could such a thing have happened in peacetime?" Copyright 1994 The United Press International

### **ELDERLY GOING HOME TO CHERNOBYL ZONE**

UPn 4/26/94 9:01 AM By KIRILL KOKTYSH MINSK, April 26 (UPI) -- Elderly people, uprooted from their homes in Belarus near the Chernobyl power plant, are trickling back to the contamination zone, officials said Tuesday as they marked the anniversary of the 1986 nuclear power plant disaster. Elderly people who spent their lives in villages in southern Belarus, just across the Ukrainian border from the Chernobyl power plant, are giving up their internal exile to return to their abandoned homes, said Ivan Kenik, the head of the Belarus State Committee for the Liquidation of the Consequences of Chernobyl. Areas surrounding Chernobyl were evacuated after the April 26, 1986, fire and explosion at one of the reactors sent a toxic cloud over Belarus and parts of Russia, Ukraine and Europe. Many of these sites, evacuated and abandoned for health and safety reasons, remain contaminated with higher than normal levels of radiation. The people who used to live in the zone closest to Chernobyl have been resettled in other cities, though the government acknowledges that some 2.3 million of Belarus's 11 million people still live in areas of southern Belarus with elevated radiation levels. Some 126,000 people have been resettled to Vitebsk and the capital Minsk. However, homesickness and the difficulties of settling in new places, usually in big cities with inadequate housing, is driving the elderly back to their rural homes, despite the lingering radiation danger of the land that appears outwardly normal, though very still, with little sign of life. More than 200 people have returned to areas of southern Belarus deemed unsafe and off limits near



Chernobyl, Kenik said. Children in Belarus are experiencing unusually high levels of cancer, and an overall rise in cancer rates points toward Chernobyl as the likely cause of the weakening of immune systems. The Chernobyl radiation cloud affected more than 70 percent of Belarus, making the Slavic country on the western edge of the former Soviet Union the hardest hit by the world's worst nuclear plant accident. Belarus has expressed deep concern about Ukraine's decision to keep the plant operating, producing power for energy-poor Ukraine. The Russian newspaper Komsomolskaya Pravda and other media commentators and officials likened the impact on Belarus to the Nazi genocide. "Today is a sad date," Kenik said in a nationwide address on state radio in Belarus. "During World War II, every fourth Belarussian was killed, and now almost every fourth Belarussian is still living in contaminated territory." Copyright 1994 The United Press International

### **MINISTER SAYS WEST SHOULD PAY FOR CHERNOBYL SAFETY**

RTw 4/26/94 6:23 AM BONN, April 26 (Reuter) - German Environment Minister Klaus Toepfer called on Tuesday for the West to pay to make Ukraine's Chernobyl nuclear plant safe. "If we want Chernobyl to be safe, then we will have to pay for it," Toepfer said in a television interview, adding that there was no way the Ukrainian government could find the billions of dollars necessary for the job. Ukrainians held a "day of remembrance" on Tuesday to mark the eighth anniversary of the Chernobyl disaster when 8,000 people are said to have died after the plant's fourth reactor caught fire and exploded in 1986. Ukrainian President Leonid Kravchuk accused the West of being free with advice but unwilling to provide the vast sums required to restructure Ukraine's energy sector. Toepfer told ZDF television that Ukraine needed between \$1.2 billion and \$2.4 billion. Everything must now be done to find international means of finance, Toepfer said. The minister said he feared the cement hull poured over the defective reactor after the accident could collapse, releasing dangerous radioactive contamination. Toepfer added that there were another 10 Chernobyl-type reactors in Lithuania and in Russia that should be closed down. A study by the Vienna-based International Atomic Energy Agency (IAEA) in March pronounced Chernobyl unsafe. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

### **NO LEAKAGE FROM FIRE AT RUSSIAN NUCLEAR PLANT**

UPn 5/6/94 1:40 PM MOSCOW, May 6 (UPI) -- A fire broke out Friday at a Russian nuclear plant, but the Ministry of Atomic Energy said there was no radiation leakage and that critical measurements remained normal at the plant. The accident occurred at the third unit of the Beloyarsk nuclear power plant, which had been undergoing repairs since April 23. The plant is located near the central Russian city of Yekaterinburg, President Boris Yeltsin's home town in the Ural Mountains. Atomic Energy Ministry spokesman Georgy Kaurov stressed that radiation levels were normal at the plant and that there was no radiation danger to employees or to the population or to the environment. Kaurov, speaking to UPI as firefighters fought the blaze, downplayed any danger, and said that leaking liquid sodium, used as a cooling agent, came in contact with oxygen and formed a dense milky fog that prompted authorities to call in firefighters. Sodium can ignite when exposed to air. Kaurov denied allegations by Greenpeace that the sodium may have been irradiated and thus posed a threat of releasing radioactivity. He said the sodium release was caused by a depressurized valve. The Atomic Ministry spokesman said he considered the incident virtually insignificant, hardly worth a ranking on the seven-point scale of nuclear accidents, though officials ultimately rated it a 1, at the bottom of the scale. The disastrous 1986 fire and explosion at the Chernobyl power plant topped the scale at 7 after it spread a toxic radioactive cloud across parts of Europe and the westernmost Soviet republics. The Beloyarsk plant is not one of the controversial Chernobyl-type reactors still operating in several former Soviet republics, but rather a sodium-cooled fast-breeder reactor, one of the largest reactors of its type in the world. Non-radioactive sodium leaking from a drainage, which is set apart from the nuclear reactor, ignited, Kaurov said. Despite the notorious reputation and lingering safety concerns surrounding the Russian nuclear power industry, the Beloyarsk plant has been relatively problem-free and as recently as 1992 was cited by the European Nuclear Society as being Russia's best performing nuclear power plant. Beloyarsk stands on the site where the first Chernobyl-type reactors were built but are no longer in operation. Beloyarsk is located in Zarechniy, about 25 miles (40 km) north of Yekaterinburg, a Urals industrial center of 1.3 million people more than 1,000 miles (1,667 km) east of Moscow. Copyright 1994 The United Press International

### **ARMENIA DETERMINED TO REOPEN CONTROVERSIAL REACTOR**

RTna 5/6/94 3:25 AM By Richard Balmforth YEREVAN, Armenia (Reuter) - Armenia seems determined to ride out Western criticism and reopen a controversial nuclear power station with Russian help to surmount an energy crisis that has brought the economy to its knees. The Metzamor power plant about 16 miles outside the Armenian capital was

closed in 1989 when Armenia was still part of the Soviet Union, after an earthquake devastated the north of the Transcaucasian state killing 25,000 people. The plant was not damaged even though the epicenter of the tremor was only 75 miles to the north. But the West says there are inbuilt design problems with its two Soviet-made reactors that make reopening risky. Armenia, starved of energy mainly because of the war with its oil-rich neighbor, Azerbaijan, says it is imperative that it reopens the Metamor plant near the border with Turkey to get its economy restarted, "The peculiar needs of Armenia leave it with no other choice," said Steve Tashjian, energy and fuel minister, in an interview Thursday. The present target date of reopening is around spring next year. Leading industrialized countries in the Group of Seven (G7) and the European Union have made it clear that, although they may sympathize with Armenia's plight, they are against recommissioning the plant. They say its safety standards will always be in doubt. "We believe there are inherent problems with the design of the Metamor plant, particularly the lack of a containment shell," a spokesman for the U.S. embassy in Yerevan said. Land-locked Armenia has to import virtually all its fuel and relied in the past on natural gas from Turkmenistan supplied across Azerbaijan. Four years ago Azerbaijan imposed an embargo on energy supplies across its territory to Armenia because of the undeclared war over the territory of Nagorno-Karabakh. Turkmen natural gas has been rerouted through Georgia to the north. But this pipeline is regularly blown up, apparently by Caucasian gangs operating a petrol racket. Supplies of Russian fuel oil by rail on the same route suffer a similar fate. Armenia's 3.4 million people have shivered without heating through three winters with temperatures as low as minus 13 Fahrenheit. Woodland has been laid bare as trees have been felled for firewood. Electricity supplies are rationed. In Yerevan homes have power for only four hours a day, often when residents are at work and cannot benefit from it. Industry is operating at 30 percent capacity. Huge cranes sit motionless on building sites against the Yerevan skyline. Petrol, like many other vital goods, is expensive for the ordinary citizen. Unable to win Western support for reopening Metamor, Armenia sealed a deal in March under which Russia will provide technical assistance -- including advice on safety regulations -- to restart the plant and supply uranium to fuel it. Tashjian put the cost at about \$70 million of which about \$40 million would be payable for the uranium and the rest would be spent on safety and upgrading. Armenia wants a \$20 million loan from the Nuclear Safety Account held by the European Bank for Reconstruction and Development, earmarked for such projects in the ex-Soviet Union. Armenia says that by reactivating one of the two Metamor reactors it will put an extra 410 megawatts into the country, significantly raising current daily capacity of 800 megawatts. "We will put it into operation only if the government of Armenia is certain it can be restored in a safe manner," Tashjian said. "We cannot afford a mishap in a small country like ours." Some Western nuclear companies -- including Framatom of France -- have indicated interest in helping the Armenian government with reviewing safety at the plant. REUTERCOPYRIGHT 1994 Reuters Information Services, Inc. All rights reserved.

## **FRANCE TO PRESENT NEW PLAN TO CLOSE CHERNOBYL**

RTw 5/5/94 10:43 AM PARIS, May 5 (Reuter) - France will propose to its Group of Seven and European Union partners a new plan to help Ukraine close down the Chernobyl nuclear plant without suffering energy shortages, Environment Minister Michel Barnier said on Thursday. Barnier said he would present the proposal to EU environment ministers meeting in Greece next week, and President Francois Mitterrand would spell it out at the Naples summit of the world seven top industrial nations in July. The plan would close down Chernobyl's two working reactors, thicken the cement tomb covering a reactor destroyed in the world's worst nuclear disaster in 1986, and handle the region's nuclear waste dumps and contaminated water, he said. Thirty-one people died in the Chernobyl accident but environmentalists fear radiation has affected thousands more. Barnier said the international community must help Ukraine build two or three new safe reactors to cover its energy needs. G7 representatives earlier this week pledged to help Ukraine develop its nuclear power industry if it shut down Chernobyl. But Ukrainian officials said their offer of several million dollars fell far short of the \$3 billion Kiev says it needs. Kiev has come under growing international pressure to close the station for good since the International Atomic Energy Agency published a report last month calling it unsafe. But energy-poor Ukraine says it cannot afford to lose seven percent of the country's electricity and needs help to deal with the aftermath of the Chernobyl accident. REUTER COPYRIGHT 1994 Reuters Information Services, Inc. All rights reserved.

## **EU OFFERS UKRAINE MONEY TO CLOSE CHERNOBYL**

UPn 5/5/94 9:49 AM By ROMA IHNATOWYCZ KIEV, May 5 (UPI) -- The European Commission told Ukraine Thursday it would payroll the construction of three nuclear power stations that have been mothballed since 1990, if Ukraine agrees to shut down the Chernobyl nuclear power station. "Our proposal includes financing the completion of nuclear power plants in exchange for closing down Chernobyl," Sir Leon Britten, Vice President of the European Commission, told journalists Thursday. "Everyone has been talking about Ukraine and we at the European Community have a responsibility to come up with something," said Britten. Ukraine, which is racked by an energy crisis, says it will

not be able to satisfy its power needs if it shuts down Chernobyl, whose two functioning reactors still produce some 7 percent of the country's electricity. Chernobyl was the scene of the world's worst nuclear disaster in 1986, when an explosion and fire at the plant's fourth reactor spewed a huge cloud of radioactive dust over large parts of Europe and the Soviet Union. Since then, Western countries have urged Kiev to close down the power station, claiming it is still unsafe and represents a permanent source of danger not only to Ukraine but to the rest of the world. Britten said the proposed European aid package, which included much-needed help for the agricultural sector and support for Ukraine's balance of payments, was on the agenda for a planned meeting between him and President Leonid Kravchuk. Britten spent Thursday morning visiting the Hartron plant near Kharkov, which used to produce rocket guidance systems for SS-18 and SS-19 strategic missiles, and now with the help of the European Union has switched to making control systems for Ukraine's nuclear power plants. The EU aid package, as well as Ukraine's response, will be considered at the next European Commission Council of Ministers meeting May 16, and if approved, the EU will approach the G-7 group of industrial democracies for financing. Britten, on a 1 and 1/2 day visit to Kiev, refused to specify how much money was offered to Ukraine, but stressed the aid package would only take the form of a long-term loan. Ukrainian Deputy Prime Minister Vladimir Shmarov has said Ukraine needs \$3 billion in western financial aid to finance the closure of the Chernobyl plant, create additional sources of electricity, and step up nuclear safety. Shmarov said it would cost at least \$1 billion to reconstruct the concrete sarcophagus covering Chernobyl's damaged fourth reactor, and a further \$1.2 billion to construct new reactors to boost power capacity. The EU aid package would go towards completing construction at three nuclear power stations that have been mothballed since the Ukrainian authorities ordered a moratorium on the country's nuclear energy program in 1990. Copyright 1994 The United Press International

### **PROTESTERS PICKET RUSSIAN NUCLEAR PLANT**

UPn 5/5/94 9:27 AM By WILLIAM BARCLAY MOSCOW, May 5 (UPI) -- Environmentalists picketed a chemical plant in the Russian Urals city of Chelyabinsk on Thursday, after a trainload of spent nuclear fuel arrived there from Finland for reprocessing. The environmental group Greenpeace said the reprocessed nuclear fuel at the Mayak plant in Chelyabinsk violated prohibitions against storage of nuclear wastes, and posed a threat to the environment. "It shouldn't be groups like us trying to intercept such materials, it should be the Russian police," said Dmitri Litvinov, campaign coordinator of Greenpeace Russia. Greenpeace activists tried unsuccessfully to prevent the trainload of nuclear waste from leaving Finland. Litvinov said Russia's actions were in contravention of the Russian Law on Protection of the Natural Environment, which states that "the import of radioactive waste...for the purposes of storage or burial, is banned." Litvinov said an independent study of the Chelyabinsk region in 1992 found that levels of plutonium on the surface of the soil outside the Mayak reprocessing plant had risen five times between 1988 and 1990, evidence enough, he said, that Russia was illegally storing radioactive waste. However, Russia's Ministry of Atomic Energy accused the environmentalists of trying to scare the local population around Chelyabinsk. "The people who live there know very well that there is no threat to the population or the environment," said Georgy Kaurov, spokesman for the ministry. He avoided any direct response to the Greenpeace allegations of improper nuclear waste storage, saying only that the spent nuclear fuel would first be reprocessed and then "we will decide with (Finland) what to do with the rest." The Mayak plant is closed to outside observers, and all information on contamination is provided by the Russian Ministry of Atomic Energy. This latest conflict between the environmentalists and the government stems from a Soviet law, inherited by Russia, which states that Moscow "is obliged to reprocess nuclear fuel at the request of (former East Bloc countries or) Finland." The law does not stipulate that Russia should return recycled nuclear waste to the country of origin, as do the two other European countries that reprocess nuclear fuel, Britain and France, leaving the question of what Russia should do with the waste. The Mayak plant at Chelyabinsk was the first facility in Russia to produce nuclear fuel. However, its safety record is somewhat checkered, and in 1957 it was the scene of an explosion which subjected a large area of the Urals to radioactive pollution. Reprocessing technology at the plant is notoriously outdated, and safety standards are poor, with even the Ministry of Atomic Energy admitting that large quantities of radioactive waste are pumped into surrounding lakes and rivers. The dispute over the Finnish shipment to Mayak is just the latest in a series of controversies involving shipments of hazardous wastes from Europe to Russia, which environmentalists charge is becoming a dumping ground for unwanted and often dangerous substances that the country is accepting because the practice is a money-earner. Copyright 1994 The United Press International

### **NUCLEAR DRAFT CIRCULATED**

UPn 5/4/94 1:31 PM VIENNA, May 4 (UPI) -- The International Atomic Energy Agency said Wednesday it is circulating a Nuclear Safety Convention draft intended to maximize safety at nuclear power plants worldwide. The draft, which was drawn up in a series of meetings since 1991 and covers all land-based civil nuclear power plants, was sent to

member states for consideration. The IAEA hopes it will be adopted at a diplomatic conference to be held at the agency's Vienna headquarters June 14-17. An IAEA press release said the convention is seen "as a significant step forward in helping to maximize safety at nuclear power plants" of which there are over 420 currently operating worldwide. The convention's obligations are based on fundamental nuclear safety principles, such as the basic concepts for the regulation and management of safety and the operation of nuclear installations. The draft addresses the location, design, construction and operation of nuclear plants, as well as the availability of adequate financial and human resources, safety and emergency preparedness. (Written by Adriana Pontieri, Vienna) Copyright 1994 The United Press International

## **G7 VOWS CONDITIONAL HELP FOR UKRAINE ATOMIC POWER**

RTw 5/3/94 1:38 PM KIEV, May 3 (Reuter) - Representatives of the world's seven top industrial nations on Tuesday pledged to help Ukraine develop its nuclear power industry if the former Soviet republic shut down the ill-fated Chernobyl station for good. But a top Ukrainian official described the offer as "pitiful," running into "several million dollars" rather than the \$3 billion Kiev says it needs. Ukrainian officials said a Group of Seven delegation on nuclear safety promised help if Ukraine phased out the two working reactors at the Chernobyl station, site of the world's worst nuclear disaster in 1986. Thirty-one people died, but environmentalists fear radiation has affected thousands more. A senior Ukrainian official told reporters after meeting the delegation that offers from the G7 fell short of the more than \$3 billion Ukraine needs to close the station, build a new cover for the destroyed fourth reactor and develops its energy sector. "We have come to a certain consensus on necessary projects to present at the July G7 meeting in Naples," Deputy Prime Minister Valery Shmarov said. "If they said yes to us today, we would be ready with a concrete outline of what needs to be done. But the help they have proposed is pitiful -- several million dollars. We have been dealing with Chernobyl alone, and the longer we're alone the longer it will drag out," he added. Another top Kiev official, who declined to be named, said disagreements among top Ukrainian officials about the type of aid necessary did not help the talks. Ukraine has come under growing international pressure to close the station since the International Atomic Energy Agency published a report last month calling it unsafe. But energy-poor Ukraine says it cannot afford to lose seven percent of the country's electricity and needs help to deal with the aftermath of the Chernobyl accident. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

## **STILLBORN BABIES USED IN '50S RADIATION TEST; ...**

WP 5/2/94 11:00 PM Stillborn Babies Used In '50s Radiation Test; Energy Dept. Widens Disclosure of Experiments By Gary Lee Washington Post Staff Writer U.S. government researchers conducted radiation tests on stillborn babies in Chicago during the 1950s, the Department of Energy reported yesterday, in the latest revelation about the wide-scale use of humans in Cold War experiments. In the Chicago tests, scientists cremated 44 newly deceased infants and measured the amount of strontium 90, a radioactive substance, in the remains. Parents were probably not notified or asked permission for the use of their children in the experiments, according to DOE officials familiar with the case. The tests were part of Project Sunshine, a massive study conducted by the Atomic Energy Commission (AEC), a forerunner of DOE, to determine the long-term effects of nuclear radiation fallout on humans. Strontium 90 is among the radioactive particles that typically linger in the body following nuclear weapons tests. The release of long-classified information about the Chicago Baby Project - following recent reports about the use of mentally retarded teenagers, ethnic minorities and other disadvantaged groups in radiation tests - raises new questions about what ethical standards the federal government used in its conduct of Cold War research. DOE officials released documents about the baby tests as part of its mission to inform the American public about the extent that federal researchers involved humans in radiation experiments between the early 1940s and the 1970s. After Energy Secretary Hazel R. O'Leary expressed outrage about the radiation experiments earlier this year, President Clinton appointed an interagency committee to investigate the tests and determine whether the victims should be compensated. Congress is conducting hearings about the use of humans in radiation tests; the House Veterans' Affairs Committee will conduct a session on the subject Wednesday. Although some studies on Project Sunshine were published in the 1950s, most of the details about the Chicago Baby Project were contained in secret government documents that were declassified only last month. Researchers at the Los Alamos laboratory, a DOE facility in New Mexico, found the documents in their files earlier this year. The project was led by Willard Libby, a University of Chicago scientist and senior AEC official who is now dead. Researchers gathered data on the babies "to determine how much fallout humans could bear," said Steve Gallson, a DOE radiation specialist. The experiment "was probably also useful in deciding what the health effects were of the (nuclear weapons) tests being made at the time," he said. The researchers used babies because they provided the best measure of the amount of radiation in the body that was due to fallout rather than from ingesting food or from other sources, according to scientists familiar with

the study. All of the babies were stillborn in the early to mid 1950s, according to the documents. None of them died as a result of radiation treatments, DOE specialists said. Gallson acknowledged that some key aspects of the study are not known, such as how the researchers obtained the babies, how much the parents knew about the experiments, and what happened to the remains after the tests were completed. "We are still trying to find out a lot of things about the tests," he said. Don Peterson, a retired Los Alamos researcher familiar with the tests, defended them in an interview yesterday. "There was probably no other way for science to obtain this kind of information at the time," he said. "The use of rats or other animals would not obtain the same results." "This was a case of children who were no longer beneficial to the population being able to provide information that was enormously important for the rest of the world's children," he said. Aside from the stillborn babies, Project Sunshine researchers probed the level of radioactive isotopes left in cheese, milk, animal bones and other substances as a result of the nuclear weapons tests. In the end, they found that the residual effect of the fallout was not extensive in most humans. Copyright 1994 The Washington Post

## **COMMISSION TO HOLD CIVIL DISASTER TRAINING EXERCISE**

RTec 5/2/94 6:06 AM EUROPEAN COMMISSION PRESS RELEASE: IP/94/354 DOCUMENT DATE: MAY 2, 1994 + CIVIL PROTECTION : EMERGENCY RESPONSE - EXERCISE "EUROPA 94" From 5 till 7 May 1994, the European Commission, the Lander Baden- Wuerttemberg and Rhineland-Palatine and the Karlsruhe Nuclear Centre organize the emergency response exercise "EUROPA 94." The exercise deals with all kind of measures to protect the people and the environment after a technological disaster as the execution of emergency plans as well as the organization of the intervention. The exercise takes place in the neighbourhood of the Philippsburg Nuclear Power Plant with attendance of delegates from all EU-Member States and several Central and East European countries and from the European Commission to exchange information and to benefit from each other experience, in view of increasing cooperation and communication in case of a nuclear event. Commissioner Ioannis Paleokrassas underlines the importance of the such exercise for Community citizens, who will benefit from better emergency preparedness and response to accidents involving radiation protection aspects. A recent Eurobarometer pool showed that 85 % of the Community citizens have a great interest in civil protection action. He also considers exercises one of instruments to boost cooperation in the field of civil protection. Experts out of several EU-Member States and international organizations will discuss during this exercise the organizational concepts, legal fundaments, basics for emergency-planning competences, means and tools as well as the communication and cooperation systems set up for the purpose of emergency preparedness and response in the EU-Member States. This will improve the effort of the EU-Member States, Lander and regions to strengthen community cooperation on civil protection by increasing mutual aid in the event of a disaster. END OF DOCUMENT Copyright 1994 Reuters Information Services, Inc. All rights reserved.

## **THE REMILITARIZED ZONE; IN AN AGE OF DIPLOMATIC ...**

WP 4/30/94 11:00 PM The Remilitarized Zone; In an Age of Diplomatic Tension, Korea Becomes the Toughest Test By Don Oberdorfer SEOUL - In the past two months, the stakes have gotten even higher in the struggle over North Korea's nuclear program. The United States, South Korea and China have changed their postures significantly, while Russia has sought to join the game as a major player. Japan, meanwhile, may be moving toward the sidelines. At the same time, the North Korean position has become more difficult. Just as President Kim Il Sung prepared a charm offensive two weeks ago to diffuse international tension, technical problems forced the shutdown of the country's main atomic reactor. The suddenly urgent need to replace the fuel rods has brought on a new round of bargaining with international inspectors who insist on being present for their removal. This in turn could bring about a turning point in the inspection saga: The fuel rods, after all, contain raw material with the potential to power four to six nuclear bombs. The United States currently has 36,000 American troops stationed in South Korea, as well as extensive security commitments here. If mishandled, the confrontation with North Korea could quickly involve the United States in a full-scale war in the Pacific. But however the problem is resolved - through negotiation, hostilities or acceptance of North Korea as a nuclear weapons power - U.S. leadership and credibility in Asia are on the line. Yet the Clinton administration seems ill prepared to deal with the complex issues involved. The outlines of this recent history are well known: International inspections began some two years ago, when North Korea, following years of maneuvers and delays, permitted the International Atomic Energy Agency for the first time to visit nuclear facilities at Yongbyon, north of the capital of Pyongyang. In March 1993, following an IAEA demand for special inspections, North Korea abruptly threatened to pull out of the worldwide Nuclear Non-Proliferation Treaty, which would have ended its obligation to submit to inspections. With this act, North Korea seized the initiative. The United States reacted by meeting North Korea for two rounds of high-level talks last summer, offering improved political and economic relations and security assurances if the nuclear issue could be resolved. This past March, IAEA officials returned to Yongbyon for their first full-scale inspections in a year. Despite painfully

negotiated agreements on what the inspectors could do, North Korea refused to allow two small but important tests: wiping particles from a "glove box" and taking gamma radiation measurements that could indicate whether plutonium was being clandestinely manufactured. North Korea officials told the IAEA that "external factors" - an apparent reference to a dispute with South Korea - were responsible for their actions. The disappointed inspectors flew home and the IAEA turned the issue over to the U.N. Security Council. Washington responded by augmenting its military power here for the first time since the nuclear controversy erupted. President Clinton, who for months has been receiving reports on Korean developments nearly every other day as part of his national security briefing, ordered the dispatch of Patriot missile interception batteries and Stinger anti-aircraft missiles to protect South Korean ports and airfields. These would be essential for receiving supplies and reinforcements in case of war. In addition, the administration decided to bring in new heavy tanks, artillery, rocket launchers and other weapons to beef up U.S. combat units already here, and ordered more heavy weapons placed on a ship that can be positioned offshore. On a trip to Seoul 10 days ago, Defense Secretary William Perry decided to coordinate these moves with South Korean military and civilian officials. North Korea has one of the world's largest armies - more than 1.1 million troops by U.S. estimates, with the bulk of it arrayed close to the demilitarized zone just north of Seoul. However, Pyongyang's forces are lagging in modernization, especially since the demise of the Soviet Union, its main military supplier. The buildup of U.S. weaponry, in addition to the ongoing acquisition of F-16 fighters and other high tech weapons by South Korea, is shifting the military balance on the bitterly divided peninsula. On the diplomatic front, Washington and Seoul sought to obtain a U.N. Security Council resolution insisting that North Korea complete the inspection of its nuclear facilities to the satisfaction of the IAEA, thus setting the stage for U.N.-mandated economic sanctions if the demand was refused. But here they ran into another recent shift in the situation - the unexpected posture of China. Beijing's diplomats objected to sanctions on North Korea, forcing the planned resolution to be watered down to a Security Council president's statement, which does not require a vote. The Chinese told Americans and South Koreans explicitly that they cannot be counted on to permit sanctions against North Korea to be voted in the Security Council, where China has a veto. The optimistic interpretation in Washington and Seoul is that China is playing "the good cop," telling Pyongyang of its efforts to ward off sanctions while using this position to argue for North Korean compliance with nuclear inspections. However, nobody is sure of this, nor can anyone be certain that such a tactic would succeed, although China is the only nation believed to have influence in Pyongyang. With its most-favored-nation trade status and overall relationship with the United States in the balance, China's policy in Korea has become more enigmatic. Russia, which also has historic interest in Korea, on March 24 proposed an eight-party international conference involving itself, the two Koreas, the United States, China, Japan, the IAEA and the United Nations to work out a "balanced" approach of denuclearization and international guarantees for North Korea. U.S. diplomats, who had no advance notice of the plan and asked the Russians in vain to postpone it, were miffed. While neither North Korea nor anyone else has accepted the plan, neither has it been rejected as a future possibility. The Yeltsin government is attempting to enhance its domestic leverage by improving its relations with Pyongyang, which in turn is courting the Russian ultra-nationalist party of Vladimir Zhirinovskiy. According to Russian officials, the eight-party international conference arose out of mutual frustrations about the nuclear issue expressed at a Moscow luncheon by Foreign Minister Andrei Kozyrev and visiting Japanese Foreign Minister Tsutomu Hata. Since then, Hata's problems have multiplied on this and other issues as he became prime minister without a working majority in the Diet. The Japan Socialist Party, which was the largest single party in the shaky reformist coalition of recent months, has longstanding ties to North Korea. Japan's policies on Korea are a point of contention in the current political jockeying, and a growing question mark. Here in Seoul, meanwhile, two significant moves have defined the right and left dimensions of government policy. The first came on March 19, when the North Korean delegate at North-South talks at Panmunjom declared belligerently that, "If a war breaks out, Seoul will be a sea of fire." This statement was extraordinary, and so was the South Korean government reaction: to break precedent by providing a videotape of this exchange - from a closed meeting - for broadcast on national television. The decision, which was made at President Kim Young Sam's Blue House, sharply increased public anger at North Korea and apprehension about a war. The stoking of conservative sentiment was so notable that North Korean President Kim Il Sung went out of his way to disown the "sea of fire" remark to recent visitors to Pyongyang, saying it was "a mistake" by the negotiator. Of equal importance was Seoul's decision to drop its insistence that a meeting of North and South special envoys be held to discuss the nuclear issue before the United States and North Korea sit down to another round of talks. This precondition was accepted by Clinton last November after a personal plea from his South Korean counterpart in a White House meeting. In the meantime, it had complicated already complex nuclear diplomacy by tying it directly to the half-century-old North-South political dispute. Removing the precondition was an act of courage and prudence by the South Korean president, even if fashioning it in the first place was folly. The stakes, of course, are enormous for the Clinton administration, which would see many thousands of Americans and millions of Koreans die if war breaks out. It would also leave the rest of Clinton's domestic and foreign agenda in tatters. Yet the administration still seems unwilling to give the issue sufficient diplomatic energy. U.S. relations with both China and Japan are in dismal shape because of the administration's blundering and its myopic focus on human rights and trade issues, respectively. Pyongyang's nuclear program is viewed by some in the United States and elsewhere as a

"card" intended for bargaining purposes and by others as a serious effort to obtain nuclear weapons to prevent attack and insure survival of the regime. Because of a great divide on this and other points within the U.S. government, Clinton often receives diametrically opposite analyses of North Korean actions and intentions from the CIA and State Department on the same day. North Korea, meanwhile, is facing increasing difficulty as the world loses patience with its often inexplicable shifts on nuclear inspections. The reclusive nation, one of the most isolated on earth, has no dependable allies and few friends. Increasingly, it is under siege, almost entirely because of the nuclear issue. The recent shutdown of the main reactor at Yongbyon, which took place less than a week before Kim Il Sung's April 15 birthday meeting with invited foreigners, was almost certainly unplanned, in the view of experts here. However, the necessity of removing the fuel rods presented an opportunity as well as a requirement for renewed communications with Washington and the IAEA over the terms for inspection. If the rods are removed without IAEA supervision, North Korea has been repeatedly warned, the United States will break off negotiations. And a U.S. connection is at the top of North Korea's political and economic wish list. While international maneuvering has taken the spotlight in recent months, another development is being watched intently by officials here and in Beijing and Washington. Because North Korea continues to lose ground economically according to outside estimates, more and more refugees have been making their way across the Yalu River to Chinese territory. China and South Korea, both of which are hoping for stability rather than collapse in North Korea, are reluctant to do anything that might increase the refugee flow to a flood. They are mindful, above all, of what happened in Germany in 1989. At the same time it would be an egregious and dramatic violation of international human rights to return the refugees to North Korea against their will. Seoul and Beijing are just beginning to grapple with this issue. Don Oberdorfer, former Washington Post diplomatic correspondent, is journalist in residence at the Foreign Policy Institute of the Johns Hopkins Nitze School of Advanced International Studies. He is working on a book about contemporary Korea. Copyright 1994 The Washington Post

## **PLANT IN CHERNOBYL EXCLUSION ZONE TO REOPEN**

RTna 4/30/94 11:09 AM MOSCOW (Reuter) - A research plant inside the Chernobyl exclusion zone will reopen to make parts to keep Ukraine's nuclear power industry going, Moscow's independent television said Saturday. It said the Ukrainian government had taken the decision to reopen the plant in Pripyat, a town inside the 20-mile exclusion zone declared after the world's worst nuclear disaster at Chernobyl power station in April 1986. A vast radioactive cloud from Chernobyl blew north-west from the stricken station immediately after the accident, spreading contamination. Thirty-one people died, but environmentalists fear radiation has affected thousands more. Work at factories in Pripyat was halted the day of the disaster. Although no-one is supposed to live inside the exclusion zone, hundreds of villagers have returned to their homes in defiance of government orders. Officials in Ukraine were not available for comment due to the Easter holiday, but Ukrainian television said production would resume at the plant, some 15 miles from Chernobyl. It would make spare parts and specialized equipment to ensure "the efficient and safe work" of Ukraine's nuclear power industry. The plant is managed by the State Nuclear Power Committee. About 135,000 people were evacuated from the exclusion zone after the explosion at the Chernobyl power plant. REUTERS Copyright 1994 Reuters Information Services, Inc. All rights reserved.

## **UKRAINE-CHERNOBYL**

APn 4/29/94 7:42 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By EDITH M. LEDERER Associated Press Writer LONDON (AP) -- Nuclear experts in Ukraine are developing a plan to shut down the Chernobyl nuclear power plant, site of the world's worst nuclear plant accident, and dispose of its radioactive waste and spent fuel. "Nobody in the world has such experience now -- we will be the first," said Valery Glygalo, the director of the Scientific and Technical Center at the Ukrainian State Committee on Nuclear and Radiation Safety. "The final goal of our work is protection of the whole population," Glygalo told the Fourth International Conference on Nuclear Fuel Reprocessing and Waste Management, which ended Thursday. An explosion at the four-reactor power plant released a huge cloud of radioactive material on April 26, 1986. The official death toll was 32, but some scientists believe the actual death toll from cancer and related illnesses could be in the thousands. Western leaders have urged Ukraine to shut down the two Chernobyl reactors still operating, which the International Atomic Energy Agency says don't meet international safety standards. The 1986 disaster knocked out one reactor and a second was shut down later after a fire. Ukrainian President Leonid Kravchuk said again this week that Ukraine cannot afford to close the plant without outside financial assistance. According to a report Tuesday in the Danish newspaper Jyllands-Posten, the European Commission has agreed pay for two new nuclear plants if Ukraine closes down Chernobyl, which generates 7 percent of its electricity. Glygalo said Ukraine was using IAEA recommendations and information from the United

States, Britain, France and Germany in drafting a code for closing down Chernobyl. Glygalo said the plan now under consideration involves first switching the remaining reactors to "a safe mode." The spent nuclear fuel would be kept inside the reactors for at least a year, then gradually removed and put in storage pools, he said. The spent fuel would eventually be transferred to a new repository, currently under construction to meet international safety standards, he said. He said the remaining Chernobyl reactors would be left intact for 20 to 30 years, until new technology emerges on how dispose of them. After the 1986 explosion, the affected unit was hastily sealed in a sarcophagus of concrete and steel. Last month, the IAEA said harsh weather had caused serious deterioration in the shell. Glygalo did not discuss safety issues associated with the sarcophagus.

## **FINNISH NUCLEAR FUEL REACHES RUSSIA DESPITE DEMO**

RTw 4/28/94 5:44 AM HELSINKI, April 28 (Reuter) - A train carrying spent nuclear fuel, the target of a protest by Finnish anti-nuclear activists this week, crossed into Russia as planned on Thursday, a Finnish state power company said. An official of the Imatran Voima company said there were no incidents during the fuel's journey from a power plant on Finland's south coast to the border. On Tuesday police detained about 20 activists from the Greenpeace environmentalist organisation who chained themselves to a railway yard gate and other property in protest against the the planned transport. Their action coincided with the eighth anniversary of the Chernobyl nuclear disaster in Ukraine. Imatran Voima said the train would take five days to reach the Mayak reprocessing plant in the southern Urals near Chelyabinsk. Greenpeace said the Mayak facility had been involved in the production of nuclear weapons materials for the Soviet and Russian governments for the past 40 years. It also alleged there had been serious accidents at the plant. Finnish experts who visited it said safety risks were slight and Imatran Voima said the spent fuel would be processed for re-use by atomic power plants. Trade and Industry Minister Seppo Kaariainen said on Tuesday he would ask the government to end the practice when the contract with the Russians ran out in 1996. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

## **EU STUDIES UKRAINE LOAN TO HELP SHUT CHERNOBYL**

RTw 4/27/94 12:03 PM BRUSSELS, April 27 (Reuter) - The European Commission on Wednesday proposed that the European Union help build two new nuclear power stations in Ukraine in return for a pledge by Kiev that it would shut the Chernobyl plant permanently. The Commission suggested possible cheap, long-term European Union loans for this purpose which it said could form part of a broader initiative, possibly to be launched by the G-7 group of rich industrial states at its Naples summit in July. In a report on ways to help Ukraine's tottering economy, the Commission also said the EU should supply the country with food worth 100 million Ecus (\$115 million) to be sold at local market prices to alleviate growing domestic shortages. The discussion paper for submission to EU member states said the proceeds of the sales would provide funds to finance badly needed supplies of seed, fertiliser and other items. A statement by the Commission said experts estimated at 100 million Ecus the cost of meeting Ukraine's immediate needs for such agricultural inputs. In the nuclear sector, the Commission suggested that the EU and other donors could contribute to the completion of two new reactors at Rovno and Khmelnytsky "on condition that Ukraine undertakes to shut down Chernobyl definitively." The EU's TACIS (Technical Aid to the Commonwealth of Independent States) programme could assist part of the shutdown operations while financing some urgent upgrading measures during a gradual phase-out period. In return, the Ukrainian authorities would undertake to drop plans to restart unit two at Chernobyl, which was shut down last year after a major fire. The Commission said cheap, long-term loans could possibly be made to Ukraine by EURATOM (European Atomic Energy Community) to help build the two new power plants. The discussion paper did not say how much this would cost, but one official put the total cost of Ukrainian plans to build five new nuclear power stations as running into hundreds of millions of Ecus. Chernobyl was the scene of the world's worst nuclear accident in April 1986 when an explosion and fire spewed clouds of radiation across Europe and caused several thousand deaths, according to Ukrainian authorities. Ukrainian nuclear authorities said earlier this month the Chernobyl power plant could be closed only by authority of parliament and after alternative power sources were found. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

## **ZHIRINOVSKY GROUP STORMS OUT OF RUSSIA PARLIAMENT**

RTna 5/20/94 3:10 AM MOSCOW (Reuter) - Some 60 deputies of the extreme nationalist Liberal Democratic Party of Vladimir Zhirinovskiy stormed out Russia's parliament Friday, saying they would not return until a liberal broadcaster was taken off the airwaves. Zhirinovskiy, who has alarmed East and West alike with his vehement nationalist stance, said his faction's departure was the first of a series of measures which would continue until Russian television removed



broadcaster Nikolai Svanidze. "I can no longer put up with lies and libel addressed to us in the media," he said angrily. Svanidze, who presents a popular nightly program after Russian television's main evening news, alleged last Friday that Zhirinovskiy had promised \$500 to each member of his party in parliament if they voted for the 1994 budget. Svanidze told Itar-Tass news agency he was ready to provide evidence of this allegation in court. He was also willing to invite Zhirinovskiy to appear on his program. Criticizing the call that he be suspended, he said: "I might as well have asked to suspend the leader of the liberal delegates from his parliamentary work." Zhirinovskiy's stronger than expected showing in Russia's December 12 parliamentary elections sent shock waves round the Western world. He plays an outspoken and often raucous part in proceedings but has as yet had no decisive role in votes. His more outrageous comments include a statement that Russian troops would wash their boots in the Indian Ocean after a push southwards and threats to dump nuclear waste in the Baltic states. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved. Agencies Probe Radiation Tests In Uneven Ways; ... WP 5/19/94 11:00 PM

## **AGENCIES PROBE RADIATION TESTS IN UNEVEN WAYS; PANEL ASSESSES INVESTIGATIONS INTO COLD WAR EXPERIMENTS**

By Gary Lee Washington Post Staff Writer How seriously are federal agencies pursuing the history of the Cold War radiation experiments conducted by government scientists on unknowing subjects? It depends on the agency, according to documents released this week by a White House panel investigating the history of federal radiation research. While the Department of Energy has looked into the radiation issue with zeal, the panel's preliminary findings indicate the Department of Health and Human Services needs to do more. And some Department of Defense specialists appear reluctant to declassify documents detailing military experiments, several government officials said. The panel, the Advisory Committee on Human Radiation Experiments, was established by a White House executive order in January. It was charged with examining the extent of government radiation experiments and the conditions under which they were conducted. The panel is also acting as a gadfly, exhorting various agencies to search their records for unpublicized cases. In addition to Energy, HHS and Defense, the panel is examining tests that may have been conducted by the Central Intelligence Agency, the National Aeronautics and Space Administration, the Department of Veterans Affairs and the National Security Council. HHS Secretary Donna E. Shalala in January launched a search for radiation-related studies that department conducted. So far, follow-up has been limited, according to the report the panel issued Wednesday. HHS is only looking for experiments conducted before 1974, for example, even though radiation specialists and lawmakers have suggested that the some experiments may have occurred later. HHS also has limited its search to materials in the department's storage facility, apparently overlooking documents that may be located elsewhere, such as the National Archives. Even though the department located 1,200 boxes of material that may be relevant, those files have not been perused. HHS officials acknowledge that their search has been "limited" and has "obvious flaws," the report said. In addition, interviews HHS staffers have conducted with personnel who may have been involved in the experiments appear cursory. At the National Institutes of Health, for example, one of the key research agencies under HHS jurisdiction, only seven former researchers were briefly questioned about the experiments. Callers to the Energy Department's radiation hot line who have been referred to HHS have only received limited follow-up, the report said. The department has found that radiation research was widespread at three HHS facilities: NIH, the Food and Drug Administration and the Centers for Disease Control and Prevention. The investigation also has revealed that HHS partly funded a controversial project in Cincinnati where women and children were exposed to radioactive isotopes. Energy Secretary Hazel R. O'Leary, who attracted national attention to the radiation issue last December, is leading a more thorough search for records of experiments that may have been conducted by the department or its predecessor, the Atomic Energy Commission, according to the report. In all, the Energy Department has 45 staffers working full time on the radiation issue the panel's study said. Nine departmental field offices each have between 20 and 30 staffers exploring the issue. Energy already has released some previously classified documents related to the issue, including reports of plutonium injections the 1940s and 1950s and the so-called Chicago baby experiment where radiation experiments were conducted on stillborn babies. The department has declassified 2,000 pages of documents so far. But Energy officials appear to have encountered some difficulties gaining access to classified documents, the report suggested. And communication problems between the department's headquarters and some research laboratories initially hindered the probe, panel staffers said. However, earlier this week, following inquiries by the panel, Energy officials located several hundred boxes of classified material they believe could be relevant. "Our search is not perfect," a senior Energy Department official said. "But we think the issue is serious enough to try to conduct it as thoroughly and accurately as possible." Copyright 1994 The Washington Post

## **CHERNOBYL ENGINEERS VISIT FORMER U.S. WEAPONS SITE**

RTw 5/19/94 2:55 PM By Martin Wolk RICHLAND, Wash, May 19 (Reuter) - Engineers from the site of the world's worst nuclear disaster and America's biggest waste cleanup site are trading ideas this week in an unusual post-Cold War exchange. A delegation of Ukrainian officials is on a week's visit to the Hanford nuclear reservation, where for nearly 50 years plutonium was produced for the nation's arsenal of nuclear weapons, many of which were aimed at the former Soviet Union. The group arrived Sunday and visited Hanford on Monday. Volodymer Shovkoshytny, head of the Ukrainian delegation, said technology developed for the massive cleanup of waste from the U.S. weapons programme could help scientists struggling to clean the site of the 1986 Chernobyl nuclear power plant catastrophe. "This visit is the beginning of a technology exchange programme," said Shovkoshytny, president of Chernobyl Union International, an advocacy group. Shovkoshytny said the delegates have picked up several ideas at Hanford, where the Energy Department is spending \$2 billion a year to clean waste, including millions of gallons of high-level radioactive liquid buried in underground tanks on the 560- square-mile (1450 sq km) site in southeastern Washington state. Shovkoshytny said Chernobyl could benefit from a Hanford system known as the "Rad Rover" that uses a farm tractor and global positioning satellite technology to map out areas of radioactive contamination. And he said the Ukrainian delegation, which includes Chernobyl scientists and government officials, was studying methods used at Hanford to wash contaminated soil. In the two-way exchange of ideas, Ukrainian scientists plan to pass on to their U.S. counterparts technology developed to identify different chemicals within nuclear waste solids and liquids. Shovkoshytny said he thought engineers at Chernobyl had a more difficult cleanup project ahead of them, both because of the catastrophic nature of the disaster that killed at least 31 people and because of a severe funds shortage. But he noted that both cleanup projects would last for decades and added, "To do the cleanup is much more difficult than to contaminate the site." Technical experts from Hanford plan to visit Chernobyl in July. "We want the exchange to foster a cooperative, joint-venture working relationship with the Ukrainian government," said Ron Lerch of Westinghouse Hanford Co, prime contractor for the U.S. cleanup project. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

## **MINISTERS TO FOCUS ON INTERNAL ELECTRICITY MARKET**

RTec 5/19/94 12:38 PM BRUSSELS, May 19 (Reuter) - EU Energy ministers are to focus on internal market rules for electricity at their Council meeting on Wednesday, an EU diplomat said on Thursday. Ministers will hold an orientation debate, lasting most of the morning or afternoon, based on the Commission's revised text for a directive, the diplomat said. Other agenda items include debates on the trans-European energy network and on nuclear safety in Central and Eastern Europe. The diplomat said ministers will also consider a Commission proposal for funding energy technologies (THERMIE II) and should adopt conclusions on energy and social and economic cohesion. Marcelino Oreja, the incoming Commissioner for energy and transport, will make his Council debut to explain the Commission intentions for an EU energy policy. On rules for electricity, the Commission wants EU market opening to coincide with greater integration of electricity networks, at present largely clogged by national monopolies. It made a first stab at this in February 1992, with a proposal for a directive. Two years later, the Commission adopted European Parliament and Council reactions in its amended text, introducing the concept of producers negotiating access to networks. Since receiving the revised version in February, member state officials have added to the network access idea, the diplomat said. The text before ministers on Wednesday will include the idea of a "sole purchaser" of electricity, intended to act as a buffer between domestic consumers and producers. The sole purchaser idea, which the diplomat said a majority of member state officials favoured at a meeting this week, would involve a call for tenders for the operating licence. Under the proposal, the successful bidder would have to safeguard the public service requirements of the member state market and be independent of producers though not necessarily of network operators, the diplomat said. The purchaser would also have to avoid operating as an import/export monopoly. Producers negotiating access via the purchaser would have the right of appeal, the diplomat said. As a safeguard, the current text proposes a parallel monitoring process, using national regulatory authorities in tandem with the Commission. The latter would analyse and report on the purchasers, possibly reviewing any directive as a result. Plenty remains to be resolved, the COREPER meeting of May 6 threw up an exceptional 181 amendments to what is a 30-article draft directive. The other bones of contention in the draft are the so-called unbundling provisions -- to separate network from product costs -- and procedures for new capacity. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

## **JAPAN SCALING DOWN NUCLEAR PROGRAM**

UPn 5/18/94 9:23 PM TOKYO, May 19 (UPI) -- Japan is working to scale down an internationally criticized nuclear energy program based on power plants that produce more plutonium than they consume. The Atomic Energy Commission said it was finalizing a plan to delay construction of a demonstration fast breeder reactor from the late 1990s

to the early 2000s. It also said it could scale down a planned fuel processing plant and back off current plans to process spent nuclear fuel into plutonium immediately, storing the spent fuel until it was needed instead. Commission officials said the changes were being made at least partly in response to widespread criticism of its development of fast breeder reactors, which make more plutonium than they consume. Plutonium is a key component of nuclear weapons and critics ranging from environmental groups to national governments charge Japan's fast breeder program dramatically increases the threat of nuclear disaster. While Japan has consistently pledged not to develop nuclear weapons, critics say it still faces the danger of a nuclear accident or possible terrorist attempts to seize plutonium produced by its fast breeder reactors. The Atomic Energy Commission is scheduled to release a final report on changing Japan's nuclear program in June. But commission members played down statements by government officials in recent weeks that Japan may be moving toward abandoning the fast-breeder program altogether, saying the country remained committed to the overall strategy. Japan is an economic superpower but poor in natural resources. The government sees fast breeder technology as a means of ending its dependence on increasingly unstable foreign energy sources. Because fast breeder reactors create more plutonium than they use, the extra fuel can be processed and used to fire other reactors, creating what Tokyo hopes will be an efficient fuel cycle. In April Japanese scientists sustained a nuclear reaction at a prototype plutonium-fueled reactor for the first time. After a series of tests, the plant located in Tsuruga along the Sea of Japan coastline, is scheduled to go on line with 280,000 kilowatts of electricity in 1995. Copyright 1994 The United Press International

## **RADIATION EXPERIMENTS**

APn 5/18/94 5:50 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By KATHERINE RIZZO Associated Press Writer WASHINGTON (AP) -- Radiation sleuths probing Cold War-era experiments disclosed Wednesday that the Pentagon in 1953 secretly adopted the Nuremberg Code as its policy for protecting human test subjects. The 1947 code, established after the Nazi war crimes trials as the universal standard for human experiments, requires full, informed and voluntary consent for all experiments on humans. It also requires that test subjects be protected from "even remote possibilities of injury, disability or death." Informed, voluntary consent is one of the issues being examined by a presidential commission probing the way the government experimented with radiation in the years after the Manhattan Project. The commission was formed in the aftermath of revelations about a variety of experiments on unknowing human subjects. Some were injected with plutonium, and 19 retarded teen-age boys were fed radioactive cereal without their parents' knowledge. In other tests, radioactive material was deliberately released into the atmosphere and the military chased the fallout in a plane to explore how radiation traveled. People exposed to radiation in those and other tests blame their exposure for subsequent health problems and have demanded compensation from the government. Academics who have studied the nation's atomic experiments had believed the nation had no written policy on human testing until the 1960s, so the discovery of the 1953 memorandum "will let us rewrite the history of human experimentation," said Jeffrey Kahn, staff director of the Advisory Committee on Human Radiation Experiments. Kahn said the researchers working on the radiation probe for the presidential commission do not know why Defense Secretary Charles Wilson felt it necessary to make the Nuremberg Code his policy, or why the policy was stamped "Top Secret -- Security Information." The classified document was given to the secretaries of the Army, Navy and Air Force, and later distributed to the Joint Chiefs of Staff. Reworded, unclassified versions were distributed to Army officials later in 1953 and in 1954, but the original memo was not declassified until 1975. So far, the investigators have been unable to figure out whether the people conducting radiation, chemical and drug tests for the military were aware of the policy on protecting test subjects, or whether they were required to have security clearances because of the secret policy. Those are among the areas the committee staff will continue to probe, Kahn said. "We can't with any certainty or accuracy say 'That's what happened,'" he said. "There's no paper trail for what the practices were at the time. "What we need is someone who has a great memory and is willing to be truthful." The Boston Globe first reported the existence of the Wilson memo. The plutonium tests were revealed by Rep. Ed Markey, D-Mass., in 1986, but the Albuquerque Tribune last year tracked down and identified some of the injection victims in a series of reports that won a Pulitzer Prize for reporter Eileen Welsome. The Advisory Committee on Human Radiation Experiments has been given a year to evaluate those and other experiments done between 1944 and 1974.

## **ALARM RAISED OVER RESEARCH REACTORS IN MOSCOW**

UPn 5/18/94 10:10 AM MOSCOW, May 18 (UPI) -- A group of former inspectors for Russia's atomic energy regulatory agency called Wednesday for the shutdown of some 50 nuclear research reactors and facilities in Moscow, saying safety regulations are unacceptably lax, and nuclear waste is accumulating in the Russian capital. In an open letter to the Russian Parliament, the former inspectors said nuclear research reactors built in the 1950s and 1960s failed to meet

modern safety standards and posed a threat to many of Moscow's 9 million inhabitants. They say many of the aging reactors perform little or no research anymore, and simply drain funds and resources that could be applied to strengthening safety standards elsewhere. The former inspectors say existing regulatory mechanisms are not up to the task of overseeing Russia's vast and often top-secret nuclear industry, which has endured severe budget cutbacks since the country began its free market transformation in 1992. Vladimir Kuznetsov, ex-head of the Moscow branch of the nuclear regulatory agency Gosatomnadzor, ordered the temporary shutdown of 10 Moscow reactors in 1992. But the reactors were eventually restarted, and Kuznetsov is now campaigning for their permanent closure and a comprehensive government policy on nuclear safety. Kuznetsov said Moscow's celebrated Kurchatov Institute was one of the worst offenders, with irregular safety inspections and poorly trained staff operating the facility's reactors. Another worry is the institute's nuclear waste storage facility, which the former inspectors say contains some 200 metric tons of highly radioactive waste, and is filled to 80 to 90 percent capacity. The storage facility occupies an area of 5 acres (2 hectares) in a densely populated district in north Moscow, and the inspectors say the government has failed to plan for the disposal of the waste and the eventual cleanup of the storage area. Copyright 1994 The United Press International

### **GUARDS CAUSED RUSSIAN ARMS DUMP FIRE -- TASS**

RTna 5/18/94 3:19 AM MOSCOW (Reuter) - A fire and explosion at an arms depot in Russia's Far East was caused by a guard trying to dismantle a missile component with a knife, Itar-Tass news agency said Wednesday. Nearly 1,600 tons of ammunition exploded during last Saturday's fire. Debris from shells and rockets fell on the town of Bolshoi Kamen a few miles away. Bolshoi Kamen is the site of a repair yard that services the nuclear submarines of the Pacific Fleet and handles nuclear waste. A naval spokeswoman said the yard was not endangered. Tass quoted Pacific Fleet investigators as saying an off-duty guard, with a colleague, had been dismantling an electrical component from a rocket with a knife. It caught fire and the guard threw it into grassland. Fire spread to a missile stack which exploded. Interfax news agency said Sunday 3,000 people from the nearby settlement of Novonezhino had been evacuated after the explosion which could be felt in the Pacific port-city of Vladivostok, 60 miles away. No one was killed in the explosion but Tass said 22 people were injured by flying glass. Tass said the guards fled without fighting the fire or raising the alarm. Criminal proceedings have been started against them, it said. Pacific Fleet commander Admiral Georgy Gurinov was fired this week after only a year in the job. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

### **EU PROVIDES AID TO PLAN NEW CHERNOBYL ``TOMB''**

RTw 5/17/94 1:41 PM KIEV, May 17 (Reuter) - The European Union said on Tuesday it would provide three million ECU (\$3.5 million) for Ukraine to hold a tender to build a new "sarcophagus" over the fourth reactor at the Chernobyl nuclear plant. "The European Community and the West want to see Chernobyl closed, but on the other hand we understand that Ukraine has a great need for energy," said Luis Moreno, EU ambassador in Kiev. "Any progress is linked with closure of the station." The tender is aimed at finding the best and cheapest project to make safe the fourth reactor, wrecked by an explosion that unleashed the world's worst nuclear accident in 1986. The concrete sarcophagus currently covering it is showing signs of degeneration. Part of the aid will help to maintain that structure. Ukrainian officials say Kiev needs \$3 billion to build a new "tomb" over the stricken reactor, resettle people living near the plant and improve safety in the nuclear industry. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

### **FRENCH PLAN TO HELP E.EUROPE'S NUCLEAR INDUSTRY**

RTna 5/16/94 4:16 PM PARIS (Reuter) - French President Francois Mitterrand said Monday he would propose an international plan to finance the closure of outdated nuclear power plants in eastern Europe. Mitterrand said he would put the plan to a summit of the Group of Seven leading industrial powers in Naples in July. "These nuclear plants must be closed," he told a group of European administrators. "We cannot abandon the citizens of central and eastern Europe...We must be sheltered from a catastrophe the consequences of which I don't dare imagine." Earlier this month Environment Minister Michel Barnier said Paris would propose to its G7 and European Union partners a new plan to help Ukraine close down the Chernobyl nuclear plant without suffering energy shortages. The plan would shut down Chernobyl's two working reactors, thicken the cement tomb covering a reactor destroyed in the world's worst nuclear accident in 1986, and handle the region's nuclear waste dumps and contaminated water. But Barnier did not say his plan would extend beyond Ukraine. G7 representatives recently pledged to help Ukraine develop its nuclear power industry if it shut down Chernobyl. But Ukrainian officials said their offer of several million dollars fell far short of the \$3 billion Kiev says it needs. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

## **BRF--NUCLEAR DUMP**

APn 5/16/94 1:08 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. NEEDLES, Calif. (AP) -- An Indian tribe enlisted actor Steven Seagal in a campaign to build opposition along the Colorado River to a proposed dump for low-level nuclear waste. Seagal told a rally organized by the Fort Mojave Indians Saturday that if the waste seeped into underground aquifers it could make its way 20 miles east from Ward Valley to the Colorado River. "That could poison hundreds of thousands, if not millions of people," Seagal said. "I ask you all to fight this fight ... because it's going to be a long one." Other speakers told the crowd of 800 how long the land had been occupied by indigenous people and said they had a duty to protect it. U.S. Ecology, the firm licensed to operate the proposed dump, says its plans will protect the environment. The dump has state approval but Interior Secretary Bruce Babbitt is refusing to transfer federal land until legal challenges are resolved. A Los Angeles judge ruled May 4 that the state must review a study by federal scientists who said the dump could contaminate the river.

## **LEAK AT BULGARIAN REACTOR FORCES SHUTDOWN**

RTw 5/16/94 11:42 AM By Liliana Semerdjieva SOFIA, May 16 (Reuters) - The oldest reactor at Bulgaria's controversial Kozloduy nuclear power plant has been shut down after it developed an internal leak which did not affect radiation levels, energy officials said on Monday. The 20-year-old reactor number one was switched off on Saturday due to "a weak leak" from its main circulation pump inside the unit, a plant official said. There was no change in levels of radioactivity, she added. Energy Committee chairman Nikita Shervashidze said he had been advised by plant officials that the 440-megawatt reactor could be fixed quickly, but would have to undergo checks before being restarted. Shervashidze, speaking at a seminar in Sofia being held on the theme of "Nuclear Energy for Better Life," had earlier said that the number one and two reactors at the Kozloduy plant should be closed as investing in them would not be justified. "We (the Energy Committee) are in favour of closing down the oldest reactors...The decision for closing them is to be taken by the government," he said. Shervashidze said the number one reactor would be switched on again if it passed the required checks, but that the necessary investments to upgrade it and the other old reactor -- between \$50 million and \$300 million -- were too costly. "I think that investments in the old reactors (one and two) will be higher than justified...we do not want to make the investments only to find that the (vessels') metal is not strong enough," Shervashidze told reporters. Plant chiefs have said a study of the metal of the vessels in the two reactors to be finalised by year-end would show whether they should be closed or reconstructed. The troubled plant on the bank of the Danube is due to be the first in the former Soviet bloc to receive aid from a fund set up by rich nations and managed by the European Bank for Reconstruction and Development (EBRD). But the donors' precondition for the 24 million ECU (\$27.6 million) grant is the closure of the two oldest reactors at Kozloduy as soon as Bulgaria's energy supplies allow. "As soon as we do not need reactors one and two, they have to be closed as a gesture (to the international community)," Shervashidze told reporters after the seminar. "And this moment might come soon if in 1997 we cannot prove that we need them." The 20-year-old reactor number one and the 19-year-old reactor number two were closed in 1991 following international concern over their safety and the recommendations of the International Atomic Energy Agency (IAEA). They were restarted after extensive repairs. David Kyd, Director of the IAEA's Public Information Division at the International Atomic Energy Agency, who attended the Sofia seminar said in an interview that two or three years ago the plant's oldest units were in a very poor condition. But he underlined that major improvements had been made with the efforts of western organisations. "It is a technical judgment to decide how long these units with the reactor vessels in their current condition can safely run," Kyd told Reuters. He added there was also a political decision to be made as to whether the country could afford at this stage of its economic development to deprive itself of 880 megawatts of electricity by closing down the two reactors. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

## **UKRAINE WANTS OWN NUCLEAR FACILITIES**

RTna 5/16/94 10:10 AM By Alexander Tkachenko KIEV, Ukraine (Reuters) - A senior Ukrainian minister said Monday the former Soviet republic wanted to expand its nuclear facilities to ease its energy dependence on Russia. The environmentalist group Greenpeace, meanwhile, presented Ukrainian authorities with 300,000 signatures demanding the immediate closure of the Chernobyl nuclear power plant. Deputy Prime Minister Valery Shmarov told reporters after returning from a visit to the United States that Ukraine had already launched negotiations to develop its industry. "Currently, we get our fuel from Russia, but we do mine our own uranium and it is only logical to complete the production cycle in Ukraine," Shmarov said at Kiev airport. "Considering Ukraine has its own ore and does preliminary refining, it wouldn't cost that much to close the cycle." Shmarov did not make it clear whether Ukraine hoped to undertake

construction of complex and expensive facilities to enrich uranium and reprocess spent fuel. Government officials said Ukraine would probably upgrade facilities for processing ore and manufacturing fuel rods. Ukraine depends on Russia for virtually all oil and gas and owes about \$1 billion to its northern neighbor for imports. Five nuclear plants account for more than 30 percent of power, but Ukraine imports all its uranium fuel from its northern neighbor and has no enrichment or reprocessing facilities. Shmarov gave no details on the improvements but suggested the bill would amount to "tens of millions of dollars." He said talks were under way with the U.S. firm Westinghouse. U.S. Defense Secretary William Perry last week announced completion of a \$5 million defense conversion grant to a Ukrainian arms firm and Westinghouse to upgrade power plants. Ukraine's severe energy problems have been accentuated by international pressure to close two reactors still operating at the Chernobyl plant more than eight years after the fire and explosion there -- the world's worst nuclear accident. Twenty Greenpeace officials in white smocks dragged two dozen cartons stuffed with postcards to President Leonid Kravchuk's office. But the president was away on a tour of eastern Ukraine. "For the first time, people of different countries have joined together to denounce the continued operation of Chernobyl," said Greenpeace official Anna Tsvetkova. Ukraine says it cannot close the plant without receiving compensation for lost energy supplies. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

### **CHEMICAL BLAST AT RUSSIAN NUCLEAR SITE**

UPn 5/16/94 3:50 AM MOSCOW, May 16 (UPI) -- Russia's Nuclear Energy Ministry revealed details Monday of a chemical explosion at a nuclear research center in the Ural Mountains city of Chelyabinsk. Atomic Energy Ministry spokesman Vitaly Nasonov said two scientists suffered minor injuries in the blast, which occurred Friday morning, but dismissed suggestions that any release of radiation had taken place. Nasonov said the explosion occurred a safe distance from the research center's nuclear reactors during an experimental test of a device used for restoring oil wells. He compared the size of the blast to that of a cartridge from a sub-machine gun, saying it equated to 10 grams of chemical explosives. Nasonov blamed the accident on the scientists' failure to comply with safety regulations. An investigation is currently underway, with research center chief Vladimir Nechai having suspended all risk-associated experiments. While minor, the explosion nonetheless highlights the increasing instability associated with Russia's nuclear facilities, many of which have been neglected due to lack of government funds. In many cases, that has meant compromised safety standards. The fact that news of the accident emerged only three days after it occurred indicates the level of government sensitivity to the issue. The Chelyabinsk explosion follows Saturday's far more violent blast at an Russian Navy ammunition dump some 40 miles from the city of Vladivostok in Russia's Far East. Regional officials Monday said the explosion scattered 1,600 tons of non-nuclear bombs, rockets and mines into the surrounding area, with several shells landing in two towns about 3 miles from the blast. Some 200 of the 800 ammunition wagons at the site were destroyed in the explosion, which was followed by a fierce blaze that burned until the early hours of Sunday morning. Although no one was killed, the houses of some 30 families living in a village close to the ammunition dump were destroyed, Itar-Tass news agency reported Monday. Copyright 1994 The United Press International

### **TAIWAN HUNTS FOR RADIOACTIVE BUILDINGS**

RTna 5/13/94 8:24 AM By Scott McDonald TAIPEI, Taiwan (Reuter) - One of the worst selling points for an apartment in Taiwan is to say it was built between 1982 and 1984. Apartments constructed during that period are now the target of a great Taiwanese hunt for radioactive buildings. "Between one and two percent of the 25,000 to 30,000 apartments checked until now are radioactive," said Wang Mann-tchao, a vice-chairman of the Cabinet's Atomic Energy Council (AEC). The AEC began the search in August 1992 and says it eventually wants to check 200,000 households island-wide. Officials said the radioactivity comes from steel rods, and in some of the buildings it was high enough to pose a possible health risk -- and to knock as much as 10 percent off the price of an apartment. No one has been reported ill yet and Wang describes it as "really a psychological problem. They always think of this as equivalent to a nuclear bomb but it's not true." Fu Ben-jun doesn't believe him. The 35-year-old Taipei businesswoman says she is not sure about the results of the test last month on her rented suburban apartment, but she is nevertheless moving out. "You never know," she said. "They give you all this technical jargon, I wouldn't be able to understand it. "I wanted to move but that speeded up my decision," Fu said. The mystery started when steel bars being taken into a nuclear power plant set off alarm bells at the gate, Wang said. "They then traced back through the manufacturer and found another building in Tienmu (a Taipei suburb) was contaminated," he said. The source of the radioactive steel has not been determined but Wang believes it was in imported scrap metal from the West because the type of radioactivity comes from cobalt 60, which Taiwan does not produce. The AEC decided to check every apartment built in Taiwan within a two-year period of when the steel was produced and devices have been installed at steel plants to monitor incoming scrap metal. "We estimated the radiation if they stay in an apartment 365 days a year and 24 hours a day," Wang said. "We decided (if the

occupant received) 1.5 rems in this time we're going to buy the apartment." Rem stands for a unit of radiation that when absorbed by a person produces a certain physiological effect. Wang said 1.5 rems was not dangerous. Some people whose apartments are going to be bought are haggling over the price with the government while prices for some apartments built in the 1982-84 periods have dropped. "The selling price has certainly gone down," Fu said of apartments in her complex. She said prices have already dropped 10 percent from the \$11,370 per 36 square feet they were before the building was tested. Officials did not know how widespread the problem was because of lax inspection practices and a lack of knowledge of the dangers of excessive radiation. Two AEC officials were impeached last year for not reporting radiation at a dental office in 1985. "They found that even before they turned the X-ray machine on, the Geiger counter went off," Wang said. He said that instead of reporting the problem, the inspectors only asked that a sheet of lead be placed over the wall where the radioactivity was coming from. The first building discovered to be contaminated in the Taipei suburb was torn down because it was still under construction. The steel was buried. But Wang said more than 10 metric tons of the steel has been stolen and he thinks it was used as a foundation for a factory. "Regular (safety) procedures were not followed," he said. Apartments the government buys will be turned into storage spaces or reconstructed using lead protective sheets. Wang, 47, a specialist in radiation with a doctorate from the University of Alabama, said, excluding salaries, the AEC has spent about \$15 million on the searches. On top of this, he said there was an unlimited budget to buy those apartments found to be heavily contaminated. He said the Cabinet would issue more compensation guidelines soon. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

## **US-UKRAINE**

APn 5/12/94 4:54 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By JIM ABRAMS Associated Press Writer WASHINGTON (AP) -- Defense Secretary William Perry announced plans Thursday for the first defense conversion project in Ukraine, a joint venture that will help a former missile equipment maker enter the nuclear power industry. Perry said the agreement between Westinghouse Electric Corp. and a Ukrainian company was a "significant step forward" in the effort to help Ukraine create productive civilian enterprises from its defense industry. The Defense Department will make a \$5 million cost-sharing grant to Westinghouse, funded under a \$40 million program signed with Ukraine in March. The money is part of a program initiated by Sens. Sam Nunn, D-Ga., and Richard Lugar, R-Ind., to help Russia and the other former Soviet states dismantle their nuclear arsenals and shift from military to civilian production. The Ukrainian firm, Khartron Production Association, produced and installed control systems for missiles and space systems. Under the grant, the new joint venture company will manufacture control systems to upgrade Ukraine's aging nuclear power plants and to sell on the world market. Deputy Prime Minister Valery Shmarov of Ukraine, who is currently visiting Washington, said the agreement was important both in converting the nation's weapons industry and in solving "major problems" in its nuclear power industry. Chernobyl, site of the world's worst-ever nuclear reactor accident, is in Ukraine. "This is indeed a moving day," Shmarov said. "Finally our political decisions have been transformed into practical implementation." Shmarov said another program backed by Nunn and Lugar, in which Ukraine ships nuclear warheads to Russia in exchange for nuclear fuel, is going smoothly. He said Ukraine has sent 120 SS-19 and 60 SS-24 warheads to Russia. At the time of the breakup of the Soviet Union there were about 1,800 warheads in Ukraine.

## **LITHUANIA SEES CAUTIOUS FUTURE WITH NUCLEAR POWER**

RTna 5/12/94 9:07 AM By Janet Guttman IGNALINA, Lithuania (Reuter) - The structure built to house Lithuania's third nuclear reactor stands like a steel skeleton at the Ignalina power plant. Rusty cranes tower over the uncompleted building -- a project frozen after the 1986 Chernobyl nuclear disaster, when a reactor built to the same design as Ignalina exploded, sending clouds of radiation over much of Europe. But Lithuania's decision to halt work on a third reactor does not mean the Baltic state is abandoning nuclear power. "Lithuania cannot afford to close Ignalina," Bronius Bieliauskas, head of the nuclear energy division of the Lithuanian energy agency, said in an interview. "True, we have unused generating capacities, but that electricity costs between 1.9 and three times as much as at Ignalina. Closing the plant would bring hundreds of millions of dollars of extra costs." Up to 80 percent of Lithuania's electricity comes from Ignalina, located amid lakes and forests some 85 miles northeast of the capital Vilnius. For Lithuania, which imports nearly all its energy, abandoning cheap nuclear power would be an unaffordable luxury. Lithuanians still remember the cold winter of 1992-93 when energy shortages kept heating to a minimum and Vilnius homes received hot water for one week in four. "Even now our population can hardly afford to pay for electricity. If prices doubled or went up three times it would cause huge problems, both for the population and for enterprises using electricity," Bieliauskas

said. Local officials play down the risks from Ignalina, noting improvements since the Chernobyl blast. Director Viktor Shevalgin says morale is high among the plant's 3,500 workers, paid between \$350 and \$750 a month. The average Lithuanian wage is \$100. Safety standards are improving all the time, he said. "A mission from the International Atomic Energy Agency had no major complaints about safety at the station. Ignalina has the last (Chernobyl-type) RBMK reactors and mistakes in previous such reactors have been foreseen and corrected," he said. International organizations are funding improvements at Ignalina. The European Bank for Reconstruction and Development provided a \$38 million grant and Sweden is offering \$10 million. "It is not going to cover the safety needs fully, but both our program and the Swedish program will enable substantial improvements in nuclear safety," said one EBRD official. Lithuania's national energy strategy, drawn up last year, puts the total cost of upgrades at the station at \$658 million. But Shevalgin said he thought the final figure would be lower. The document on Lithuania's energy needs to 2015 says: "It is advisable to keep both units of the Ignalina nuclear power plant operating regardless of the level of electricity demand." Bieliauskas said Western politicians were keen to close the plant but technical experts did not share this view. "Every politician tries to make sure we close these units as soon as we can. If they are closed, then people will feel safe," he said. "But the experts have a somewhat different opinion based on the findings of commissions which say it is not very dangerous to use these facilities if they are properly maintained. "No machine is totally safe, but the probability of an accident is not very high." Ignalina's main problem now centers around the disposal of spent nuclear fuel which, under a Soviet-era masterplan, was to have been sent to Russia for reprocessing and final storage. Financial constraints mean planned reprocessing facilities have not been built. Ignalina has bought temporary storage containers from Germany, a solution for the next five years. "At the moment we have no agreement with anybody for reprocessing. It is a very big problem," Bieliauskas said. The first Ignalina reactor opened in December 1983 and the second came on stream in August 1987, 15 months after Chernobyl. Each has a capacity of 1,300 megawatts and Shevalgin said there had been no major problems at either plant. But during a recent visit neither reactor was working, one closed for routine maintenance and one because high water levels had increased capacities at still cheaper hydro-electric plants. Recession and warmer spring weather had curbed electricity demand, while Russia and Belarus were supplying Lithuania with electricity as payment for unpaid energy debts. "It is the first time in our history that both reactors have been closed," Shevalgin said. "But we could start the turbines up again at any minute." REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

### **RUSSIA-SUBMARINE-DISASTER**

APn 5/12/94 6:20 AM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By VLADIMIR ISACHENKOV Associated Press Writer MOSCOW (AP) -- Environmental experts urged Russia today to seal the cracked bow of a sunken nuclear submarine in the Barents Sea but played down the risk of catastrophe from a possible plutonium leak. Officials fear the Komsomolets could fall apart if they try to raise it from its watery grave 210 miles north of Norway. The submarine caught fire and sank in 1989, killing 42 of the 69 Soviet sailors aboard. Russia and Norway are worried it will corrode and leak radioactive plutonium from its two nuclear torpedoes. But a report by experts in the Russian Ministry of Environmental Protection said there was no cause for alarm. "Even if all the plutonium leaks into the sea, the possible doses of radiation people would receive through sea products would be far below the permissible limit," the report said. Russian and foreign experts examined the Komsomolets with a remote-controlled device last summer and concluded the torpedo warheads could begin leaking plutonium sometime this year. But in their report today, experts said the torpedoes contained only 400 curies of radiation, while Britain dumped about 20,000 curies of radioactive waste in the Irish Sea in the 1950s without any known environmental damage. Despite their optimism, the experts favored sending an expedition next month to prevent the plutonium leak.

### **CHINA'S NUCLEAR PLANTS WORLD STANDARD, DAILY SAYS**

RTna 5/10/94 9:45 PM BEIJING (Reuters) - China's nuclear power program meets world standards and could serve as a model for other developing countries, the official China Daily said Wednesday. An International Atomic Energy Agency (IAEA) inspection group approved China's two operating nuclear power plants and its national nuclear regulatory framework, the newspaper said. "The licensing and review process employed at the Daya Bay and Qinshan units conforms with international practice," Morris Rosen, the IAEA's assistant director-general, was quoted as saying. The paper said IAEA inspectors added that China's National Nuclear Safety Administration (NNSA) "provides a good model for countries developing nuclear programs." Daya Bay, in southern Guangdong province just across the border from Hong Kong, is China's largest experiment with nuclear power so far with two 900-megawatt reactors. Safety fears prompted huge protests in Hong Kong during the plant's lengthy construction period. Qinshan in coastal Zhejiang



province is a smaller, fully Chinese-designed facility with one 300-megawatt reactor. Both plants are due for expansion and new plants are planned to meet the surging demand for power. The IAEA inspection was the first conducted in China by an outside group. It helped China to locate some of the weak points of its management, according to Huang Qitao, NNSA director-general. "This will help ensure the safe operation of nuclear installations in China and protect the public and the environment," Huang told the China Daily. The IAEA's strongest suggestion was that China pay greater attention to operational feedback systems, saying these can help to identify potential problems before they become serious. It also urged the NNSA to take a more active role in nuclear industry decisions and to provide more information to provincial nuclear officials. REUTER  
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## **SATELLITE SYSTEMS**

APn 5/10/94 1:20 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By RANDOLPH E. SCHMID Associated Press Writer WASHINGTON (AP) -- The nation's civilian and military weather satellites are being combined into a single system, a move government officials say will save hundreds of millions of dollars. The National Oceanic and Atmospheric Administration will assume responsibility for operating the Defense Department's polar-orbiting weather satellites, as well as its own, White House science adviser John Gibbons announced Tuesday. "We cannot afford to go on the old way," said National Aeronautics and Space Administration head Daniel S. Goldin. "This is a landmark decision," said R. Noel Longuemare, deputy undersecretary of defense. "This new venture is an essential component of our expanding environmental responsibilities, including our weather warning and prediction services," said Deputy Commerce Secretary David Barram. The European meteorological agency had reached an agreement to cooperate with NOAA in operating polar-orbiting satellites, and is now being invited to participate in the combined operation, said NOAA Administrator D. James Baker. A joint office to manage the U.S. system is to be set up by October, though the two operations won't be completely combined until 2004, officials said. The move is expected to save \$300 million by the turn of the century by eliminating dual planning and development programs. In the following 10 to 15 years savings should top \$1 billion, officials said. Currently NOAA and the Defense Meteorological Agency each operate two polar-orbiting satellites. Circling the earth at about 540 miles high, each looks at the whole planet twice a day. In addition the Defense Department has four satellites in storage and five on order, and NOAA has six on order. Once those are used up the joint system will be reduced to three satellites at any one time. Under the combined plan NOAA will operate the satellites and continue with its two stationary satellites, hovering at fixed points 22,300 miles above the equator. The Defense Department will take over responsibility for purchasing new satellites and other equipment and the National Aeronautics and Space Administration will handle development of new technology. Gibbons also announced that the decision has been made to continue operations of the Landsat satellite system, which provides Earth images used for mapping, agriculture, forestry, geological studies, urban planning and coastal management. A new Landsat 6 satellite that was supposed to go into orbit disappeared after launch last October. Gibbons said Landsat 7 will be launched by NASA and operated by NOAA, which is part of the Commerce Department. The Interior Department's U.S. Geological Survey will collect the data from Landsat, he added. White House officials said combining the weather satellite operations is part of Vice President Al Gore's "reinventing government" effort to streamline operations of federal agencies. Sensors on the NOAA satellites measure temperatures at the Earth's surface and in the lower atmosphere, observe clouds, monitor solar radiation and collect and relay information from environmental measuring systems such as remote weather stations and ocean buoys. These satellites also relay signals from emergency transmitters carried on ships and aircraft as part of an international search and rescue system. By international agreement, information collected by the NOAA satellites is shared with other countries for their weather forecasting. Data collected by Defense Department satellites have not been as easily available to foreign users. The satellites operated by the Defense Meteorological Agency have somewhat different sensors and their orbit timing differs from the NOAA satellites. Baker said the data collected is similar by both types of satellites, however. Under a combined system, he said, delivery of satellite weather information to foreign users could be halted in event of a national emergency, Baker added. While the civilian and military systems have been operated separately in the past, they do cooperate. Military agencies have often used data collected by the NOAA satellites, and during last summer's Midwestern flooding NOAA scientists developed a method of measuring ground wetness by using special sensors aboard the Defense Meteorological Agency satellites.

## **NUCLEAR INDUSTRY DEATH RATES LOWER THAN AVERAGE**

RTw 5/9/94 8:44 AM LONDON, May 9 (Reuter) - Death rates for workers in the British nuclear industry, including those from cancer, are lower than the national average, a report by Oxford University and the Imperial Cancer Research

Fund said on Monday. But the report, which studied 75,000 workers and was paid for by the British nuclear industry, found links between radiation exposure and deaths from leukaemia in workers at the Sellafield nuclear plant in northern England. It also found unexpectedly high incidences of thyroid cancer throughout the industry. The report, billed as the most lengthy investigation yet into employees in the industry, found that deaths from all causes in workers likely to be exposed to radiation were 19 percent lower than the national average. "What we are seeing here is commonly seen in industries, especially those involving highly skilled workers, who tend to employ healthy people whose death rates are lower than in the general population," said Dr Valerie Beral of the ICRF. The British nuclear industry has been beset by allegations it is unsafe, both for its workers and the environment. But the researchers said their analysis showed leukaemia was the only cancer type that could be "clearly associated" with radiation exposure. Higher doses endured at the Sellafield plant during the study period from the 1940s to the 1980s had indubitably caused higher rates of leukaemia, they said. A study last year found that high radiation doses suffered by workers at Sellafield in the 1960s could be responsible for cancers in employees' children. A court disagreed, throwing out a claim for compensation. A further enquiry found the cluster of incidences of cancers in children near the plant to be an "enigma." Monday's report said deaths from thyroid cancer were nearly double the expected rate, with "weak evidence" linking risk to strength of radiation dose received. Further investigation was needed to pinpoint the cause, it said. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

### **INDIA SHUTS N-PLANT AFTER HEAVY WATER LEAK - PAPER**

RTw 5/29/94 5:43 AM BOMBAY, May 29 (Reuter) - India's Department of Atomic Energy (DAE) has shut down a nuclear power plant in the northern desert state of Rajasthan after a leak of heavy water, a newspaper reported on Sunday. Quoting DAE sources, the Sunday Observer said no radioactivity had been detected in the leakage from Unit One of the Rajasthan Atomic Power Station (RAPS-1). Department officials were not immediately available to comment. The newspaper said the closure of RAPS-1 was ordered by a safety committee of the Atomic Energy Regulatory Board (AERB) last month after long-running leaks of heavy water. The shutdown of RAPS-1 follows the board's order to stop construction work at four nuclear reactors last week after defects led to the collapse of part of a dome being built at an atomic power plant in the southern state of Karnataka. Unit Two at the Rajasthan station is also expected to be shut down next month pending repairs to the leak, the Sunday Observer said. It said the leakage was noticed 18 months ago, but lack of remote-handling tools had hindered repair work, forcing the safety committee to order the plant's closure. AERB Chairman A. Gopalakrishnan said on Wednesday he had ordered a halt to the construction of inner walls and the main domes for four reactors in Karnataka and Rajasthan. He stressed that there was no radiation risk at either site because no nuclear fuel had yet been transferred there. The decision to halt work at the four projects followed the collapse of a concrete inner containment dome at the 220-megawatt Kaiga project at Karwar in Karnataka on May 13. Fourteen workers were injured, the AERB said. An AERB inspection team found that the collapse was caused by a deviation from the original design drawings. Since the domes at the three other sites were of the same design, the decision was taken to halt work pending a review, officials said. India, which exploded a nuclear device 20 years ago and is under U.S. pressure to sign the Nuclear Non-Proliferation treaty, has seven operating pressurised heavy water nuclear reactors and two reactors of an earlier design. It is building an additional five reactors of 220 megawatts each and two of 500 megawatts. It has plants on the drawing board awaiting approval with a combined capacity of another 8,380 megawatts. The nuclear programme has been held up by financial cutbacks and dogged by a series of relatively low-level accidents. Fires were reported last year at reactors near Madras and at Narora in the northern state of Uttar Pradesh. The Madras plant was briefly closed last July for checks. France refused last year to go on supplying nuclear fuel to India's oldest power station built by General Electric at Tarapur in the western state of Maharashtra unless New Delhi agreed to accept International Atomic Energy Agency (IAEA) safeguards. India has rejected international inspection of its nuclear programme and says it can supply its own low enriched uranium, in place of the French fuel. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

### **UKRAINE-CHERNOBYL**

APn 5/27/94 10:27 AM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. KIEV, Ukraine (AP) -- Ukraine's president promised workers at Chernobyl today that he will keep the power plant open because it would cost too much to close the site of the world's worst nuclear accident. "Chernobyl is working and it must continue working," said President Leonid Kravchuk, who is running for re-election in June 26 elections. It was his first visit to the plant since a fire and explosion in 1986 destroyed one of its four reactors and spewed a cloud of radioactive particles over several European nations. Dozens of experts have said the plant is unsafe and should be closed.

"Pressure is being exerted on us. But we must resist it," said Kravchuk, who wore a white gown over his suit. Kravchuk said it would cost \$4 billion to close and replace the plant and \$10 billion more to relocate and retrain Chernobyl workers. "We just do not have such money," he said. His figures exceeded previous estimates. Ukrainian officials have said it could cost between \$2 billion and \$4 billion to close and replace the plant, but have never mentioned spending an additional \$10 billion on its work force. Two of Chernobyl's four reactors are operating and produce about 7 percent of Ukraine's electricity. The United States and the European Union, concerned by recurring accidents and reports of fissures in the concrete sarcophagus sealing the destroyed reactor, have repeatedly called on Ukraine to close the plant. Citing crippling energy shortages and insufficient funds, Ukraine has refused. Parliament reversed an earlier decision to phase out Chernobyl, and work on replacement reactors has been halted.

### **KRAVCHUK: \$14 BILLION NEEDED FOR UKRAINE ENERGY**

RTna 5/27/94 7:38 AM CHERNOBYL, Ukraine (Reuter) - President Leonid Kravchuk Friday pushed up to \$14 billion the sum he said Ukraine needed to make the Chernobyl nuclear power plant safe and properly develop the country's nuclear industry. Two reactors continue to operate at Chernobyl more than eight years after the fire and explosion in April, 1986, which Ukraine says caused 8,000 deaths. Kravchuk, touring the Chernobyl plant for the first time since the 1986 disaster there, said Ukraine intended to keep the station open despite international pressure to close it for good. He also pledged to develop Ukraine's energy sector. "To talk about closing the station without any basis or alternatives is pointless... But pressure is being put on us. We must withstand it. Chernobyl is working and must continue working," Kravchuk told members of the plant's 4,500 staff. "When we pulled troops out of Germany, all questions were resolved. Apartments were built, social issues were dealt with. "For matters like this \$10 billion is needed. We must add \$4 billion for the station itself, bringing the total to \$14 billion. But we simply do not have the money." Previous figures of assistance have stood at between \$6 and \$8 billion. Ukraine's parliament last year reversed a decision to close Chernobyl, citing energy shortages. The decision shocked world opinion and pressure has been growing for Ukraine to close the facility after a report this year by the International Atomic Energy Agency declared it unsafe. The stricken fourth reactor was hurriedly encased in concrete after the disaster, but experts say the structure is cracking badly and a new "tomb" needs to be built. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

### **EU GRANTS \$409,000 FOR CHERNOBYL CHILDREN**

RTw 5/27/94 7:12 AM BRUSSELS, May 28 (Reuter) - The European Union said on Friday it had granted 350,000 European currency units (\$409,000) in humanitarian aid for children suffering from cancer following the 1986 Chernobyl nuclear accident. The aid will go towards buying, transporting, stocking and distributing medicine and medical equipment to Vinnitza hospital in Ukraine for six months, the European Commission said in a statement. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

### **NUCLEAR-CIS-UKRAINE CORRECTION**

RTw 5/27/94 5:15 AM In CHERNOBYL story headlined "Ukraine nuclear sector needs \$14 billion--Kravchuk" please read date as May 27, instead of April 27. "To talk about closing the station without any basis or alternatives is pointless...But pressure is being put on us. We must withstand it," Kravchuk told members of the plant's 4,500 staff. "When we pulled troops out of Germany, all questions were resolved. Apartments were built, social issues were dealt with.. For matters like this \$10 billion is needed. We must add \$4 billion for the station itself, bringing the total to \$14 billion. But we simply do not have the money." Ukraine's parliament last year reversed a decision to close Chernobyl, citing energy shortages. The decision shocked world opinion and pressure has been growing for Ukraine to close the facility after an international report said it was unsafe. Two reactors continue to operate at Chernobyl more than eight years after the fire and explosion in April, 1986, which Ukraine says caused 8,000 deaths. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

### **CHINA REACTOR SHUTS DOWN AS TEST GOES WRONG**

RTw 5/26/94 8:02 AM (Eds: Adds reactor shutdown, background.) By Jane Blennerhassett HONG KONG, May 26 (Reuter) - A reactor shut down at China's controversial Daya Bay nuclear power plant after a test went wrong, blacking out parts of neighbouring Hong Kong, the plant's joint-venture partner said on Thursday. Hong Kong's electricity company China Light and Power said a faulty component at one of two units at the plant, which China's Premier Li Peng opened only three months ago, caused the unit to trip on Wednesday night and the reactor to shut down automatically.

The world's worst nuclear disaster at the Chernobyl plant in the Ukraine followed a test that went wrong, but China Light said in a statement the Daya Bay incident had caused "no safety concern." Plans to build the plant provoked mass protests in Hong Kong, which lies only 50 km (30 miles) away, after the 1986 Chernobyl disaster spewed radiation over much of Europe. Li inaugurated the French-designed station in February, a year behind schedule and after seven years of problem-plagued construction. China Light, which owns the US\$4 billion plant in a joint venture with authorities in the southern province of Guangdong, said technicians had been testing the reactor's shutdown system, something which is done every month. "At 9.59 p.m. (1359 GMT), during the course of this test, a faulty component in Unit One caused the unit to trip," said China Light, which supplies power to the British colony's Kowloon district and New Territories. Company spokesman Dominic Tai said the component that went wrong provided energy to a censor. When the censor got the wrong signal, the reactor was automatically shut down. The shutdown set off a chain of events stretching as far the Chinese region of Guangxi, 1,000 km (625 miles) from Hong Kong, causing power cuts of up to 25 minutes in the colony. The reactor went back into service six hours after the incident. Daya Bay sends 70 percent of its output to Hong Kong and supplies 20 percent of China Light's demand. Concerns have been raised in Hong Kong that officials might try to cover up incidents at the plant. China has agreed to notify the Hong Kong government of any accident involving a radioactive leak from the site ranking four or above on the International Nuclear Event Scale. The fire at Chernobyl was equivalent to seven, the highest on the scale. China Light's statement was issued more than 20 hours after the incident, and early comments from company officials suggested the problem lay with transmission lines and made no mention of the reactor shutdown. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

### **CHERNOBYL NO MASK FOR EU'S OWN NUCLEAR SAFETY PROBLEMS**

RTec 5/25/94 1:30 PM BRUSSELS, May 25 (Reuter) - Safety concerns about the Chernobyl nuclear reactor should not mask the European Union's own nuclear safety problems, Irish Energy Minister Brian Cowen said on Wednesday. "I have deep concern about installations closer to home and particularly at Sellafield," Owen said in a statement. Sellafield is a nuclear complex on the north-western coast of England which discharges radioactive effluent into the Irish Sea. "Concern about Chernobyl should not blind us to the problem of Sellafield," he said. The Irishman told a meeting of fellow European Union energy ministers their credibility was at stake when they discussed the safety of nuclear reactors in Central and Eastern Europe while lacking an EU inspectorate at home. "The moral authority of the European Union on nuclear safety is being undermined by a lack of political will to empower an inspectorate to vet safety at nuclear installations within the European Union," he said. He said the Irish electorate in upcoming European Parliament elections would find "somewhat incongruous" the fact that European Commission officials could raid offices of Ireland's Aer Lingus state airline while they lacked the power to check the safety at Sellafield. An Irish spokesman said the British and French delegations had argued that existing, national inspectorates were sufficient to ensure the necessary levels of nuclear safety. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

### **DEFECTS HALT WORK AT FOUR INDIAN NUCLEAR REACTORS**

RTw 5/25/94 2:39 AM By Jeremy Clift BOMBAY, May 25 (Reuter) - India has halted construction work at four nuclear reactors after the collapse of part of a dome being built at an atomic power plant in the southern state of Karnataka. Atomic Energy Regulatory Board (AERB) chairman A. Gopalakrishnan said on Wednesday he ordered a halt to construction of inner walls and the main domes for two reactors in Karnataka and two in the northern desert state of Rajasthan. He said there was no radiation risk since no nuclear fuel had been transferred to the sites. The decision to halt work follows the collapse of the concrete inner containment dome at the 220-megawatt Kaiga project at Karwar in Karnataka on May 13. Fourteen workers were injured, the board said. An inspection team found the collapse was caused by a deviation from the original design drawings. Since the domes at the three other sites were of the same design, the decision was taken to halt work pending a review, officials said. "A detailed parallel check of the associated design as well as a review of the construction methods and procedures used are essential before proceeding with further work on this type of dome," Gopalakrishnan said. The decision has halted work at Kaiga I and II plants and Units three and four in the Rajasthan desert. Units one and two in Rajasthan are already functional. The regulatory board has set up a committee to investigate the underlying causes of the collapse and it was to submit an interim report within two months. Analysts said the accident could set back India's atomic power programme by up to a year. But S.K. Chatterjee, chairman of the Nuclear Power Corporation which runs the plants, said he expected Kaiga would go critical as scheduled by the end of 1996. India's nuclear power generating capacity of 1,720 megawatts meets just 2.5 percent of its energy needs. The rest is met by thermal power stations and hydro-power. India, which exploded a nuclear device 20 years ago and is under U.S. pressure to sign the Nuclear Non-Proliferation Treaty, has seven operating pressurised heavy water nuclear reactors and two reactors of an earlier design. It is building an additional five reactors of 220 megawatts each and two of

500 megawatts. It has plants on the drawing board awaiting approval with a combined capacity of 8,380 megawatts. India's nuclear programme has been held up by financial cutbacks and dogged by a series of relatively low-level accidents. Fires were reported last year at reactors near Madras and at Narora in the northern state of Uttar Pradesh. The Madras plant was briefly closed last July for checks. France last year refused to continue supplying nuclear fuel to India's oldest power station at Tarapur in the western state of Maharashtra unless India agreed to accept International Atomic Energy Agency safeguards. India has rejected international inspections of its nuclear programme and said it could supply its own low-enriched uranium. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

### **WORKERS' RADIATION EXPOSURE IS UPGRADED; ENERGY ...**

WP 5/24/94 11:00 PM Workers' Radiation Exposure Is Upgraded; Energy Dept. Reveals Flaws in Monitoring at Rocky Flats Weapons Plant From 1953 to 1967 By William Claiborne Washington Post Staff Writer The Department of Energy is warning hundreds of current and former workers at the Rocky Flats nuclear weapons complex in Colorado that they were exposed to higher levels of neutron radiation from 1953 to 1967 than they previously had been told, officials said yesterday. Medical examinations are being offered to the workers and "dose reconstruction" research has begun to determine accurate levels of exposure for workers who were either improperly monitored or not monitored at all. Preliminary findings already have shown that neutron-sensitive film used in the employees' radiation-monitoring badges had been interpreted incorrectly, resulting in underestimations of exposure, officials said. DOE officials said they are notifying about 140 current Rocky Flats employees and soon will begin contacting "a few hundred" former employees, out of a total of as many as 3,000 workers exposed to radiation from 1953, when the plant became operational, until 1967, when monitoring procedures were tightened. Mark N. Silverman, manager of DOE's Rocky Flats field office, said the margins of error found so far have been modest. In the worst case, he said, a worker's radiation dose was raised by 1 rem - about 20 percent of the annual allowable rate of occupational exposure to ionizing radiation. "So far, the results are encouraging, although that doesn't make the employees feel any better. Understandably, some of them are asking, 'How can we trust you at all?' " Silverman said. He said that although some Rocky Flats workers in the past have blamed their cancers and other illnesses on radiation exposure at the plant, none of the workers involved in the current study has reported any symptoms. Officials said the survey was prompted by concerns raised by researchers conducting a routine review of Rocky Flats radiation dose records for DOE's office of environment, safety and health. The department said that surveys of monitoring practices will be conducted at other DOE nuclear sites and made public as part of Energy Secretary Hazel R. O'Leary's campaign of openness about radiation experiments and accidents from the mid-1940s through the 1970s. Although officials said no illness or other adverse effects have been linked yet to the underestimations of radiation exposure at Rocky Flats, current employees are being given the option of being moved away from exposure areas until their cumulative doses can be reevaluated. "We're not going to be able to change (a worker's previous exposure). The difference is that he at least will know," said Mark Spears, manager of health and safety for the DOE plant's operating contractor, EG&G Rocky Flats Corp. During the period under review, the facility was operated for the Atomic Energy Commission by Dow Chemical Corp. Spears said the dose reconstruction process involves interviews with current and former workers, physical examinations and the taking of bio-assay samples to determine neutron radiation counts in various parts of the body. In addition, he said, all available records from a worker's production department during his period of employment are being studied to estimate approximate levels of exposure to neutron radiation, which can penetrate some kinds of shielding normally used to protect workers from other forms of radiation. Officials said much of the exposure at Rocky Flats occurred in one building used for the chemical processing of plutonium into weapons-grade material. The plant is no longer producing nuclear weapons. Spears said that a key part of the dose reconstruction procedure has been the retrieval of neutron-sensitive film strips from a federal records center in Denver, where more than 95,000 pieces of film used in monitoring radiation are stored. He said a sample of 400 strips had been reevaluated, leading to the discovery in February that monitoring badges worn by Rocky Flats workers from 1953 to 1967 had been read incorrectly in manual inspections by safety technicians. The film strip badges were replaced in 1970 with thermoluminescent dosimeters, which are crystal chips that can be read by computers and, consequently, are more accurate. David Rush, a member of the task force on health risks of nuclear weapons production of the Physicians for Social Responsibility, said that despite the DOE's openness campaign, studies of radiation dosages of plant workers remain "fragmentary" and outdated. "Some of the dirtiest plants are the least monitored. There are enormous gaps in research," said Rush, an epidemiologist at Tufts University. He is the coauthor of a recent book, "Dead Reckoning," that estimated that DOE had radiation dosage data on only 140,000 of the estimated 600,000 people who have been employed at nuclear weapons plants. Copyright 1994 The Washington Post

### **U.S. TO CHECK PLUTONIUM STORAGE VULNERABILITIES**

RTw 5/23/94 5:21 PM WASHINGTON, May 23 (Reuter) - The Energy Department Monday said it started a nationwide review of its "vulnerabilities" in storing and handling plutonium to find ways to cut its workers' and the public's exposure to radiation. The department in a statement said Energy Secretary Hazel O'Leary ordered the study "because large quantities of nuclear material remain in storage following the Cold War." The review is to check for "conditions or weaknesses that could lead to unnecessary or increased radiation exposure of workers, release of radioactive materials to the environment, or radiation exposure to the public." The plutonium and highly enriched plutonium, the main ingredients of nuclear warheads, are from disassembled nuclear weapons, nuclear material that was stored for weapons production and weapons-grade material that may come from waste processing operations. The study, due in September, is to assess the department's inventory of all forms of plutonium, and draw on public interest groups, Congress and federal and state governments. The Energy Department last week acknowledged it has discrepancies in its accounting of plutonium inventories, but officials said it was mostly a technical and paperwork problem. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

### **TAIWAN VILLAGE HOLDS LANDMARK NUCLEAR REFERENDUM**

RTw 5/22/94 4:12 AM By Benjamin Kang Lim KUNGLIAO, Taiwan, May 22 (Reuter) - A village in northern Taiwan on Sunday held a landmark referendum to decide whether to allow construction of a nuclear power plant nearby. Ten thousand voters in Kungliao on the outskirts of Taipei went to the polls in the referendum, organised by the village government and the first such in Taiwan's history. The proposed nuclear power plant -- it would be the island's fourth -- has become a rallying point for increasingly assertive environmentalists. "Over half of the villagers are expected to vote against the plant. But the referendum lacks legal basis. We will not accept the results," said Chang Sze-min, president of state-run Taiwan Power Company (Taipower), which is building the plant. "There is no alternative site for the plant. Construction must proceed. We will continue to communicate with villagers in the spirit of the foolish old man who tried to move a mountain," Chang told reporters. Taipower has offered scholarships to the village children and free medical check-ups to its elderly and disabled to win support for the plant. Kungliao Mayor Chao Kuo-tung and legislators in the main opposition Democratic Progressive Party (DPP) urged the national government to accept the results of the referendum. "I voted against the plant because it is the will of Kungliao residents... The government should respect the results of the referendum," Chao told reporters. On Saturday, tycoons Wang You-theng and Kao Chin-yen, who head two of Taiwan's largest chambers of commerce, threatened to mobilise businessmen to take to the streets if construction of the plant were shelved as a result of the referendum. "Power shortage may lead to a bottleneck in economic development... The plant must be built at all costs," they said in a joint statement. A Gallup survey published on Saturday showed 57.8 percent of 2,530 respondents interviewed across Taiwan supported construction of the plant. The survey said 19.5 percent opposed it for safety reasons. Work on the plant, located 40 km (25 miles) east of Taipei, was suspended for six years because of environmental protests following the disaster at the Chernobyl nuclear plant in the former Soviet Union in 1986. The government revived the project in 1992, saying it was needed to avert power shortages. The plant, scheduled for completion by the year 2001 at a total cost of US\$6.4 billion, will have output capacity of 2,700 megawatts. Construction work has resumed, but budgets to complete it still need approval in parliament, where DPP deputies have said they will try to block them. Three foreign firms -- Westinghouse Electric and Combustion Engineering of the United States and Framatome of France -- have submitted bids worth US\$2 billion to supply two reactors and related equipment for the plant. Last June dozens of anti-nuclear protesters stormed into parliament and assaulted deputies of the ruling Nationalist Party. Two days later, 36 people were injured when protesters rioted outside parliament, attacking police with rocks and nail-studded clubs. In 1992 an anti-nuclear protester was jailed for life for killing a policeman and injuring 15 others by driving a van into police at the plant site. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

### **U.S. BACKS WORK ON CZECH NUCLEAR REACTORS, PAPER SAYS**

RTw 5/21/94 10:53 PM NEW YORK, May 21 (Reuter) - The Clinton administration is supporting plans by the Westinghouse Electric Corp to use its own technology to complete two Soviet-designed nuclear reactors in the Czech Republic, despite widespread diplomatic protests, The New York Times said. The administration rebuffed congressional and environmental opponents and approved \$317 million in loan guarantees to finance the work, the first attempt to graft American technology onto a Soviet reactor, the paper said in its Sunday edition. Administration officials said the Westinghouse technology would increase safety at the plant near the Czech town of Temelin. They said the work was a step toward improving safety at other Soviet-designed reactors. There are 16 uncompleted reactors in Eastern Europe, and over 50 operating or being built in Russia, Ukraine and Bulgaria, it said. But critics say the United States could end up paying for an accident at the Czech plant. Environmentalists and the Austrian Government warn that

the Russian design may be unsafe, even if improved by Western technology, the report said. An accident at the plant could cause devastating health, environmental, economic and social consequences for all of Austria's eight million citizens, a panel of Austrian scientists warned earlier this year, the newspaper reported. But the contract gives Westinghouse a jump on European competitors in the race for repair contracts that the World Bank estimates could reach \$24 billion, it said. The contract is viewed as a breakthrough by Westinghouse, which beat Siemens AG of Germany and Gramatome SA of France to win the \$400 million contract, the report said. The Temelin reactors, called the VVER-1000, all are the most advanced Soviet design and are not the type that exploded at the Chernobyl plant near Kiev in 1986, the paper said. The Times report said the Vienna-based International Atomic Energy Agency (IAEA), in studies of this type of reactor at Temelin and elsewhere, found design problems. It quoted David Kyd, the IAEA's director of information, as saying the agency has not thoroughly evaluated whether Westinghouse's technology can remedy all the flaws. Several influential U.S. legislators are concerned that the United States could end up paying for damages in case of an accident because the Westinghouse work is being financed by the Export-Import Bank of the United States, the paper said. And Austrian Chancellor Franz Vranitzky told President Clinton last month that his government was concerned about the potential for an accident at Temelin and similar reactors in neighbouring countries, Austrian diplomats told the paper. REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

### **RUSSIA PLANS \$12.5 MILLION SCHEME TO SEAL NUCLEAR SUB**

RTw 5/20/94 7:41 AM By Alister Doyle OSLO, May 20 (Reuter) - Russia is planning a \$12.5 million operation to seal a sunken nuclear submarine off Norway after abandoning hopes of raising the wreck, a Norwegian environmentalist said on Friday. Explosions and fire aboard the Komsomolets, which sank in Arctic waters in 1989 with the loss of 42 lives, had blown a gaping 20 sq metre (215 sq ft) hole into its torpedo room while rust was further weakening the vessel. "Russia believes it won't be possible to raise the submarine," said Frederic Hauge, head of Norwegian environmental group Bellona and a member of the board of the Komsomolets Foundation, set up last year with Russian backing. He said a Russian government report, made available to the Foundation, ruled out raising the vessel and concluded it would be safest to seal it in a two-stage operation costing an estimated \$12.5 million. Moscow was hoping for foreign backing to pay some of the bill. Tiny concentrations of radiation have already been found leaking from the nuclear reactor in the wreck, lying on the seabed at a depth of 1,685 metres (5,500 ft). Plutonium from two nuclear torpedoes is likely to start leaking within one and a half to two years, Hauge said. An initial expedition this summer, costing about \$2.5 million, would seek to plug small holes through which water was flowing through the wreck, threatening to wash out plutonium particles, Hauge said. A second phase next year, costing \$10 million, would try to cover over the hole into the missile room. Hauge declined to give details of how the holes would be covered. Russian officials have often talked of a cataclysm if the wreck is not lifted or sealed but Norwegian officials have equally often said there is no threat to rich Arctic fisheries. Tengiz Borisov, head of a Russian government committee on special underwater work, said last year that a leak would make fishing impossible in the Norwegian Sea for between 600 and 700 years. Norway has said the safest solution is to leave the wreck on the seabed, saying it is at a depth where there is scant marine life and that the heavy plutonium would sink into the seabed. The Komsomolets is estimated to contain about 10-12 kilos (22-26 lbs) of deadly plutonium. Norwegian officials say, for instance, that 300 kg (660 pounds) of plutonium flowed into the sea from England's Sellafield nuclear plant from 1960-87. The Komsomolets reactor is one percent the size of the one at Chernobyl, site of the world's worst nuclear accident. "There's no danger of a general contamination of fish in the area," Hauge said. He said that, in the worst case, radiation could get into some fish in small concentrations. The Brussels-based Komsomolets Foundation is chaired by former Dutch foreign minister Norbert Schmelzer and also includes senior Russian military officials. REUTER REUTER Copyright 1994 Reuters Information Services, Inc. All rights reserved.

### **RADIOACTIVE LEAK AT CHERNOBYL**

UPn 6/11/94 10:34 AM MOSCOW, June 11 (UPI) -- Workers at the Chernobyl nuclear power plant have discovered a leak in a part of one of the working reactors that holds containers of spent nuclear fuel, the Russian news agency Interfax reported Saturday. A shift supervisor at the ill-fated Ukrainian plant said escaping waste has not increased radiation levels at the plant and that the accident is no cause for alarm, Interfax reported. Leaks like this are "a chronic disease of this type of atomic power station," said shift supervisor Alexander Yelchishchev, referring to RBMK reactors, fifteen of which still operate in Russia, Ukraine and Lithuania. Yelchishchev did not say when the leak began, but he said it "will not be localized soon," indicating that Chernobyl workers do not know the exact location of the fissure. "There are 460 fuel containers that have to be removed." Two of Chernobyl's four reactors are currently in operation, and the Ukrainian government has not answered calls by experts in the former Soviet Union and abroad to shut them down, arguing that the plant is a key power source that economically troubled Ukraine cannot afford to replace. Although the official death toll

in the accident and ensuing fire at Chernobyl in 1986 is 31, some experts as many as 5,000 people have died as a result of the tragedy. Copyright 1994 The United Press International

## **N. KOREA WARNS SOUTH OF DEVASTATION**

RTw 6/9/94 2:39 PM KIEV, June 9 (Reuter) - North Korea on Thursday threatened South Korea with devastation if war broke out and said it would punish Japan if it joined in sanctions over Pyongyang's suspected nuclear weapons programme. But U.S. Secretary of State Warren Christopher expressed optimism that sanctions will be imposed on North Korea despite fresh indications that China opposes the idea. North Korean Foreign Minister Kim Yong-nam told Reuters at the end of a visit to Ukraine that South Korea "should remember that if they blindly follow the policies of the United States as to sanctions and finally start a war, then in the end South Korea will be devastated." The North Korean Foreign Ministry said Japan could expect reprisals if it joined in sanctions. "If Japan...should take the van or be inveigled or join forces in any 'sanctions' against us, we would regard it as a declaration of war and Japan would be unable to evade a deserving punishment for it," it said. But Japan's U.N. ambassador said his government would stand firmly behind any action the Security Council might take against North Korea, including the imposition of sanctions. Christopher told a news conference in Istanbul at the end of a NATO foreign ministers meeting: "We're proceeding firmly and deliberately to seek sanctions in the United Nations Security Council and I think they can be achieved." The United States has been leading the push for sanctions since North Korea barred U.N. inspectors from testing spent fuel at its reactor to see if any had been diverted for a bomb. Washington and many of its allies believe North Korea has developed the capability to produce one or more atomic weapons. South Korea said the North was at its highest state of war readiness since 1990, when a brief thaw in relations began. Defence Minister Rhee Byoung-tae said the North was preparing to test-launch an upgraded missile with a range of more than 1,000 km (620 miles), enough to reach much of Japan. The possibility of sanctions with Security Council blessing seemed to recede on Thursday when China, which has veto power, repeated its opposition to such a move. "Sanctions will only serve to push the parties concerned into confrontation with one another and result in a situation no one wants to see," Foreign Ministry spokesman Shen Guofang said. But South Korea's Foreign Minister Han Sung-joo, who was visiting Beijing, told the Chinese: "There is no way to escape a U.N. Security Council resolution." A highly-placed government security source in Tokyo indicated North Korea had means to punish Japan. He told Reuters there were believed to be about 600 North Korean agents in Japan aided by some of the 150,000 pro-Pyongyang Koreans there. The United States has rejected an overture for further talks from North Korean Foreign Minister Kim Yong-nam. The International Atomic Energy Agency (IAEA) was poised on Thursday to impose the first penalty on North Korea. A draft resolution sponsored by 18 of the 35 member countries on the IAEA's executive board of governors called for the immediate suspension of technical aid. It also said the agency should inform the United Nations Security Council that North Korea had widened its non-compliance with agreements banning the spread of nuclear weapons. On Tuesday, North Korea's representative to the IAEA said the North would never allow inspectors to visit two nuclear waste sites to determine how much plutonium might have been diverted in the past. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

## **SECRET VA UNIT MAY HAVE DONE RADIATION TESTING**

WP 6/8/94 11:00 PM By William Claiborne Washington Post Staff Writer A secret "Atomic Medicine Division" of the Veterans Administration formed in 1947 may have been involved in exposing U.S. servicemen to radiation during the early post-World War II atomic bomb tests and assessing the effects, an administration task force official told a veterans' group yesterday. Daniel Guttman, executive director of the Advisory Committee on Human Radiation Experiments, said the unit apparently operated separately from a previously disclosed VA medical research section that used radioisotopes for diagnosis and treatment of patients with cancer. Speaking at an annual meeting of the National Association of Atomic Veterans, Guttman said Department of Veterans Affairs Secretary Jesse Brown uncovered the secret medical unit and reported its existence in testimony to the House Committee on Veterans' Affairs Feb. 8. The unit was set up shortly after Operation Crossroads - involving detonation of two atomic bombs at Bikini Atoll in 1946 - in which thousands of U.S. troops were exposed to dangerous levels of radioactive material, Guttman said. "What did this confidential unit do? Maybe nothing. Maybe it was disbanded shortly after it was formed. Or maybe it was involved in bomb tests. But we need to find out," said Guttman, whose committee had been criticized by the atomic veterans for investigating hospital radiation experiments on humans and the intentional releases of radioactive materials by nuclear plants, but not the exposure of U.S. troops at bomb test sites. The Atomic Veterans, formed in 1979, is composed of 4,000 former troops exposed to radiation during postwar nuclear explosions and who are demanding compensation and VA benefits. According to a transcript of Brown's congressional testimony, the VA secretary said existence of the atomic medicine unit had been classified "confidential" out of concerns for "problems VA might have in connection with



alleged service-connected disability claims." Brown said one purpose of the atomic medicine program was to teach "techniques of nuclear preparedness" in conjunction with the then-nascent Civil Defense program. He said the VA unit created a guide for a course in radiobiological defense that was used in the 1950s. On Jan. 10, the VA released documents showing that in the 1940s and 1950s it carried out radiation experiments at 33 of its hospitals, including one in Framingham, Mass., at which patients were given food mixed with radioactive substances. However, officials gave few details of the nature or purpose of the tests. The Atomic Veterans and other veterans organization have sought full disclosure of all nuclear-related testing of U.S. troops during the Cold War - including exposure of troops near atomic bomb sites - and compensation for cancers and other illnesses the experiments may have caused. Guttman said the advisory committee, which President Clinton created in January following disclosures of Cold War nuclear experiments on humans, had a limited scope because of its one-year deadline for reporting findings and therefore could not look into the cases of thousands of veterans exposed to radiation. "But we all have a common interest in looking at the big picture, and some of the things we get into no doubt will bear on your cases," Guttman said. He said one of those is the existence of the secret VA atomic medicine unit. Clinton has ordered the Defense Department and numerous other departments to search files and make public any records that would shed light on experiments conducted on humans without informed consent. Guttman said a committee public meeting on Monday will release a memorandum detailing existence of the VA unit. Copyright 1994 The Washington Post

## **EU CHERNOBYL TELEX DOES NOT BIND MEMBER STATES - COURT**

RTec 6/8/94 11:22 AM SUMMARY OF THE EUROPEAN COURT OF JUSTICE JUDGMENT IN CASE C-371/92  
DATE OF JUDGMENT: JUNE 8, 1994 + UNOFFICIAL COMMENTARY The European Court of Justice ruled on Wednesday that a 1986 European Commission telex following the Chernobyl nuclear accident, setting maximum limits of radioactivity in farm produce destined for third countries, was not a legally binding EU document. A Greek appeal court asked the Luxembourg-based court whether the Greek government could only act on the basis of maximum levels of radioactivity quoted in the telex. The Greek government faces paying export refunds to a Greek company which it banned from exporting a 55,000-tonne consignment of mixed French and Greek wheat to South Korea in 1988. The company mixed Greek wheat recording above the EU recommended radioactive limit with non-radioactive French wheat to bring the Greek wheat down to an acceptable level. Greek customs officials stopped the consignment and, although it reimbursed South Korea for the loss of the French cargo, it refused to do so for the Greek wheat. The national court will decide whether the Greek government's appeal is valid or not. +++ EXCERPTS FROM THE JUDGMENT (Court translation into French. Original language of the case: Greek) --- L'ARRET DE LA COUR "Regime des restitutions a l'exportation - Reglement post-Tchernobyl" Dans l'affaire C-371/92, ayant pour objet une demande adressee a la Cour, en application de l'article 177 du traite CEE, par le Dioikitiko Efeteio, Athinon, et tendant a obtenir, dans le litige pendant devant cette juridiction entre Elliniko Dimosio et Ellinika Dimitriaka AE, une decision a titre prejudiciel sur l'interpretation des dispositions du reglement (CEE) no. 2730/79 de la Commission, du 29 novembre 1979, portant modalites communes d'application du regime des restitutions a l'exportation pour les produits agricoles (JO L 317, p. 1), tel qu'il a ete codifie par le reglement (CEE) no. 3665/87 de la Commission, du 27 novembre 1987 (JO L 351, p.1) --- L'ARRET La Cour, statuant sur les questions a elle soumisees par le Dioikitiko Efeteio, Athinon, par ordonnance du 19 mars 1992, dit pour droit: 1. Le telex de la Commission du 24 juillet 1986, qui fixe les tolerances maximales de radioactivite pour les exportations de produits a destination de pays tiers, n'est pas un acte qui lie les Etats membres. 2. En l'absence de normes communautaires obligatoires en la matiere, les autorites competentes des Etats membres etaient, lors des operations d'exportation en cause, fondees a appliquer par analogie a des operations d'exportation de produits de meme nature vers des pays tiers les mesures qui avaient ete prises pour l'importation de produits agricoles originaires de pays tiers, en application de l'article 15 du reglement (CEE) no. 2730/79 de la Commission, du 29 novembre 1979, portant modalites communes d'application du regime des restitutions a l'exportation pour les produits agricoles, et de l'article 13 du reglement (CEE) no. 3665/87 de la Commission, du 27 novembre 1987, portant modalites communes d'application du regime des restitutions a l'exportation pour les produits agricoles. 3. L'article 3 du reglement (CEE) no. 3665/87 est applicable egalement dans les cas vises a l'article 13 de ce reglement, a savoir lorsque les produits exportes ne sont pas de "qualite saine, loyale et marchande" et que, des lors, aucune restitution ne peut etre octroyee. 4. Dans des circonstances telles que celles du litige au principal, il n'est pas satisfait aux conditions auxquelles est soumise la rectification a posteriori des declarations en douane. --- END OF TEXT  
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## **RADIUM SICKNESS**

APn 6/8/94 1:46 AM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By MELISSA B. ROBINSON Associated Press Writer WASHINGTON (AP) -- Liza Mandel wonders whether the radium treatment she received for ear infections when she was an infant is to blame for her several miscarriages, daily headaches, brittle tooth and sinus trouble. The treatment Mandel received before she was a year old was the same therapy the Navy gave submariners whose ears were damaged by underwater pressure. Military flight crews, facing similar problems from high altitudes, also received radium capsules. Thousands of veterans and civilians alike are questioning whether the nasopharyngeal radium treatments they received from doctors in the 1940s, 1950s and 1960s damaged their health later. "It would be really nice to have a reason to put to all this," Mandel, 38, said in a recent telephone interview from her home in Manchester, Conn. Before the hazards of radium came to light, doctors used it to prevent burst eardrums and to treat hearing loss, adenoid troubles and even the common cold. Radium, it was thought, was a good way to shrink tissues near the Eustachian tubes to treat deafness, reduce ear pain and damage from atmospheric changes and to decrease mucus secretions. "They put cocaine up my nose first, then came the radium," recalls Judith Wood, 59, a North Stonington, Conn., homemaker, of her childhood treatments for recurrent colds. Wood had breast cancer and suffers from Hashimoto's disease, a rare type of thyroid enlargement, depression, anxiety and salivary gland swelling. One of her four children was born deaf, and another with a disease that causes tumors all over the body. It is virtually impossible to determine how many people received the radium treatments, but a public health scientist who has researched the issue believes the total could easily exceed 130,000. "They used them for years," said Stewart Farber of Pawtucket, R.I. "And it was very in vogue." Developed at Johns Hopkins Hospital in Baltimore, the radium therapy was popularized by enthusiasts such as Dr. Henry Haines, who learned the treatment from one of its inventors. Haines treated Mandel with radium and pioneered its use at the Navy's submarine base near New London, Conn. "Even an exposure of twice the regular dose would have little or no unfavorable effects," wrote Haines in 1945 in a medical journal. "There is no more discomfort than would be experienced from a sunlamp treatment to develop that winter tan." Haines died in 1993, and doctors at his former practice declined repeated invitations to comment. In a letter written earlier this year to a concerned patient, Dr. Raymond A. Gaito Sr., Haines' former partner, said follow-up examinations were prudent for radium patients, although there was no evidence linking the treatments to cancer. Radium was also hawked in medical journals, where advertisements boasted that by the 1960s at least 2,600 applicators had been sold or leased by the now-defunct Radium Chemical Co. Inc. of New York. "Unsolicited reports from users established the fact that results are highly gratifying," read one ad that began appearing in Archives of Otolaryngology in February 1946. While some doctors used radium well into the 1960s, there were also early voices of caution. At a 1949 medical convention in Chicago, a Michigan doctor warned against the indiscriminate use of the radium treatment, particularly in children. "Radiation therapists and others employing radium have learned, sometimes by bitter experience, that late radiation damage may become manifest years after a course of treatment which resulted in no apparent immediate harm," Dr. Isadore Lampe said. In recent months, more than 20,000 calls from worried civilians and veterans have been logged by Submarine Survivors, a Quincy, Mass., group headed by James Garrity, a former submariner treated with radium in 1966 who was diagnosed this year with nasopharyngeal cancer. Garrity has become an activist, accumulating data from radium patients in order to lobby for federal aid for the sick. Others wait, hoping for some long-sought answers. "People need to know," Mandel said.

### **RUSSIAN POLICE DETAIN URANIUM THIEVES**

UPn 6/7/94 9:39 AM By RACHEL KATZ ST. PETERSBURG, Russia, June 7 (UPI) -- Russian counter-terrorism agents have arrested three men who were allegedly trying to sell 6.6 pounds (3 kg) of highly enriched uranium stolen from a factory outside Moscow, a spokesman for Russia's Federal Counterintelligence Service said Tuesday. The uranium-235 dioxide was 90 percent pure, which is considered weapons-grade and could be used to produce atomic weapons. The arrests occurred in March, but the Counterintelligence Service -- formerly part of the old KGB secret police -- only released details of the incident Tuesday. Agency spokesman Valery Pachkov said the three suspects were Russians between the ages of 25 and 35, and included a butcher and a plumber. The uranium was stolen from an Atomic Energy Ministry enterprise near Moscow and stored in what counterintelligence agents said were hazardous conditions. Agents found nearly a pound (500 g) of uranium dioxide powder in an ordinary glass jar and a metal flask -- containers which did not protect the uranium thieves from radiation emitted by the stolen materials. It came to the attention of the Counterintelligence Service after it received reports that the men had contacted several companies in the St. Petersburg region, asking whether they would be interested in purchasing some uranium and hinting that it could be obtained through relatives. The service's counter-terrorism unit responded "very quickly" to the reports, Pachkov said. He said this was a sign that Russia's controls over the illicit export of nuclear materials were effective at preventing any uranium or plutonium from slipping out of the country. But Pachkov said he couldn't vouch for the other ex-Soviet republics. "We can't answer for Kyrgyzstan and other independent countries, but for us it's never happened," said Pachkov. The Interfax

news agency said the uranium could have been sold for \$300 a gram, for a total value of just under \$1 million. Pachkov said the three men were currently being held in the Moscow region, awaiting trial for theft of radioactive materials. Copyright 1994 The United Press International

## **RUSSIA-NUCLEAR**

APn 6/6/94 11:21 AM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By ALEXANDER MERKUSHEV Associated Press Writer MOSCOW (AP) -- Russia could see another nuclear accident on the scale of Chernobyl unless President Boris Yeltsin acts soon to ease the industry's desperate cash shortage, atomic energy officials said Monday. "We have no money to make repairs and pay wages," said Yevgeny Ignatenko, vice president of Rosenergoatom, operator of Russia's nine nuclear power plants. Workers at the Balakovo nuclear power plant in central Russia have not been paid for three months. "Social tensions are growing, sharply reducing safety at the plant," said its director, Pyotr Sorokin. "But when we tell authorities the situation may lead to another Chernobyl, we are told: 'You are not alone, all power plants are in the same position,'" Sorokin said at a news conference. Chernobyl, in Ukraine, is the site of the world's worst nuclear accident. An explosion and fire at one of its four reactors in 1986 killed at least 32 people and reportedly led to thousands of deaths from radiation. A chronic money shortage has plagued the Russian economy for months as the country moves from a centralized to a market economy. The state electricity supplier, United Power Grid Rossiya, owed \$359 million to the atomic industry for electricity supplied to users as of June 1, said Vladimir Startsev, head of the Union of Atomic Industry Workers. "Imagine an atomic power plant operator who, sitting at the controls, thinks not about work but about getting money to feed his family," said the union's deputy chairman, Vladimir Kashkin. Trying to survive "diverts people from safety considerations," he said. Compounding the problem, the government does not allow suppliers to cut power supply to debtors, fearing the political consequences of such a drastic step. Startsev said several nuclear power plants and facilities providing them with equipment and fuel will have to close unless the government allocates promised funds. According to atomic energy officials, the industry needs at least \$300 million to ensure the safe operation of atomic power plants in 1994.

## **RUSSIA MINISTER SAYS NEW NUCLEAR WEAPONS IN OFFING**

RTw 6/4/94 12:36 PM MOSCOW, June 4 (Reuter) - Russian Nuclear Energy Minister Viktor Mikhailov said in an interview published on Saturday that a new generation of nuclear weapons could be developed by the year 2000 unless military nuclear research was stopped. Mikhailov told the daily Komsomolskaya Pravda newspaper that the new fourth generation of nuclear weapons could be directed more accurately than current arms. He gave no further details but seemed to be suggesting the new weapons could be programmed to wipe out people while leaving buildings standing. Mikhailov, one of the scientists who helped develop the current generation of nuclear weapons, said it was a toss-up whether Russia or the United States would be the first country to devise the new arms. British television researchers said in April that Russian scientists had designed a miniature neutron bomb the size of a baseball which would destroy human life but leave buildings and machinery intact. The small "clean" neutron bombs are not made from "dirty" plutonium and so are not covered by non-proliferation treaties. An expert told the researchers that a neutron bomb the size of a coffee mug would have the yield of 10 tonnes of TNT high explosive and kill humans within 600 yards (metres) by radiation while leaving little lingering radiation. REUTERS Copyright 1994 Reuters America Inc. All rights reserved.

## **SIBERIAN NUCLEAR PLANT RISKS SEEN MANAGEABLE**

RTw 6/3/94 9:29 PM By Yereth Rosen ANCHORAGE, Alaska, June 3 (Reuter) - The environmental risks posed to Alaska by a tiny nuclear power plant in a remote eastern Siberian outpost could be offset with an infusion of cash and establishment of a modern monitoring system, Alaska state officials said Friday. A study released Friday by the University of Alaska Anchorage and the Alaska Department of Environmental Conservation said the Bilibino Nuclear Power Plant on Russia's Chukotka Peninsula needs \$16 million in improvements to bring the facility up to current Russian safety codes. Information on the 48-megawatt Bilibino plant and the accident notification system in the region was gathered in large part from a trip by federal and state officials to the site last August. The plant, built to 1974 standards, is so small that it does not pose direct threats across the Bering Strait to residents of Alaska, said Mead Treadwell, deputy commissioner of the Department of Environmental Conservation (DEC), one of the officials who inspected the site. But an accident at the plant could harm the natural resources used by Alaskans, particularly Eskimos, Indian and Aleuts who hunt and gather their food from the land and sea, he said. A Chernobyl-style meltdown "would probably put out enough stuff that we would have to worry about drinking water, particularly in northwest Alaska, and subsistence foods,"

Treadwell said. The plant is 810 miles (1,310 km) northwest of Nome, 1,350 miles (2,175 km) northwest of Anchorage and 1,865 miles (3,000 km) northwest of Juneau, DEC officials said. The U.S. Department of Energy has pledged \$76 million to improve safety at various Russian nuclear plants, Treadwell said. But tiny Bilibino, on the Siberian frontier, has sometimes been neglected, even though it is the closest Russian nuclear plant to U.S. soil, he said. "They've kind of left this one at the end of the line," he said. To help solve Bilibino's problems, the U.S. Navy has pledged \$100,000 to the state of Alaska to help set up accident-monitoring and communications equipment around the plant, he said. Representatives of eight Arctic nations -- Canada, Denmark, Finland, Iceland, Norway, Russia, Sweden and the United States -- will gather in Anchorage later this month for a nuclear-emergency response drill, DEC officials said. The first such multinational Arctic drill of its kind, the June 29 exercise will test monitoring and notification systems for a hazardous radioactive plume emitted into the air, officials said. Treadwell said the Bilibino staff appeared professional and eager to upgrade the plant's safety. "It was clearly a place where you had a lot of very intelligent people doing their best in a place where the resources are not available," Treadwell said. The plant provides power to the region's gold mines and mining-dependent community of 22,000. "It's a frontier town with a nuclear power plant," he said. "It's the only place I've ever been where the clock in the town square is not just time and temperature, it's time, temperature and ambient radiation." The mineral-rich area has the economic potential to properly maintain the local power plant, Treadwell said. But for now economic uncertainty has kept anticipated advances in limbo, Treadwell said. New equipment to upgrade the plant to 120 megawatts, new mining equipment and a new school for the expected increased population have been temporarily mothballed, he said. Recent reports indicate the Bilibino plant staff has gone without paychecks for two months, he said. In addition, "The only nightclub in town is shut down because the electric rates are equal to what we pay in Anchorage, but the incomes are nowhere near that," he said. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

### **ARMENIAN NUCLEAR PLANT COULD OPEN BY END OF YEAR**

RTw 6/3/94 12:32 PM YEREVAN, June 3 (Reuter) - An Armenian nuclear plant, viewed as potentially unsafe by the West, may reopen before the end of the year, a Russian minister said on Friday. Lev Ryabev, first deputy atomic energy minister, told reporters that all basic preparatory work would be carried out at the Metsamor nuclear station to bring it back into operation. Russia signed an agreement with Armenia last March to help the fuel-starved Transcaucasian republic to reopen its only nuclear station, which was closed shortly after a powerful earthquake in December 1988. Armenian officials had previously said the plant, about 25 km (16 miles) east of the capital Yerevan, would not open before the spring of 1995. Ryabev stressed that the station was not damaged in the 1988 quake. "The station has not been stopped because of failures. It was working normally," he said. The Metsamor plant, first commissioned in 1976, has two graphite moderated reactors, each with a 440 megawatt capacity. The United States and its partners in the Group of Seven industrialised nations say reopening the station would be potentially dangerous as it does not have a protective shield to stop radiation billowing into the atmosphere. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

### **UKRAINE MORTALITY RATE UP FOR THIRD YEAR RUNNING**

RTw 7/15/94 12:34 PM KIEV, July 15 (Reuter) - Ukraine's mortality rate, fuelled by mass poverty, shortages of medicines and the 1986 Chernobyl disaster, continues to rise sharply, according to statistics published on Friday. Deaths began overtaking births in Ukraine in 1991 -- the year the Soviet Union collapsed -- for the first time since World War Two and the trend has worsened since. Mortality was three percent higher in the first six months of the year, compared to the same period in 1993, with indicators rising for blood diseases and cancer. Suicides were also seven percent higher. "I am convinced the Chernobyl tragedy, directly or indirectly, has detonated the rise in mortality," said Volodymyr Yavorivsky, former head of a parliamentary commission on the disaster which spread radioactivity throughout Europe. "It has hurt our economy. Western nations should help us with technology to produce medicines and vitamins, especially for children." REUTER

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### **MEDICS DISPUTE CHERNOBYL DISEASE LINK**

UPn 7/14/94 2:36 PM

By PAUL GOULD LONDON, July 15 (UPI) -- Nearly seven years after the nuclear accident at Chernobyl, scientists are questioning whether the fallout caused an increase in childhood leukemia and Down's syndrome in parts of Europe distant to the accident, the British Medical Journal said Friday. In studies in Finland and Sweden, scientists were unable to detect a significant increase in the diseases among children conceived at the time of the April 1986 nuclear accident north of Kiev, Ukraine. A study in West Berlin blamed clouds of radioactive fallout drifting over the city for an apparent increase in the number of babies affected by trisomy-21 (Down's syndrome) in January 1987 -- nine months after the explosion which released fallout into the atmosphere. Researchers found 12 babies with Down's syndrome, compared with the expected figure of 2 cases to 3 cases per month, and concluded there was a causal relationship between exposure to radiation and the disease's increased prevalence. But officials of the National Cancer Institute in the United States cast doubt on the Berlin study, saying larger and more representative European studies had not confirmed its findings. "The authors dismiss too easily or fail to consider other explanations and several possible sources of bias," the NCI scientists said in an accompanying editorial. "Furthermore it is improbable that the very low doses in Berlin would result in a detectable excess while the higher doses in other parts of Europe did not." Another article accuses media hype of exaggerating its effects. Nationwide research in Finland, which examined affected children over a two-year period after Chernobyl, found an average dose from the fallout of 0.1 milliSieverts (the unit for measuring radiation doses), just 15 percent higher than background radiation that is naturally occurring. "Comparison of expected and observed cases of childhood leukemia showed no increase over the whole country," the study said. John Edgington, a London University nuclear radiation expert, said the maximum permissible dosage per year was 1 mSv, a figure recommended by the International Commission on Radiological Protection. There would have to be a 500-percent increase on background radiation to prove substantial effects from Chernobyl, Edgington said. A similar six-and-a-half-year study of Swedish children said they had not been put at risk by the fallout, with no increase in the likelihood of getting leukemia. From 1980 to 1992 researchers examined all places inhabited by the country's 1.6 million children, as well as 888 subjects diagnosed with leukemia in the same period. Both Finland and Sweden were among the countries contaminated by Chernobyl fallout, along with Ukraine itself, parts of Russia, the Baltics states and Belarus. The Scandinavian studies were organized by the International Agency for Research on Cancer as part of an effort to investigate European regions exposed to low levels of fallout. Scientists had predicted that the level of radiation would be too low to see an effect. But the accident caused widespread alarm at the time, with reports of contaminated air, water, land and farm produce, and prompted the study. James Dingley, a Belarus and Ukraine specialist from London's School of Slavonic and East European Studies, told United Press International there was no comparison of the effects in Scandinavia with the contamination suffered by the former Soviet republics. Dingley, who has worked to bring groups of the sick children from the two republics to Britain for treatment, dismissed Sweden and Finland as being too far away from the accident to suffer from a cloud of cesium. "It's abnormal to suggest that fallout from Chernobyl did not cause the high rate of thyroid cancer among Ukrainian and Belarussian children aged six to 15," he said. But an opinion piece in the journal by former radiotherapist and oncologist Thirsten Brewin accuses the media of "selective and misleading reporting of the dangers of radiation," which started before Chernobyl, but then became worse. He blames "a popular thirst for dramatic news of disasters" and "wrong ideas about two emotional subjects -- cancer and radiation." "Many well-informed people do not seem to realize that when one of the reactors at Chernobyl blew up, the force of the explosion killed just two people," Brewin wrote. He said the media was unnecessarily fueling fears and distress, leading the public to wrongly associate Chernobyl with the power of nuclear bombs. In a report released independently this week in Japan, a researcher said the number of birth defects in regions contaminated by the 1986 Chernobyl nuclear disaster is reaching abnormally high levels. Yukio Sato, a Hiroshima University specialist in radioactivity-caused malformations, said he recorded rates of birth defects 1.8 times higher than the normal rate of 3.87 per 1,000 during visits over the past four years to Belarus, the republic next to Ukraine, where the Chernobyl facility is located. Sato made the statements in an interview with Japan's Kyodo News Service in Hiroshima on Wednesday. (Edited by Larry Schuster, UPI Science and Technology Editor) (Adv. 7 p.m. edt)

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## **CHERNOBYL LINKED TO DOWN'S SYNDROME IN BERLIN**

RTna 7/14/94 11:41 AM Release at 7 p.m. EDT LONDON (Reuter) - German researchers said they have linked fallout from the 1986 accident at the Chernobyl nuclear reactor in former Soviet Union to a cluster of cases of Down's syndrome in Berlin the next year. The article, to be published Friday in the British Medical Journal, said 12 cases occurred in January 1987 instead of the expected two or three. Nine months before, when the children were conceived, a cloud of radioactive fallout passed over Berlin. The time of conception coincided with the time of highest radioactivity said the researchers, who failed to find any other explanation for the increase. "We believe that a causal relation was the

most likely explanation," said the six researchers, who come from three German academic institutions and one Danish institute. An accompanying editorial said the conclusions had not been substantiated by any wider European studies and the editorial's authors criticize the study's methods and urge readers to exercise caution in interpreting the findings. "The authors dismiss too easily or fail to consider other explanations and several possible sources of bias," the editorial said. Elsewhere in the British Medical Journal were articles saying there was no increase in childhood leukemia among children in Sweden and Finland because of Chernobyl. REUTER

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## **RISE IN BIRTH DEFECTS NEAR CHERNOBYL**

UPn 7/13/94 9:02 PM

HIROSHIMA, Japan, July 14 (UPI) -- The number of birth defects in regions contaminated by the 1986 Chernobyl nuclear disaster in the former Soviet Union is reaching abnormally high levels, a Japanese researcher said Wednesday. Yukio Sato, a Hiroshima University specialist in radioactivity-caused malformations, said he recorded higher rates of birth defects during 10 visits over the past four years to Belarus, the republic next to Ukraine, where the Chernobyl facility is located. The release of Sato's report comes as Ukraine's top nuclear official has dismissed offers of Western aid to close Chernobyl -- site of the world's worst nuclear disaster -- as not enough and pledged to keep two operating reactors at the facility running until more funding is offered. Sato's study found that in regions contaminated by nuclear fallout from the 1986 accident, the rate of birth defects was 6.97 per 1,000 live births -- a 1.8-fold increase from the normal rate of 3.87 per 1,000. He said his research found a continually increasing number of cases involving deformities such as polydactylism, a condition where babies are born with more than the normal number of fingers or toes. He also found a large increase in the number of abnormalities of kidneys and internal organs of babies in regions near the Chernobyl facilities. Sato, who was scheduled to detail his findings in a conference Thursday, made the statements in an interview with Japan's Kyodo News Service in Hiroshima on Wednesday. While previous studies have found a large increase in the number of people suffering from cancer and leukemia in regions around Chernobyl, Japanese officials said Sato's was the first to assess the increase in birth defects. Sato said his study used information from autopsies performed on 30,000 fetuses, other specimens and the reports of patients. In areas near the accident, there has been a large jump in the number of women wanting to have abortions and Sato attributed the increase to concern over the rise in birth defects. Fires and explosions in April 1986 from unauthorized experiments at the Chernobyl nuclear plant near Kiev left at least 31 people dead immediately after the disaster and spread large clouds of radioactive material over much of Europe. In Kiev on Tuesday, Mikhail Umanets, head of Ukraine's nuclear power authority, deemed insignificant \$200 million offered by the world's leading economic powers during their recent Naples summit to shut down the plant. Appearing on state-run television, Umanets said \$200 million "is less than 10 percent of what's needed to resolve the Chernobyl problem." "I have no intention of closing the Chernobyl station for \$200 million," he added. While one of four reactors at the plant is encased in concrete, two others are operating and nuclear officials at the facility say a third that was closed down in 1991 due to fire could be reopened. Ukrainian officials have said it would cost at least \$2.5 billion and possibly as much as \$6 billion to close down the Chernobyl plant and find a replacement source of energy.

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## **CHERNOBYL REACTORS**

APn 6/13/94 3:49 AM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. NEW YORK (AP) -- Energy-hungry Ukraine might not only keep two nuclear reactors at Chernobyl operating, it may restart a third reactor shut down after a fire, The New York Times reported today. A secret directive from President Leonid Kravchuk, which the Natural Resources Defense Council gave the newspaper, says the reactor shut down after a 1991 fire should be started up again in 1995, the Times said. That move would leave closed only the reactor destroyed in the 1986 nuclear catastrophe at Chernobyl. Two months ago, Ukrainian leaders promised to close down the flawed plant entirely. Some officials, however, believe that nuclear power is the only realistic alternative to dependence on Russian gas. Western scientists fear the unstable plant's continued operation could lead to another disaster that would spew radioactivity across Europe. While the White House works to persuade Ukraine to keep its promise, officials are divided over the best way to encourage that, the Times said. While the State Department favors helping Ukraine build at least three Soviet-

style reactors already under construction, the Energy Department says the West should not help build reactors that some call flawed. Energy Department officials say the West should help Ukraine become more energy efficient and help construct plants based on renewable resources like wind. Western leaders are scheduled to review the situation at next month's Group of Seven meeting in Italy.

## **CHERNOBYL CHILDREN TAKE BREAK FROM RADIATION**

RTna 7/22/94 8:16 AM By Sue Pleming BRUSSELS, Belgium (Reuter) - Fifteen-year-old Natalia Volovenko from Belarus has spent her last few summer holidays in Belgium, but neither the scenery nor Western television is etched on her memory; it's the radiation-free food she gets. "I come here for my health. Here you get good fruit where there is no radiation. At home, everyone speaks all the time about the radiation, so it is nice to get away," said Natalia, taking a break from playing an electric organ at her host family's home outside Brussels. Natalia is one of about 350 children on holiday in Belgium who come from areas contaminated with radioactivity resulting from the Chernobyl nuclear disaster in April 1986. Ukrainian officials say 8,000 people have already died from the aftermath which contaminated vast areas of Ukraine, Belarus and Russia. Most food grown in the area has abnormally high levels of radioactivity and shipments of subsidized groceries from "safe" areas have long dried up. "I do not have words to say how difficult life is there," Natalia said of her home town, Gomel, near the 18-mile exclusion zone set up around the Chernobyl plant. While in Belgium, host families say they fill the children with vitamins and "clean" food. "When the children go home, there is usually a remarkable change in their health. Doctors say that one month away from the radiation areas will help them through the winter at home and give their bodies a break," said Ilja Levin, a Latin professor at Minsk university who accompanies the children to Belgium. Fresh fruit, said Levin, is nearly impossible to find in his home city where buying two pounds of bananas can take up about half of the minimum wage of \$30 a month. Dick Van Rassem, who heads the Flemish Families Helping Chernobyl Children group, said for the vacation treatment to be effective children had to leave their contaminated areas at least once a year. "Scientists have noticed that children are the most sensitive group to radiation. If you can get them out of the area and give them a balanced diet, then it helps to cleanse the body ... But they have to come back the next year," he said. Van Rassem's organization deals directly with the Children of Chernobyl group, which he said sends thousands of children abroad every year on holiday. Aside from improving their health, Van Rassem believes the children's time in Belgium makes them better able to cope with the stresses at home. "It gives them a new mental approach to the problems at home. They look at life differently," he said. His group pays to insure the children during their holidays in Belgium. Last year, a child arrived only to be hospitalized immediately with radiation-linked illnesses. The child was sent home after a month, healthier and weighed down with a suitcase crammed with antibiotics. While most of the children adapt quickly to living in a stranger's home, some find it difficult. "She's a little timid, but we hope she will come out of her shell soon," said the host parent of a child who sobbed quietly in a corner, homesick and overcome by all the attention bestowed on her. The language barrier can sometimes prove difficult for host families, who are armed with Russian dictionaries and phrase books to ease linguistic confusion. About 40 percent of the children who come to Belgium each summer are orphans. But Van Rassem says host families are told not to spoil them too much. "Spoiling them is dangerous as they have to go back. We just give them good food and a break," he said. He believes families in Belgium are enriched by the Chernobyl visitors. "You learn a lot about different cultures. It does give you a happy feeling and makes you realize that we are such a small minority living so richly," Van Rassem said. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

## **RADIOACTIVE ISLAND**

APn 7/21/94 7:00 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By CARL HARTMAN Associated Press Writer WASHINGTON (AP) -- Islanders who want to return to the tiny Pacific atoll of Rongelap, 40 years after it was contaminated by a U.S. nuclear test, will need imported food and careful health tests, a scientific panel said in a report released today. Rongelap is part of the Republic of the Marshall Islands, formerly a U.S. trust territory, and was contaminated by a 1954 nuclear test on Bikini Atoll, 50 miles away. Its capital, Majuro, is 2,400 miles southwest of Honolulu. "The U.S. effort to assist the people of Rongelap in settling the atoll is perhaps the first to involve the return and monitoring of a population that was displaced because of concerns about radiation exposure," the National Research Council, an arm of the National Academy of Sciences, said in a statement on its report. Anyone who returns and tries to live on the local diet -- seafood, breadfruit, coconut, arrowroot -- might still get too much radiation, said James V. Neel, chairman of the committee responsible for the report and a retired professor of genetics at the University of Michigan. On March 1, 1954, U.S. nuclear test Bravo hit Bikini with three times the force planned.

Within five hours, without warning, children on Rongelap, 50 miles southeast, were playing in a fine, white, powdery, radioactive "snow." Two days later 64 people were evacuated. Some suffered cancers of the thyroid gland, associated with radiation. Three years after their evacuation, in 1957, it was decided they could return. When they did, new medical problems arose. A series of tests, since questioned, showed higher than expected quantities of plutonium in urine samples. In 1985, the people of Rongelap moved to Mejjatto Island, about 120 miles away. The Marshall Islands Embassy in Washington said that the population has grown and that about 400 people live in Mejjatto now who can be considered as belonging to Rongelap. The council said the U.S. effort to assist the people of Rongelap in returning home may be the first to involve the return and monitoring of people displaced because of concerns about radiation exposure. The report said that the islands closest to Bikini should be off-limits to food gatherers for the next several years at least. It recommended that special medical services be provided in Rongelap to watch people's health and that two U.S. laboratories responsible for conditions there coordinate with one another and with scientists hired by the Marshall Islands government.

## **RADIATION FOR CHILD LEUKAEMIA AFFECTS IQ - REPORT**

RTw 7/21/94 9:24 AM (Eds: Release at 2259 GMT, July 21) LONDON, July 22 (Reuter) - Radiation therapy for children with leukaemia may affect their intelligence, a report in The Lancet medical journal said on Friday. Because of concern over its effects, high-dose radiation has already been substituted by low-dose radiation treatment or replaced with high-dose drug therapy alone. But the report said the results of a European study cast doubt on whether radiation even at a low dose should be used. The study evaluated 203 children with acute lymphoblastic leukaemia (ALL) treated at paediatric centres in Italy, Austria, the Netherlands, Norway and Belgium between 1979 and 1988. The children, all in remission from ALL and who had stopped treatment for at least 18 months, were split into two groups. One had received low-dose cranial radiation and intrathecal chemotherapy -- drugs introduced into the brain -- and the other high doses of the drug methotrexate but no radiation. Using intelligence quotient (IQ) tests, the researchers found that there was a significant decline in IQ for those children treated with radiation. The drop was greater the longer the time since diagnosis. The younger the child, the greater the effect, the researchers, from Italy, the Netherlands, Austria and the U.S., said. But the IQ of children treated with drugs alone was not affected, according to the study. It said previous research was contradictory and warned against interpreting results beyond the scope of the study, in which patients were between four and 8 1/2 years from diagnosis. But the researchers said the new study did show the "debilitating effect of 1800 cGy (lower dose radiation) on intellectual functioning of long-term survivors." However, in a separate commentary, Dr Meriel Jenner of the University of Minnesota warned that abandoning radiation treatment was not an easy option since the long-term effects of the drugs used instead were unknown. "Is a reduction in event-free survival of five percent acceptable if it means that the 70 percent who do survive are significantly better off than the 75 percent treated another way? Can we ever compromise the fundamental aim of long-term cure?" Jenner wrote. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

## **ATOMIC VETERANS**

APn 7/20/94 4:55 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. WASHINGTON (AP) -- American veterans who suffer from health problems as a result of participation in nuclear testing by U.S. allies would be eligible for compensation under a rule change proposed by VA Secretary Jesse Brown Wednesday. The Veterans Affairs Department already provides benefits for veterans with diseases related to radiation exposure from American atmospheric nuclear tests or the occupation of Hiroshima and Nagasaki after World War II. The amendment to the existing rules will extend those benefits to Americans who participated in allied -- mainly British -- atmospheric tests in the 1950s and early 1960s. "Although they may have been present at tests conducted by foreign governments, these veterans faithfully performed prescribed duties as American service members," Brown said in a statement. "They are entitled to the same benefits afforded their fellow veterans who participated in U.S. atmospheric testing." VA officials estimated that the rule change will add about 100 claims a year over the next five years, and will cost about \$7.5 million over that period. Veterans or their survivors with claims can call 800-827-1000 for information, the VA said.

## **RUSSIAN LAWMAKER WARNS OF NEW CHERNOBYL**

UPn 7/20/94 9:12 AM By GUY CHAZAN MOSCOW, July 20 (UPI) -- A Russian lawmaker said Wednesday the government faces a disaster far worse than Chernobyl if it fails to pay off its mounting debt to Russia's top secret nuclear facilities. "We will view Chernobyl as paradise compared with the catastrophes which await us if we do not solve the



problem of the 'closed cities,'" Stepan Sulakshin told deputies at hearings in the Duma, Parliament's lower house. The hearings were called to draw public attention to the cash crisis afflicting all of Russia's 35 so-called closed cities, the towns which spearheaded the Soviet Union's nuclear program. One participant in the hearings was Pavel Steblin, the manager of a factory in the northern city of Murmansk-60, which repairs and replaces the reactors of Russia's nuclear submarines. He said dwindling government funds meant his factory could not afford to dismantle the obsolete reactors on board 113 submarines now moored in harbor and posing an acute danger to the surrounding environment. Once the jewels in the Soviet military-industrial crown, Russia's closed cities have lost their luster in recent years, as nuclear arms reductions treaties and plummeting state orders have driven them to bankruptcy. A privileged caste in Soviet times, nuclear workers have become one of Russia's least-paid social groups since the country embarked on market reforms and spending on defense industries and weapons research was slashed. The closed cities, which contain up to 2 million people, are often built around one enterprise employing most of the town's working population, and the closure of such plants could lead to mass unemployment and social unrest. Most of the cities were turning out products such as weapons-grade plutonium and nuclear warheads which are no longer in demand as Russia tries to shake off its militarized inheritance. Viktor Belugin, head of Russia's Federal Nuclear Center at Arzamas-16, said Wednesday government debts of 290 billion rubles (\$142 million) to the center meant most of his 21,000 staff were not receiving their wages on time. In a bid to assuage frayed nerves at Arzamas-16, Prime Minister Viktor Chernomyrdin visited the center Wednesday and was taken on a guided tour of the facility, known as the birthplace of the Soviet Union's atomic bomb. Russia's closed cities, which are still off-limits to foreigners and most Russians too, have been trying to convert their defense-related industries to civilian production, with modest results. Copyright 1994 The United Press International

## **RADIATION LAWSUIT**

APn 7/15/94 6:58 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By STEVE BAKER Associated Press Writer NASHVILLE, Tenn. (AP) -- A judge granted class action status Friday to a lawsuit over radiation doses given pregnant women during a 1940s nutrition study at Vanderbilt University's hospital. The decision by U.S. District Judge John Nixon means 1,500 women involved in the study will get answers about their health that have been denied them for 50 years, attorney Melvin Belli said. "They weren't told anything was in these radiation cocktails," Belli said. "They weren't told their children would bear the results of these experiments." Emma Craft of Nashville and Helen Hutchison of nearby Franklin filed the lawsuit against Vanderbilt University Medical Center and others. Mrs. Craft, 72, blamed the Vanderbilt study for the death of her 11-year-old daughter from cancer. Mrs. Hutchison, who was joined in the lawsuit by her daughter, blamed the radiation for their lifelong illnesses. Belli said the judge's certification of the lawsuit means Vanderbilt and other defendants will have to answer questions and release information as plaintiffs prepare their case. The lawsuit was filed in February, after Department of Energy disclosures about U.S. radiation experiments on unwitting subjects. Vanderbilt denied the experiments, which lasted from 1945-49, caused any injuries or deaths. Vanderbilt spokesmen on Friday referred calls to the medical center's attorneys, who did not immediately return calls. The study focused on the absorption of iron in the uterus of pregnant women. Radioactive iron isotopes were used to trace how the iron was absorbed. Vanderbilt said the doses were within safe limits. There were 829 women in the experimental group that received the iron and another 700 women in a control group. A follow-up by Vanderbilt published in 1969 said four children born to the study's participants died of cancer. Each side in the lawsuit disputes the conclusions of that follow-up, with attorneys for the women saying a cause-and-effect relationship was discovered and Vanderbilt saying there was no such conclusion. The lawsuit asked for medical monitoring for the women in the original study and for their families. It did not specify monetary claims.

## **RUSSIA SAYS SUNKEN NUCLEAR SUBMARINE OFF NORWAY SEALED**

RTw 7/12/94 4:34 PM MOSCOW, July 12 (Reuter) - Russia said on Tuesday it had sealed off a sunken nuclear submarine off Norway to prevent radioactive leaks. The Komsomolets sank in the Norwegian Sea in 1989 with the loss of 42 lives and is now embedded in mud in international waters 1,685 metres (5,530 feet) below the surface. Tengiz Borisov, head of the Russian government committee on special underwater work at the site, said last year the submarine contained enough radioactive waste to kill fishing in the Norwegian Sea for 600-700 years if it leaked out. State emergencies ministry officials said the submarine's two nuclear-armed torpedo launchers had been covered in a special substance which would absorb any radiation leak and that protective shields had been installed to limit pollution leaks. Smaller holes through which water was flowing through the wreck, threatening to wash out plutonium particles, had been plugged, the officials were quoted as saying by Russia's Ostankino television. Ostankino did not give any details on how this was achieved or identify the solution used. Explosions and fire aboard the Komsomolets blew a 20 sq metre

(215 sq ft) hole into its torpedo room. Experts have warned that plutonium from two torpedoes is likely to start leaking within one and a half to two years. The submarine is estimated to contain about 10-12 kg (22-26 lbs) of deadly plutonium. Norway says the wreck is at a depth with scant marine life and that the heavy plutonium would sink into the seabed. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

### **UKRAINE NUCLEAR BOSS DISMISSES CHERNOBYL AID**

RTna 7/12/94 1:25 PM KIEV, Ukraine (Reuter) - Ukraine's top nuclear official dismissed proposed Western aid to close the Chernobyl power station as a pittance and vowed Tuesday to keep the plant running until more was forthcoming. The Group of Seven industrialized nations offered Ukraine \$200 million in immediate assistance to help shut the Chernobyl plant, site of the world's worst nuclear accident in 1986, and provide alternative energy sources. "If it were \$200 billion, I wouldn't complain. But \$200 million -- that's less than 10 percent of what's needed to resolve the Chernobyl problem," Mikhail Umanets, head of Ukraine's nuclear power authority, told a news conference. "I have no intention of closing the Chernobyl station for \$200 million. We have been tormented over Chernobyl since 1986. We shall have to bear this cross for as long as we keep working." REUTER Copyright 1994 Reuters America Inc. All rights reserved.

### **CONSUMERS DON'T HAVE TO PAY FOR THREE MILE ISLAND**

RTna 7/11/94 5:44 PM (Eds: also moved to financial news desks) HARRISBURG, Pa. (Reuter) - Pennsylvania's Commonwealth Court ruled Monday that Metropolitan Edison Co cannot charge its customers to recover part of the costs of shutting down and sealing off Three Mile Island Unit 2. TMI2 was damaged beyond repair and its reactor partially melted down in March 1979. It had only been in service three months at the time, the court noted in a 7-0 ruling. That opinion reversed a 1993 ruling by the state Public Utility Commission allowing Met Ed to collect \$10 million in higher bills. Consumers have already paid millions to build the plant and to clean it up, the court said. The plant had a life expectancy of 40 years. Met Ed, which had been part of a consortium operating TMI, had sought \$42.7 million for decommissioning costs. The state Supreme Court had ruled in another case that a utility could not pass on construction costs once it decided not to complete a nuclear power plant, the Commonwealth Court said. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

### **THIEVES TARGET RADIOACTIVE DEVICES IN S.AFRICA**

RTw 7/11/94 12:16 PM JOHANNESBURG, July 11 (Reuter) - A total of 77 radioactive devices, mainly used in mining or construction, have gone missing in South Africa in the past eight years, a monitoring agency said on Monday. The radiation control section of the department of national health said in a statement to Reuters that 53 of the devices were still missing, 36 of which were potentially dangerous to anyone coming into contact with them. A construction company reported on Sunday that armed robbers had broken into its Johannesburg laboratory to steal one of the devices, used to measure soil density and moisture. "People are spreading the rumour that anything with the yellow radiation warning sign on it is worth money," said Pierre Drotsky, a spokesman for the company. "But there's absolutely nothing you can do with the device except measure soil moisture." Drotsky said the missing device would remain radioactive for 30 years. Another construction company in KwaZulu-Natal province reported the loss of a similar gauge on Sunday. The device was found within hours but police said it appeared that someone had been intending to smuggle it off the premises to sell. A scientist at South Africa's Council for Nuclear Safety said the radioactive material used in the devices -- Cesium 137, Cobalt 60 and Americium 241 -- was not of weapons grade. "But these materials are potentially injurious to health," he said. The health department statement said about 2,000 companies or organisations had licences to use radioactive devices and there were about 20,000 of them in South Africa. It said four of the devices that had gone missing had radioactivity "so high that it will almost always result in serious consequences for those persons who came into direct contact with them." All four had been recovered within hours. It said the 36 devices still missing had radioactivity of a level that would require several hours of direct contact to produce "acute radiation effects of a less serious degree." REUTER Copyright 1994 Reuters America Inc. All rights reserved.

### **WEST REACHES INTO POCKETS TO CLOSE CHERNOBYL**

RTw 7/10/94 7:15 AM By Oliver Wates NAPLES, Italy, July 10 (Reuter) - The Western powers, fearful of another Chernobyl disaster spreading radiation over Europe, reached into their pockets this weekend in a bid to persuade Ukraine to shut the nuclear plant for all time. Group of Seven leaders, in Naples for their annual summit, offered Ukraine an extra \$200 million grant -- the European Union had already put up about \$120 million -- to shut Chernobyl

and \$4 billion in loans for overall economic reform. But Russia, which was not involved in the decision, made a surprise intervention on Saturday and made clear it was not happy about being cut out of such a major issue in a region many Russians still consider their sphere of influence. Economics Minister Alexander Shokhin told reporters the Russian nuclear industry wanted a share in any contracts to replace the three undamaged reactors at Chernobyl. "We do not want...that European and U.S. producers of reactors and nuclear fuel should effectively push Russia out of a market in the Commonwealth of Independent States," he said. International "green" campaigners, meanwhile, attacked the G7 for keeping faith with atomic energy rather than considering closing nuclear power stations down altogether. "A viable alternative, identified also by Ukrainian and U.S. energy departments and based on energy conservation and renewable options, was ignored," said a joint statement from Friends of the Earth, Greenpeace and other groups. The Western plan is to persuade the Ukrainians not to reopen the second of Chernobyl's four reactors, closed since a fire in 1991, and to gradually close down the still-functioning first and third reactors over the next few years. The sarcophagus encasing the crippled fourth reactor, which sent a cloud of radioactive dust over much of Europe in April 1986 in world's worst nuclear disaster, also needs reinforcing. In return, the Ukrainians would receive funding to bring on stream one after the other an 85-percent-completed power station at Zaporizhyya and two more at Rovno and Khmelnytsky. All three are pressurised water (VVER) reactors of a type considered by Western industry experts as safer than the RBKM graphite core design of the Chernobyl plant. The G7 economic communique said the three would be completed to "adequate safety standards" with an injection of Western involvement. Greenpeace challenges this assumption, saying the VVER is fundamentally flawed. "We know for certain that Ukraine is sooner or later going to finish them anyhow," said Rolf Timans, head of division in the European Commission. "We believe we can capitalise on this to shut down Chernobyl and ensure that these reactors go on stream to higher safety standards." Ukraine says it needs nuclear power to survive and nationalists also see it as essential to reduce the fledgling state's dependence on oil supplies from Russia, Ukraine's imperial ruler for three centuries. The promise of "access to international financing of over \$4 billion over a two-year period" is tied to what the communique referred to as genuine reforms. The G7 called on the Ukrainian government, which has lagged far behind its Russian counterpart in freeing its markets, to introduce rapid stabilisation, liberalise prices and privatise state firms. Ukrainian analysts said the \$4 billion figure, irrespective of the conditions attached, could provide a small boost for President Leonid Kravchuk in his re-election battle on Sunday. But the news probably came too late to have much effect. Kravchuk, a moderate Westerniser, is in a tight run-off with the more pro-Russian Leonid Kuchma. Kravchuk himself was restrained in welcoming the package. "In doing this G7 has confirmed that Ukraine exists and occupies a specific role in Europe," he told reporters on Sunday. "This is a good step." His prime minister, Vitaly Masol, was even more cautious, declining to pass judgment on the G7 proposal until he had seen the details. "We shall have to wait and see," he said. "G7 has already made plenty of promises to Russia and other countries." REUTER Copyright 1994 Reuters America Inc. All rights reserved.

## **RUSSIA WANTS SHARE IN CHERNOBYL REPLACEMENT WORK**

RTw 7/9/94 1:52 PM NAPLES, Italy, July 9 (Reuter) - Russia wants a share of the business in any plan to replace Ukraine's Chernobyl nuclear plant with new reactors, Economics Minister Alexander Shokhin said on Saturday. He was commenting at a news conference on a plan by the Group of Seven leading industrial nations to offer Ukraine \$200 million to close down the stricken plant and instead complete three partially constructed nuclear stations elsewhere. The European Union has already offered around \$120 million to close down the two Chernobyl reactors still functioning and not reopen a third. The fourth was wrecked in the world's worst nuclear disaster in 1986. Shokhin said "compensation" for closing down three nuclear reactors should be at least \$600 million. "We do not want the compensation...to turn out in such a way that three more stations are built on Ukrainian territory without any Russian participation," he said. "...And that European and U.S. producers of reactors and nuclear fuel should effectively push Russia out of a market in the Commonwealth of Independent States, central and eastern Europe." Shokhin, who is also one of Russia's six deputy prime ministers, said Russian nuclear technology was advanced. "We reckon that the framework for compensation should include the possibility of using Russian atomic technology." "With a minimum of collaboration on control and monitoring systems, our reactors could become among the most reliable." The subject of Ukrainian energy is fraught with political overtones as at present newly independent Ukraine depends on Russia for almost all its oil and gas supplies. Some Ukrainian nationalists see this as a yoke and nuclear energy as a way of breaking free from Moscow's control. Russia is likewise sensitive at the growth of outside influence, both political and commercial, in the other 14 states of the former Soviet Union. The Group of Seven leaders, meeting for their annual summit in Naples, also unveiled a \$4 billion economic aid package from multilateral institutions for Ukraine, provisional on Kiev implementing economic reforms. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

## **SUMMIT-CHERNOBYL**

APn 7/9/94 1:29 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. NAPLES, Italy (AP) -- Leaders of the Group of Seven nations agreed Saturday to pay up to \$200 million as part of a down payment to close the nuclear power plant at Chernobyl, Ukraine. "The closing down of the Chernobyl nuclear power plant is an urgent priority," said the leaders in a communique issued at the 20th annual meeting of industrialized democracies. President Clinton welcomed the commitment, saying that "If this plan is successful, that facility will be closed forever." Clinton said summit countries were pledging more than \$315 million for Chernobyl. An aide said he was including \$115 million promised by the European Union last month to close the plant that in 1986 suffered the world's worst nuclear power accident. The funds will be part of an overall proposed package of \$1.8 billion. The statement said the plan would also include the early completion of three new, safer plants. The European Union has already moved to contribute \$115 million to the Chernobyl shutdown. The leaders urged other countries and international organizations to contribute as well. German government spokesman Dieter Vogel told reporters that the aid was contingent on final commitments from each of the governments and negotiations with Ukraine. The Ukrainian government says it needs \$6 billion to \$8 billion to replace the plant. Vogel said the German government was committed to giving 17 percent of the Group of Seven total, which would be about \$37 million if the full \$200 million is reached. Kohl said the German contribution was "absolutely tops" and that he was pleased to be able to pledge that much because of German economic constraints following reunification of the country. French President Francois Mitterrand said the \$200 million was merely an "order of magnitude" and is likely to be surpassed. The leaders' statement also expressed willingness to consider as much as \$4 billion in general economic assistance to Ukraine if it shows a "renewed commitment to comprehensive market reform."

## **G7 HAS TIMETABLE FOR CHERNOBYL CLOSURE - WAIGEL**

RTw 7/7/94 3:59 PM BONN, July 7 (Reuter) - German Finance Minister Theo Waigel has said the Group of Seven (G7) industrial powers will propose a timetable for the closure of the Chernobyl nuclear power station in Ukraine at their weekend summit in Naples. Germany and the United States have already spoken of their intention to put the future of unsafe nuclear reactors in eastern Europe at the top of the G7 agenda. In comments to the Augsburg Zeitung daily released ahead of publication on Friday, Waigel said the G7 members -- Germany, the United States, Britain, Japan, France, Canada, and Italy -- had three main aims: -- to propose a timetable for the shutdown of Chernobyl, where an explosion in 1986 at one of the four reactors spread radioactive dust over much of Europe in the world's worst nuclear disaster -- to find ways to replace the power generation capacity that will be lost if Chernobyl is closed -- to help Russia and Ukraine restructure their energy sectors Italian Prime Minister Silvio Berlusconi announced on Thursday that U.S. President Bill Clinton had proposed a \$5 billion aid package to help Ukraine convert to non-nuclear energy sources. Waigel said he was making a gesture in this direction by setting aside 15 million marks (\$9.5 million) in the federal budget to be announced next week to go towards the cost of closing Chernobyl. Ukraine estimates the cost of the shutdown at \$5-\$14 billion. REUTERS Copyright 1994 Reuters America Inc. All rights reserved.

## **UKRAINE-CHERNOBYL**

APn 7/7/94 12:28 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By LIAM McDOWALL Associated Press Writer KIEV, Ukraine (AP) -- Ukraine wants this weekend's summit of Western leaders to consider paying for a new nuclear power plant to replace Chernobyl, a senior Ukrainian official said Thursday. Meeting in Naples, Italy, leaders of the seven leading industrial nations already are to discuss \$1.8 billion in aid to help the former Soviet republic close Chernobyl, site of the world's worst nuclear plant disaster. Ukrainian officials say that amount is insufficient. They claim closing Chernobyl would cost \$6 billion to \$8 billion, and they also want a new plant in the same area to save jobs. Ukraine has come under increasing international pressure to close the Soviet-era plant, which Western experts say is unsafe. Chernobyl became a symbol of the dangers of nuclear power after one of its four reactors exploded in 1986, spewing radioactive particles into the atmosphere. At least 32 people died in the immediate aftermath and scientists say as many as 8,000 may have perished later from radiation-related diseases. Michail Umanets, chairman of the State Committee on Nuclear Power, told The Associated Press that the West exaggerates the danger of Chernobyl and has failed to consider the ill effects for Ukraine if the plant is shut down. Three percent of Ukraine's electricity is produced by Chernobyl, which has only two reactors in operation. Ukraine intends to re-open a third, which was shut down by a fire in 1991. President Leonid Kravchuk said Tuesday that Ukraine must be compensated for the loss of energy as well as for lost jobs, housing and other costs. "We will not permit Slavutich to become another ghost town like

Prypiat," Kravchuk said. Slavutich is home to the majority of workers at Chernobyl. Prypiat is a deserted town neighboring Chernobyl. It was evacuated as part of the resettlement of 180,000 people from a 36-mile-wide "dead zone" around Chernobyl.

## **RADIATION EXPOSURE**

APn 7/6/94 3:40 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By JOHN NOLAN Associated Press Writer CINCINNATI (AP) -- The operator of the government's uranium processing plant in Fernald knowingly exposed workers to deadly levels of radiation for decades, lawyers for former workers told a jury in a \$100 million lawsuit Wednesday. The workers are suing National Lead of Ohio Inc., which ran the plant from 1952 to 1985. The plant processed uranium for nuclear weapons. The plaintiffs in the class-action lawsuit are about 6,000 former employees and up to 1,000 former subcontractors. The company denies wrongdoing. But the Energy Department has acknowledged the plant released uncounted tons of uranium dust into the atmosphere. In 1989, the government agreed to pay as much as \$78 million to people who lived near the plant northwest of Cincinnati. Production ceased that year so the Energy Department could concentrate on a 20-year cleanup project. "For over 34 years, NLO knowingly exposed its workers to excessive, even deadly, levels of radiation," attorney Louise Roselle told federal jury in opening statements Wednesday. "Today, almost a third of the workers who worked at Fernald are dead. There are more than the usual number of cancers among this group. NLO had a plan to put production ahead of safety." Because NLO operated the plant under a government contract, the government will bear the cost of the company's defense as well as any damages award.

## **US-CHERNOBYL**

APn 7/5/94 11:30 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By H. JOSEF HEBERT Associated Press Writer WASHINGTON (AP) -- While U.S. officials worry about another accident at Chernobyl, they're faced with a quandary: Should the West help Ukraine build more nuclear power plants as a price to get the Chernobyl reactors shut down? Leaders of the seven most powerful industrial democracies, including President Clinton, tackle the issue at the G-7 economic conference in Naples, Italy, this week, hoping to write an aid plan that will persuade Ukraine to close the Chernobyl reactors. One proposal would funnel an estimated \$1.8 billion to Ukraine to close the plant. But Ukrainian President Leonid Kravchuk suggested Tuesday that more international aid will be needed because substitute energy sources also will have to be developed before he considers closing the reactors. Chernobyl became synonymous with the dangers of nuclear power after the 1986 accident in which the No. 4 reactor exploded, spewing tons of radioactive material over more than 10,000 square miles. At least 32 people were killed immediately, thousands more were contaminated and about 180,000 people had to be evacuated. Minute traces of radiation were reported as far away as Western Europe. But the Western leaders -- and the Clinton administration itself -- have been divided over how best to help Ukraine develop replacement electricity. Chernobyl supplies 3 percent of Ukraine's demand. One nagging question is whether the West should pay for finishing five partially completed Russian-made reactors to make up for the lost Chernobyl power. The Russian VVER-1000 design reactors are safer than the Chernobyl design, but still not as safe as Western-built reactors. Germany and France have pushed for helping Ukraine complete the new reactors with improved safety features, but the United States would like a broader aid package. The State Department urges against picking a fight with the Europeans over this and favors completing the new reactors. The Energy Department argues that money should be earmarked to promoting energy efficiency, modernizing and expanding fossil-fuel plants and building wind-powered generating facilities. "I don't think anybody is ruling out some expenditure on safety upgrades of nearly completed nuclear facilities," Deputy Energy Secretary Bill White said in an interview. "But we do believe there are energy sources and energy savings that also ought to be in the picture." In any case, the cost to the West could be in the billions of dollars. Just closing the Chernobyl reactors and repairing the sarcophagus that now encases the burned-out Unit 4 reactor, could exceed \$1.4 billion, energy expert say, with the cost of developing replacement power two or three times that amount. The cost of completing the new Russian-design reactors ranges from \$34 million to nearly \$1.3 billion per reactor, depending on safety and stage of completion. Much of the business would go to nuclear vendors in Europe and the United States. But an Energy Department analysis concludes that it would be cheaper to modernize and expand five fossil-fuel power plants, upgrade hydroelectric facilities, expand a proposed wind power plant, and improve energy efficiency in Ukraine's industrial plants. Use of more efficient industrial motors, improved maintenance and better operational practices could save nearly as much electricity as the 1,800 megawatts the Chernobyl reactors produce, the study said. "For the first time there's a serious look by the United States and Ukraine energy

officials at other options" besides nuclear, said Jacob Scherr, a nuclear power expert at the Natural Resources Defense Council, the Washington-based environmental group. Nuclear experts in the West agree the RBMK design reactors at Chernobyl should be closed. Unlike Western reactors, they are cooled with graphite, which is combustible, as opposed to water. They also are susceptible to sudden power surges if coolant is lost, and have no steel-and-concrete enclosure to contain radioactive releases as do all Western reactors. Last March, a report by the International Atomic Energy Agency said the reactors did not meet international safety standards and were hampered by a shortages of spare parts and adequately trained staff. The new water-cooled Russian VVER-1000 reactors have a containment structure but still do not meet Western safety standards in design or construction, say nuclear experts. Given the state of the nuclear program in the former Soviet Union and the alternatives available "it would be indefensible ... to support completion of additional reactors," says Scherr of NRDC.

### **FIRE SHUTDOWN ILL. NUCLEAR REACTOR**

UPn 7/2/94 3:32 PM ZION, Ill., July 2 (UPI) -- Utility officials are investigating the cause of a fire Saturday that forced the shutdown of the Unit 1 reactor at the Dresden Nuclear Power Station. The small fire broke out at 11:50 a.m. in a non-nuclear storage area of the plant near Zion, about 35 miles north of Chicago. Plant personnel extinguished the fire after about 20 minutes. No radioactivity was released during the incident, and there were no injuries, officials said. "There was no disruption of electrical service," said Art Massa, a Commonwealth Edison spokesman. Unit 2 at the plant was not affected. The fire caused a small amount of damage," he said, "We're investigating." The Zion Fire Department was alert standard plant operating procedures, he said. The building where the fire occurred is located two buildings away from the Unit 1 reactor, which was shut down as a precaution. The blaze did not affect Dresden's Unit Three, which remains shut down after federal Nuclear Regulatory Commission inspectors revealed this week that cracks were found in the steel shroud that surrounds the unit's radioactive fuel. Similar cracks were found in Unit 1 at another ComEd nuclear power plant in Illinois, the Quad Cities nuclear plant in Cordova. The NRC said the cracks do not pose any threat of radiation leak. Both reactors were off line for refueling when the cracks were discovered and are not scheduled to restart until later this month. Copyright 1994 The United Press International

### **CHERNOBYL OPTIONS**

APn 7/1/94 6:23 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By H. JOSEF HEBERT Associated Press Writer WASHINGTON (AP) -- There are other economically sound ways to replace power generated by the Chernobyl nuclear reactors in Ukraine than building new nuclear power plants, an Energy Department study has found. The study for the first time examined using energy conservation and improvements to fossil-fuel power plants to make up for energy lost if the Chernobyl reactors were shut down, as western nations are trying to convince Ukrainian officials to do. The review, which the department released Friday, was based on data provided by the former Soviet republic and endorsed by its top energy officials. Ukrainian officials have said they will not close the two operating Chernobyl reactors -- and may even resume operations at a third -- unless alternative sources of energy are found. A fourth reactor was destroyed in 1986 when it caught fire in the world's worst commercial nuclear accident. "This report is an important step in identifying acceptable alternatives to the continued operation of Chernobyl and in achieving its earliest possible shutdown," said Deputy Energy Secretary Bill White. How to get Ukraine to permanently close its three Chernobyl reactors, which western nuclear experts consider unsafe, is expected to be a major topic when leaders of the world's seven richest industrial nations meet in Naples, Italy, next week. "The report should provide input to the G-7 meeting ... and will help in the development of proposals for alternative electricity power supplies, including energy efficiency savings," White said in a statement. The Chernobyl reactors produce about 1,800 megawatts of power, about 3 percent of Ukraine's needs. At least 31 people were killed instantly when one of the Chernobyl reactors caught fire in 1986, spewing radioactivity across the countryside. Large areas were contaminated and thousands are believed to have suffered radiation sickness. The industrial nations, including the United States, are expected at the G-7 conference next week to consider an aid package aimed at helping Ukraine develop new energy sources so that the Chernobyl plants can be closed. The Europeans, especially France and Germany, have maintained that the best way to get the dangerous graphite-cooled reactors out of service is to help Ukraine finish the improved Soviet-style, water-cooled VVER-1000 reactors. But the Energy Department analysis concludes that the 1,800 megawatts of power that would be lost by closing the Chernobyl reactors can just as economically be replaced by helping Ukraine improve its energy efficiency and by modernizing fossil-fuel power plants. The study said it would cost anywhere from \$34 million to nearly \$1.3 billion per plant to complete the five VVER-1000 reactors, depending on their current stage of construction and level of safety improvements. At the same time, the Energy Department report concluded it would cost between \$275 million and \$1.2

billion per plant to modernize five existing fossil-fuel power plants. Comparable western financial investments in energy conservation improvements could also lead to savings equal to the energy produced at Chernobyl, the study suggested.

### **NRC INVESTIGATING CRACKS AT 2 REACTORS**

UPn 7/1/94 8:27 AM CHICAGO, July 1 (UPI) -- The Nuclear Regulatory Commission Friday investigated cracks at two of Commonwealth Edison's nuclear power plants in Illinois. The cracks were discovered in steel sleeves that surround radioactive fuel, which force water through the radioactive core. The cracks do not pose any threat of a radiation leak because they do not go all the way through, the NRC said. The cracks were found at the Unit Three of the Dresden Power Station and Unit One of the Quad Cities nuclear plant in Cordova. Both of the plants are among the oldest of Edison's 12 reactors. The cracks were discovered in April when the units were taken off line for refueling. The reactors are not scheduled to be restarted until mid-July, but they may not be allowed to restart until the cracks are fully investigated, the NRC said. The cause of the cracking is not understood, but it is thought to be corrosion. ComEd is studying ways to repair the cracks. An NRC spokesman said the problems can be repaired by clamping together the cracked sections of the shroud. The spokesman estimated the cost of the repairs would average about \$5 million per plant. The NRC discovered similar cracks at seven other U.S. nuclear reactors, including the Fermi Two plant in Monroe, Mich. Other reactors with shroud cracks are in Alabama, Connecticut, Georgia and Pennsylvania. Copyright 1994 The United Press International

### **WESTINGHOUSE TO UPGRADE REACTORS IN RUSSIA, UKRAINE**

WP 6/29/94 11:00 PM By Daniel Southerland Washington Post Staff Writer Westinghouse Electric Corp., breaking industry ranks, has agreed to help improve the safety of potentially risky nuclear power reactors in the former Soviet Union without being insured by the U.S. government. Terry Lash, director of nuclear energy at the Energy Department, said the department has a working agreement with Westinghouse to proceed with the task through a program administered by the department. The job would include the installation of safety equipment, such as fire doors and cooling valves. "We've been informed by Westinghouse that they are prepared to work with the department to perform safety upgrades and related activities in Russia and the Ukraine," said Lash, who added that the department and Westinghouse must negotiate details of a final agreement. Westinghouse officials would not comment on the matter. Some work has been done in Russia and Ukraine by a number of U.S. corporations working through Associated Universities Inc. (AUI), which operates Brookhaven National Laboratory in Upton, N.Y., Energy Department officials said. But through AUI, the corporations, including Westinghouse, giant Bechtel Power Corp., NUS Corp. in Gaithersburg, and Babcock & Wilcox Co. of Lynchburg, Va., informed the Energy Department six weeks ago that unless the Energy Department could arrange for adequate indemnification, they would have to pull out of the program. The companies fear that if they provide plans or hardware to upgrade poorly designed and deteriorating plants, they could be held responsible for billions of dollars in damages in the event of a disaster. Russia and Ukraine have signed agreements with the United States to protect U.S. firms from potential lawsuits. But most of the U.S. firms involved say they would require more than those guarantees, according to Omer F. Brown II, a Washington lawyer for the companies. Companies performing nuclear work for the government in the United States are insured against damages from an accident under U.S. law, but the law does not apply to overseas work. Russia and Ukraine have shown impatience with the slow U.S. follow-up to a 1992 agreement under which the United States and European nations would assist the former Soviet republics in preventing another accident such as the Chernobyl disaster of April 1986. Much of the \$101 million that the U.S. government has allotted to fund Companies fear they could be held responsible for billions of dollars in damages in the event of a disaster. reactor improvements in Russia and the Ukraine during the fiscal year that began Oct. 1 has yet to be used, Lash said. The work envisioned by Westinghouse under the Energy Department program would be relatively modest, industry sources said. But it might help give the company entry into a potentially huge market. The U.S. government has estimated that it could cost up to \$20 billion to bring plants in the former Soviet republics close to Western standards. Vice President Gore has taken a strong interest in the issue and discussed it in his talks with Russian Prime Minister Viktor Chernomyrdin on Friday, Lash said. "One reason Westinghouse is willing to look at this as a reasonable business risk is that the vice president has elevated it to a national priority issue," Lash said. He said that three national laboratories - the Pacific Northwest Laboratory, the Argonne National Laboratory, and the Brookhaven National Laboratory - are expected to be involved in the nuclear safety program in Russia and Ukraine. They will conduct training programs and help coordinate operations between the two sides, Lash said. The highest priority for the program is to improve the safety of Chernobyl-type water-cooled graphite moderated reactors, which accounted for 35 percent of total nuclear electrical energy produced in 1991 in the former Soviet Union and other Eastern bloc nations.

Such reactors have been marked by unstable reactor behavior and unsatisfactory shutdown systems, experts say.  
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## **AUSTRALIA SAYS NUCLEAR EXPERIMENT SUBJECTS UNHURT**

RTw 6/14/94 3:38 AM CANBERRA, June 14 (Reuter) - Hundreds of Australians, including pregnant women and children, were given radioactive isotopes during the 1950s and 1960s as part of experiments into their use on humans, officials said on Tuesday. But the experimental subjects appear to have given their consent for the experiments and were not harmed by the radioactive material, the officials said. The experiments were not comparable to those in the United States after World War Two in which 18 people were injected with plutonium to test the effects of radiation on humans, they said. "There is no evidence to suggest that experiments such as those recently reported in the United States have taken place in Australia; that is, experiments without a therapeutic intent to test the effects of radiation," Health Minister Carmen Lawrence said. "While some of the dosages of radio-isotopes presented to patients were higher than would be acceptable today, I've been assured that these could not be regarded as dangerous now or at the time they were administered," she said in a statement accompanying the preliminary report into the experiments. Lawrence requested an inquiry into the experiments in early April following newspaper reports that some healthy subjects had been injected with radioactive isotopes. The preliminary report said most of the experiments were carried out as attempts to cure sick people, but that some were on control groups of healthy people. Keith Lokan, the director of the Australian Radiation Laboratory, which compiled the report, said the subjects appear to have given their consent. "People who helped administer the studies said as far as they could recollect there was an approval process where they (the subjects) were thanked for their help and reassured that the study would not affect their health," Lokan told Reuters. Some patients were given Iodine 131 for treatment of thyroid diseases while others with healthy thyroids were also given the iodine as a control, he said. Lawrence and Lokan said a more detailed report on the experiments was due at the end of this year. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

## **ATOMIC SOLDIERS**

APn 7/28/94 11:30 AM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By KATHERINE RIZZO Associated Press Writer WASHINGTON (AP) -- When the U.S. military marched unprotected soldiers into trenches near atomic explosions, some officers went even closer to ground zero than the troops. Pentagon documents show the 1950s tests included small groups of volunteers placed as close as 1.15 miles from the radioactive detonations. The Defense Nuclear Agency said today that "there were about 42 officer volunteers" and possibly one or two laboratory workers who moved close-in for four or five detonations. "The story of atomic veterans is already a national disgrace, but the 'close to detonation' program may represent even more severe exposures of servicemen than has previously been recognized," Rep. Edward Markey, D-Mass., said Wednesday. He demanded that the Pentagon send to Capitol Hill information about the post-World War II tests and any medical follow-up that has been done in the intervening decades. Markey said he learned of the program through a single sentence in a list compiled by the staff of the Advisory Committee on Human Radiation, which is trying to document all Cold War radiation experiments on humans. "My staff has previously received allegations that prior to atomic tests, some human subjects were placed at locations significantly closer to the site of detonation than the majority of troops exposed during a test," Markey said in a letter to Defense Secretary William Perry. "Material released by the Advisory Committee would tend at least partially to confirm such allegations." The allegations are substantiated in a 1982 document provided on request by the Defense Nuclear Agency. Fact sheets on file at the agency spell out how many volunteers were put close to each atomic explosion. For instance, a test called Badger in Yucca Flat, Nev., in 1953, involved about 2,800 troops, including six Army and six Marine Corps officers who were "volunteer observers," witnessing the blast from a distance of 1,830 meters -- about 1.15 miles from ground zero. An additional 590 observers watched the 23-kiloton explosion from a distance twice that far: 3,660 meters. In a test called Simon, 550 observers watched a 43-kiloton blast from 3,660 meters away and eight others from trenches 1,830 meters away. Testifying earlier this week before the presidential committee, the National Association of Atomic Veterans used the Simon test as an example as it complained that atomic volunteers did not understand the risks to which they were being subjected. "The closest to 'informed consent' these officers signed was a certificate indicating the participant had computed the effects expected in an open trench," said Patricia Broudy, the group's legislative director. Badger and Simon were part of a group of tests code-named "Operation Upshot-Knothole." Government scientists at the Institute of Medicine last year began a five-year study of radiation exposure of participants in Upshot-Knothole and four other atomic test series: Greenhouse (1953), Castle (1954), Redwing (1956) and Plumbbob (1957). The study replaces an inconclusive and scientifically discredited study that found no clear cause-and-effect



between the atomic tests and cancer rates. Some 200,000 U.S. troops from all branches of the service took part in 235 atmospheric tests of nuclear weapons. Another 200,000 participated in the post-bomb occupation of Nagasaki and Hiroshima in Japan. The Nuclear Test Personnel Review Program maintains a database on those soldiers. The database lists about 500 "who volunteered to occupy close-to-detonation positions during events," according to the notes of a January meeting of the Defense Nuclear Agency. But the agency said today that the 500 figure "came from unsubstantiated recollections." ----- The Defense Nuclear Agency has a toll-free number for veterans to call with questions about their own participation in atmospheric nuclear tests or the Hiroshima and Nagasaki occupations: 1-800-462-3683.

## **FERNALD RADIATION**

APn 7/26/94 6:23 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By JOHN NOLAN Associated Press Writer CINCINNATI (AP) -- The government says it will pay for lifetime medical monitoring and provide \$15 million in damages to settle a lawsuit by workers who claim they were unwittingly exposed to radiation at the Fernald uranium plant. The deal announced Tuesday effectively ends a 1990 action that sought \$500 million. It could become a model for six similar lawsuits pending against the U.S. Department of Energy. The lawsuit by workers and subcontractors accused Fernald's previous operator, NLO Inc. and its parent company, National Lead Industries Inc., of intentionally subjecting them to radiation hazards and keeping the dangers secret. The plant processed uranium for nuclear weapons from 1951-1989, when it closed for a 20-year radioactive waste cleanup. About 6,000 former workers and subcontractors will be covered in the class-action settlement. About 4,500 are still living, said Stanley Chesley, the workers' lawyer. The settlement includes a \$15 million fund to pay emotional distress claims and legal fees. At least another \$5 million was dedicated to medical monitoring. The final cost depends on how many people seek free monitoring and how long they participate, Chesley said. "If it costs \$20 million, they have to pay it. If it costs \$40 million, they have to pay it," Chesley said. The medical monitoring program guarantees an initial medical exam valued at \$800 and subsequent yearly exams capped at \$450 each. Workers claimed they suffer emotional distress from the fear their radiation exposure will cause cancer. The trial began July 5. The presiding judge must accept the settlement. The government and taxpayers will cover all costs, under terms of the Energy Department's contract with NLO. The defendants said they did nothing wrong. They agreed to settle to avoid more costly litigation, NLO lawyer Kevin Van Wart said. Teresa Wilhelm, whose father Herbert Kelly worked at Fernald 27 years until November 1984, said the emotional distress damages were inadequate. Kelly contracted cancer and lung fibrosis and died June 12 at age 65, his family said. Ms. Wilhelm said the settlement only comes to about \$1,400 for each worker. "That isn't enough to pay for the funeral costs," she said. Kelly fought for eight years in courts before he won workers' compensation coverage in June 1992. He said radiation exposure caused his diseases. NLO lawyers challenged that link. The settlement also calls for the court to name a three-member panel to decide workers' radiation illness claims. Previously, the government or the Fernald contractor made that determination. NLO gave up its contract to run the plant in 1985, and a Westinghouse Electric Corp. subsidiary took it over. The subsidiary was not named in the lawsuit.

## **KAZAKHSTAN AGREES TO OPEN NUCLEAR SITES TO AGENCY**

RTw 7/26/94 7:15 AM ALMA-ATA, July 26 (Reuter) - Kazakhstan agreed on Tuesday to throw open its huge nuclear arsenal to regular checks by the world's nuclear watchdog agency for the first time. Hans Blix, director general of the International Atomic Energy Agency (IAEA), told a news conference the IAEA's checks would help to prevent dangerous nuclear substances being put to aggressive use. "It is important that other nuclear states can have confidence that other states are adhering to the nuclear non-proliferation treaty," Blix said after signing a "safeguards agreement" with Kazakh Prime Minister Sergei Tereshchenko. The agreement will allow IAEA inspectors to check that plutonium and other substances are not being smuggled into dangerous hands from Kazakhstan's nuclear arsenal of 104 SS-18 intercontinental ballistic missiles. Kazakhstan, which gained independence from the former Soviet Union in 1991, late last year signed the nuclear non-proliferation treaty (NPT), which aims to prevent the spread of nuclear technology to non-nuclear countries. Blix said much progress has been made in establishing control over Kazakhstan's nuclear facilities but more needed to be done. "I think they still need to strengthen their verification system further," he said. Such a system checks that dangerous substances are not being diverted to non-peaceful uses. A team of IAEA specialists monitoring radiation levels around the former Soviet Union's nuclear testing site in Semipalatinsk, northeastern Kazakhstan, has found radiation is not significantly above normal levels, Blix said. An increase in birth deformities and illnesses has been recorded around Semipalatinsk from an era of nuclear tests there which ended when the Soviet Union

collapsed. Blix said it is possible that radiation levels remain high underground and he did not deny the possibility that radiation may have been high around Semipalatinsk a few years ago. International donor organisations, the West and Japan have pledged more than \$1.4 billion in credits to Kazakhstan this year, partly in recognition of its cooperation on nuclear issues. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

## **RADIATION-HOSPITALS**

APn 7/25/94 10:53 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By KATHERINE RIZZO Associated Press Writer WASHINGTON (AP) -- A page from an old government report indicates that dozens of U.S. hospitals used whole-body radiation while conducting research. Radiation sleuths probing Cold War-era experiments said Monday they found a list of 45 hospitals that exposed human test subjects to head-to-toe radiation. They are trying to determine whether the research was done for medical science, the government or both. But there were few details available about the experiments, according to the federal Advisory Committee on Human Radiation Experiments. "We know for certain that eight of the 45 were doing it on government-sponsored contracts. That's all we know for a certainty," said committee staffer Gary Stern. "Could you have been doing this kind of work out there in the middle of the country and not be attached to the government? We haven't answered that," said Dan Guttman, the committee's executive staff director. The committee has verified government-sponsored research at: --University of California Hospital, San Francisco, 1942-46. --Memorial Hospital, New York, 1942-44. --Chicago Tumor Institute, 1943-44. --M.D. Anderson Hospital and Tumor Institute in Houston, Texas, 1951-56. --Baylor University College of Medicine and the Texas Medical Center, 1953-64. --Sloan-Kettering Institute for Cancer Research, 1954-61. --University of Cincinnati Hospital, 1960-71. --Oak Ridge Associated Universities Medical Division, 1957-1974. The committee identified other institutions that performed such research through a 1975 list of hospitals that cooperated in a government evaluation of total-body-radiation studies. But the list gave hospital names only, without complete city or state identifications. President Clinton formed the committee earlier this year to compile information on radiation tests on humans and to evaluate whether the experiments were medically or scientifically necessary. The White House ordered every federal department and agency that might have conducted radiation research to comb their archives to help create an inventory of the experimentation. Advisory committee chairwoman Ruth Faden said Monday that the Defense Nuclear Agency still has not complied with the administration's January directive. The committee negotiated the matter at "the highest levels of the Pentagon" and now has "been assured that we will see this problem addressed and remediated in the next couple of weeks," Faden said.

## **CHERNOBYL SHOULD STAY OPEN, SAY UKRAINE OFFICIALS**

RTw 7/25/94 1:46 PM KIEV, July 25 (Reuter) - Chernobyl nuclear plant in Ukraine, site eight years ago of the world's worst nuclear accident and still widely condemned as unsafe, should stay open until the west offers more money, two top officials said on Monday. "From a political point of view, the Chernobyl station should be closed, but the world community must provide the funds to close it and compensate for its electricity potential," parliament chairman Olexander Moroz told a news conference. Ukraine has come under increased pressure from the international community to close the plant, which sent clouds of radiation over much of Europe after the 1986 fire and explosion. Many experts say the plant should be shut as soon as possible. The Group of Seven industrialised nations this month offered Ukraine \$200 million in immediate aid to help close Chernobyl and the European Union has already promised \$600 million. But Ukrainian officials say they need between \$4-6 billion to close the plant and bring three new reactors at other plants on stream to compensate for electricity lost from Chernobyl. Prime Minister Vitaly Masol, attending the same news conference, said he supported Moroz's position that Kiev should wait before deciding to close down the station. "The Chernobyl station should be closed only when there are technical and scientific grounds for it," Masol said. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

## **NUCLEAR RESEARCH**

APn 8/10/94 12:49 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. WASHINGTON (AP) -- The House passed compromise legislation Wednesday that scraps a nuclear research reactor program and appropriates \$20.7 billion for defense and civilian energy research, nuclear-waste cleanup and water projects. By a 393-34 vote, the House adopted the \$20.7 billion energy and water development appropriation approved by House and Senate negotiators last Thursday. That is slightly less than the Clinton administration's request. The measure now goes

to the Senate for final action. "This bill is a jobs creator," said Rep. Carrie Meek, D-Fla. The \$20.7 billion for the fiscal year beginning Oct. 1 includes: --\$10.3 billion for the Energy Department's defense nuclear programs. --\$3.3 billion for civilian programs related to nuclear energy, solar and renewable energy, environmental restoration and waste management, magnetic fusion and other areas. --\$984 million for the department's general science and research programs. --\$4.3 billion for water projects administered by the Army Corps of Engineers and the Interior Department's Bureau of Reclamation. --\$470 million for independent agencies, including the Nuclear Regulatory Commission, the Tennessee Valley Authority and the Appalachian Regional Commission. The bill also includes \$83.8 million to terminate the advanced liquid-metal-reactor research program being conducted at Argonne National Laboratory facilities in Chicago and Idaho. The administration had asked the program be ended. The termination reflects the view of the House, which also had voted to discontinue the program. The Senate, by contrast, had voted to provide nearly \$100 million to continue the program. It had remained alive in the Senate largely because of intense lobbying from Illinois and Idaho. Critics of the reactor program have argued that it is too expensive and could lead to nuclear proliferation. But supporters have defended it as a potential way to dispose of plutonium left over from nuclear warheads and spent nuclear fuel. The reactor essentially would burn the plutonium and could also produce commercial electricity.

### **RUSSIAN NUCLEAR WORKERS PROTEST**

UPn 8/10/94 8:35 AM By JEFF BERLINER MOSCOW, Aug. 10 (UPI) -- Russian nuclear power plant operators are staging protest actions at several facilities because of unpaid back wages, but the Atomic Energy Ministry said Wednesday that the protests posed no threat to the safe operation of the nuclear plants, which continued to function. The nuclear power plant protests prompted Atomic Energy Minister Viktor Mikhailov to call a meeting of plant managers Thursday at the Smolensk nuclear plant, one of four facilities involved in the wage dispute, ministry spokesman Georgy Kaurov said in an interview. The protests have taken a curious form: instead of walking off the job and refusing to work, the plant operators have been staying inside the facilities and refusing to leave. "For example," Kaurov said, "at the Smolensk plant the staffers have protested by staying within the grounds of the plant for a week already. At the same time, the plants are operated according to the set procedure and the action is staged by those shifts that are relieved by the next shift. Therefore, there is no threat to nuclear safety." However, at a recent nuclear plant protest in St. Petersburg, workers ominously warned that failure to pay plant employees could lead to another Chernobyl. While there were no such dire warnings coming out of the current series of actions, the operators' protest has commanded the attention of the minister and top managers, Kaurov said. The non-payment crisis, which cuts across the Russian economy, has triggered regular strikes and protests at government headquarters in Moscow for months, and this week prompted a Cabinet meeting to try to break the logjam by setting up a panel with the awkward but apt name of the Emergency Commission on the Elimination of Outstanding Payments. Deputy Prime Minister Oleg Soskovets was appointed to head the commission and make weekly progress reports to the president and prime minister. Boris Yeltsin, meanwhile, was said to be preparing various presidential decrees to try to resolve the payment crisis. But the problem faced by the nuclear industry as well as by other segments of the economy is that the plants are not paying their workers on time because their customers, energy consumers in this case, are not paying their bills, creating a tangled web of unpaid obligations. Nuclear power plant trade union leader Vladimir Startsev acknowledged that the problem with unpaid wages is that electricity users, especially large industrial plants, have not been paying for their power. He said they must somehow be made to pay what they owe. However, the whole problem of inter-enterprise debt is massive and caused by broken economic ties, an overall slowdown in the economy, and severe cash flow problems almost everywhere. The problem at nuclear plants has aroused concern because of lingering doubts about the safety of Soviet-built plants since the disastrous Chernobyl accident. Two of the plants where workers are protesting have Chernobyl-type reactors, Smolensk and Bilibino. Operators have also been protesting at the Kola and Kalinin plants, which have water-cooled reactors. Wages have gone unpaid for two to three months at these facilities. The Russian Itar-Tass news agency said plant operators have been joined in the protest by repair crews. Copyright 1994 The United Press International

### **REACTOR HALTED AT LITHUANIAN NUCLEAR PLANT**

RTw 8/9/94 12:42 PM VILNIUS, Aug 9 (Reuter) - A nuclear reactor at Lithuania's Ignalina power station was shut down on Tuesday because of a malfunction but there was no leak of radiation, Lithuanian radio reported. It quoted the plant director as saying a fail-safe emergency system switched off the reactor early in the morning after registering the fault. Experts were still trying to discover what was wrong but no radiation leaks were registered. The radio said the reactor was expected to be restarted on Wednesday. REUTER  
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## **COUSTEAU TO FIGHT RESTART OF FRENCH FAST-BREEDER**

RTw 8/8/94 7:25 AM PARIS, Aug 8 (Reuter) - Ocean explorer Jacques Cousteau criticised the French government on Monday for restarting a controversial fast-breeder nuclear reactor and said he would ask President Francois Mitterrand to have it shut down. Cousteau, one of France's most popular public figures, said it was "hypocritical" to have restarted the 1,200-megawatt Superphenix plant while most of the country was on holiday. "I return from the United States to discover with anger and amazement that Superphenix has been restarted on the sly," he told the daily newspaper Le Figaro. "They took advantage of the month of August, while France is anaesthetised. "I find this kind of behaviour hypocritical," said Cousteau. "I'm going to call on the prime minister (Edouard Balladur) or even the president." The government gave permission this week for the 18-year-old plant at Creys-Malville, near Grenoble, to operate as a research unit into recycling nuclear waste after a four-year shutdown. Ecologists have protested against restarting the reactor, a costly white elephant plagued by faults which has functioned normally for only six months since it was built in 1976. "I thought the government understood not only the uselessness of fast-breeder reactors, but also the risks they raise, and that they wouldn't restart Superphenix," Cousteau said. "There have been accidents and there will be others." REUTER Copyright 1994 Reuters America Inc. All rights reserved.

## **NUCLEAR RESEARCH**

APn 8/5/94 4:29 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By H. JOSEF HEBERT Associated Press Writer WASHINGTON (AP) -- Congressional negotiators have decided to scrap a nuclear research reactor program, although the Senate earlier had agreed to continue it. Lawmakers from the House and Senate decided to provide \$83.8 million to terminate the advanced liquid-metal-reactor research program. The Clinton administration had asked the program be ended, fearing it could lead to nuclear proliferation. The action reflects the views of the House, which also had voted to discontinue the program in fiscal 1995. The project is being conducted at Argonne National Laboratory facilities in Chicago and Idaho. The Senate had provided nearly \$100 million to continue the program. The measure is part of a \$20.7 billion appropriation approved by the House-Senate conferees on Thursday. The bill funds defense and civilian energy research, nuclear-waste cleanup and water projects. Critics of the reactor program argued that it is too expensive and could lead to nuclear proliferation. But supporters defended it as a potential way to dispose of plutonium left over from nuclear warheads and spent nuclear fuel. The reactor essentially would burn the plutonium and could also produce commercial electricity. The action by the House and Senate negotiators won praise from other environmental and nuclear proliferation watchdog groups who saw the research reactor leading to the re-emergence of a breeder-reactor program and wider use of plutonium. "This is triumph of taxpayer common sense over pork-barrel politics," said Scott Denman of the Safe Energy Communication Council, an anti-nuclear proliferation group. The project remained alive in the Senate largely because of the intense lobbying from Illinois and Idaho. Sen. Paul Simon, D-Ill., in a statement, called the decision unfortunate but said it became inevitable after the House voted to end the program. He said he planned to discuss with Energy Secretary Hazel O'Leary possible ways to ease the impact on those at Argonne who were involved in the project. O'Leary had urged that the project be discontinued. The administration had argued that the reactor "has no foreseeable commercial value and its continuation would undercut our international nuclear weapons nonproliferation efforts."

## **JAPAN-HIROSHIMA ANNIVERSARY**

APn 8/5/94 2:45 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By P.H. FERGUSON Associated Press Writer HIROSHIMA, Japan (AP) -- Hiroshima has long been a shrine to victims of the world's first atomic attack, 49 years ago Saturday. But now, the city is painfully coming to grips with its role in Japan's war effort. For the first time, the city's Peace Memorial Museum has moved to address the issue of Japan's wartime aggression. This year, it added a new wing with exhibits that challenge -- if cautiously -- the city's traditional view of itself as a blameless victim. On display since June are photographs of Korean and Chinese laborers enslaved by Japan during the war, and the shipyards and factories of Hiroshima that helped drive the Imperial Army's war machine. "The city decided on the new wing because it helps us understand the events which led up to the bombing," said Shinji Asakawa of the mayor's office. Conflicting feelings about Hiroshima commemorations are part of a larger argument over Japan's war role. The country has long averted its eyes from its wartime past. Rather than fading with time, the controversy has only sharpened in recent months. In May, Justice Minister Shigeto Nagano was forced to resign after labelling the Rape of Nanking "a Chinese hoax." Historians say an estimated 100,000 Chinese civilians were massacred by Japanese troops after

the capture of the then-capital of China in December 1937. Across Asia, former forced laborers and women conscripted as sex slaves to the Imperial Army are still fighting for reparations from Japan. And Japanese activists have fought for years to try to win use of school textbooks including full and accurate descriptions of Japanese atrocities. Hiroshima's original museum dedicated to the atomic bombing opened in 1955, ten years after the Aug. 6, 1945, attack. The exhibits are graphic and wrenching: melted coins, stone steps bearing the shadow of a vaporized human being, schoolchildren's torn uniforms. But one element was always missing: context on the years and months preceding the attack, which killed about 140,000 people in the blast, firestorm and by radiation. In the late 1930s, in a climate colored by right-wing nationalism, Japan embarked on a ruthless conquest of Asia, still bitterly remembered by its neighbors. It brought the United States into the conflict with its surprise attack on Pearl Harbor. Japan and the United States fought bloody island-by-island battles for the Pacific. Many Americans believed the bombing was the only way to avoid a U.S. invasion of the Japanese mainland that would have cost hundreds of thousands of soldiers' and civilians' lives. Over the years, there were periodic calls to bring more balance to the Hiroshima museum's presentation. But there was reluctance to offend the sensibilities of bomb victims, and fear of Japan's often-violent ultrarightist groups, who are fanatically loyal to the imperial family and furiously object to any criticism of it. Although the museum's depictions of Japan's war role represent a new level of frankness, they hardly amount to a denunciation of wartime militarism. In the new museum wing, one exhibit refers to the war on China as an "advance." And the emperor, in whose name the war was fought, is not mentioned. Perhaps because of that, the right wing has raised no serious objections to the new displays. Survivors groups also appeared ready to accept change in the depiction of the bombing, despite their deeply felt contention that nothing could justify the horror that was inflicted on the city. "We thought some history of Hiroshima was necessary," said Yasuo Miyasaki of the Welfare Center for Victims of the Atomic Bomb, a survivors group. Debate over Hiroshima's commemorations is far from over. About 20,000 Koreans, mostly slave laborers, died in the atomic attack. But Japan-born Koreans were not allowed to construct a memorial to the victims. "They don't think about the wrongs they've done us," said Japan-born Korean Tetsuo Kunimoto. "They only think of their jobs and their paychecks."

### **SOME CANCER RATES HIGHER NEAR PANTEX**

UPsw 8/5/94 2:15 PM AUSTIN, Texas, Aug. 5 (UPI) -- An investigation by the Texas Department of Health found higher than normal rates of leukemia and prostate cancer around the Pantex nuclear weapons plant in Amarillo but discounted the existence of a cancer epidemic in the area. The department did express concern about the number of chronic lymphocytic leukemia cases in Potter and Randall counties and said the finding "deserves further investigation." The report, released Thursday, also noted a higher-than-normal death rate from prostate cancer in the two counties, which encompass Amarillo. The report was based on surveys done from 1981 to 1992. Despite the higher cancer rates, the report concluded that, "The data available at this time do not support a cancer epidemic in these counties. However, additional study is warranted." The 15-page report, prepared by the department's Cancer Registry Division, also said that neither of the cancers were linked to radiation exposure. Barry Wilson, a public health technician with the CRD, said, "We found some cancers that were elevated, but a lot that weren't, and overall we just don't see a problem." Wilson noted that cancer includes many diseases and that "33 percent of the people in the country alive today are going to get cancer." The report said that of the total 64 leukemia cases in the two counties, two-thirds occurred among residents age 65 or older. The survey is the second in the past two years in response to concerns raised by the public and environmentalists about health risks linked to the Pantex plant, which is located 17 miles north of Amarillo. Pantex began nuclear weapons production in 1952 and currently assembles, refurbishes and dismantles nuclear weapons and fabricates chemical high explosive components.

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### **RADIATION RELEASE**

APn 8/5/94 4:04 AM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. PADUCAH, Ky. (AP) -- Workers at a uranium enrichment plant intentionally released radioactive gas into the air in 1955 and 1974 to see how it would blow in the wind, the Department of Energy said. The plant's current contractor, Martin Marietta Energy Systems, said the amount of radioactive material was insignificant, the Courier-Journal in Louisville reported today. The government apparently didn't warn anyone living in the area about the releases, said Jimmie Hodges, Department of Energy site manager. Such experiments would "certainly not" be allowed today, Hodges said; a plantwide alert is declared if just a hint of radioactivity is released. According to declassified government documents, the two experiments at the Paducah Gaseous Diffusion Plant tried to monitor how uranium gas disperses into the air. Martin Marietta found old photographs showing men wearing respirator masks while watching the yellowish smoke spew into the

air. On June 30, 1955, 7.5 pounds of uranium hexafluoride gas containing about 2 percent uranium was released. About a pound was discharged two weeks later. In 1974, about 1.7 pounds of the gas was released in five tests. Plant officials say up to 25 pounds of uranium a day could be released into the air without posing health problems for people in Paducah, an Ohio River town of 27,000 in western Kentucky. The amount of radioactive material released in the experiments pales in comparison with what was lost inadvertently during the production of enriched uranium for nuclear reactors in the mid-1950s, the Courier-Journal reported. Between January 1954 and September 1955, government records show that plant discharged into the air more than 14,000 pounds of uranium -- some 650 pounds a month. Environmental controls reduced emissions to less than 4 pounds a year.

### **NUCLEAR WARGAME**

APn 8/5/94 1:14 AM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. WASHINGTON (AP) -- The Defense Department is denying a suggestion in an upcoming TV report that it used real nuclear weapons in a military exercise. Officials responded to advance reports of a broadcast on the ABC News program 20-20 that a military exercise in 1991 involving a simulated terrorist raid had included nuclear weapons. The report was scheduled for broadcast today. "We do not use real nuclear weapons in those kinds of scenarios," Pentagon spokesman Dennis Boxx said Thursday. "The security of nuclear weapons is paramount." The report concerns a secret military war game called Operation Midnight Trail at a military base on the Pacific island of Guam. One scenario in the war game involved a terrorist attack aimed at capturing nuclear weapons on an Air Force C-130 transport plane. An Air Force servicewoman, Airman Laurie Lucas, 19, was severely injured and days later died of her wounds when a "stun" grenade exploded near her. Game participants were supposed to be using harmless smoke bombs. The Marine lance corporal who threw the grenade was court martialed and acquitted of negligent homicide and other charges. The broadcast cites "strong, believable indications" that nuclear weapons were used in the exercise and suggests that, had the grenade set off a nearby fuel tank, a nuclear accident could have occurred. A transcript of the report was made available by ABC. ABC anchor Tom Jarriel notes in the report the Pentagon's denial that real nuclear weapons were used.

### **PLAN READIED TO CLEAN UP NUCLEAR WEAPONS PLANT**

RTw 8/4/94 5:52 PM CHICAGO, Aug 4 (Reuter) - The first phase of a huge \$10 billion cleanup of the shuttered Fernald, Ohio, nuclear weapons plant was detailed Thursday by federal officials. The initial \$2.1 billion plan calls for scouring and dismantling tons of piping and more than 200 buildings contaminated by radiation that occupy the site alongside the Miami River a few miles outside Cincinnati. The work, funded by the Environmental Protection Agency and the Department of Energy, will get underway within the next 15 months after a public comment period and final approval of the cleanup plan. Five engineering firms are responsible for the cleanup, which has already begun on a limited scale. The plant, which once enriched uranium for nuclear weapons, is one of 16 such facilities across the nation that will cost tens of billions of dollars, if not more, to clean up. The first phase of the cleanup plan, which is not complete, will have workers using pressurized water and sandblasting to decontaminate piping and buildings, which will be dismantled and possibly recycled for use as storage containers for radioactive waste stored at the site, said the EPA's James Saric in Chicago. Other phases of the cleanup must address dangerously leaking radioactive waste pits, underground storage tanks bulging with Cold War-era bomb material and piles of radioactive flyash. Another phase will involve detoxifying groundwater and soil outside the sprawling plant. Workers and nearby residents of Fernald have been awarded millions of dollars in settlements from the government to compensate them for radiation exposure and reduced property values. REUTER  
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### **NUCLEAR PLANTS-TERRORISTS**

APn 8/3/94 6:32 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By CONNIE CASS Associated Press Writer WASHINGTON (AP) -- Nuclear power plants must install barriers to guard against truck bombs like the one that exploded under the World Trade Center, the Nuclear Regulatory Commission has ruled. The NRC had refused for years to require the anti-terrorist barriers at nuclear plants, but commissioners reconsidered because of the New York City bombing and another bizarre incident, which both happened in February 1993. A man driving a station wagon crashed through a fence and a metal garage door at the Three Mile Island nuclear plant in central Pennsylvania. The man, a former mental patient, roamed the plant's turbine building for four hours before he was

apprehended. He carried no explosives or weapons. "The fact that somebody was able to do that was an impetus," said NRC spokesman Frank Ingram. The nation's nuclear plants have 18 months to comply with the rule issued this week. They may use a variety of barriers, including ditches or walls. "The common option would be those concrete barriers that are used around Washington, like they have outside the Capitol," Ingram said. The decision was hailed by the Nuclear Control Institute and other groups that have been calling for tighter safety measures for more than 10 years. "It's been a clear problem at least since 1983 when there was the truck bombing of the Marine barracks in Lebanon," said Daniel Horner, deputy director of the institute. Although he praised the new rule, Horner said the NRC should have set up a more stringent oversight process to make sure the plants comply. He also complained that the NRC had weakened some of the rule's specifications -- which are not publicly disclosed for security reasons -- under pressure from the nuclear industry. Horner said nuclear power plants should take the terrorist threat seriously and give up the idea that government intelligence agencies will warn them of an imminent attack.

#### **UTILITY FINDS FLAWS IN NUKE WASTE CASK**

UPn 8/2/94 10:19 PM SOUTH HAVEN, Mich., Aug. 2 (UPI) -- Consumers Power Co. said Tuesday it has detected "minor flaws" -- but no leaks -- in one of four nuclear- waste storage casks at the Palisades nuclear power plant on Lake Michigan. The utility said it has started unloading waste and putting it into another cask. The public is not in danger and the Nuclear Regulatory Commission has been notified, the utility said. The flaws were detected after the cask was loaded with spent fuel July 11. The flaws are in the cask's welding, the utility said. The concrete-cask method of waste storage has been criticized by Michigan environmentalists for their close proximity to the lake. The casks also have been an issue during the current race for governor. Michigan is one of several states suing the federal government over the nuclear waste issue, saying Washington is reneging on its pledge to find a permanent place to store spent nuclear fuel. Consumers Power says the concrete casks are safe, but are designed for only temporary waste storage. "All the casks are leak-tight and structurally sound and there is no threat to the health and safety of the public," said Robert A. Fenech, vice president of nuclear operations. "However, because of the critical role which public confidence plays in the operation of this facility and Consumers Power Co.'s high standards of safety, I have ordered the unloading and replacement of this cask." Fenech called the action "extraordinarily conservative." Consumers Power said it will evaluate the fuel storage and loading process. Three other loaded casks have been found to be flawless, the utility said. Copyright 1994 The United Press International

#### **UKRAINE-GORE**

APn 8/2/94 1:17 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By JULIA RUBIN Associated Press Writer KIEV, Ukraine (AP) -- Vice President Al Gore pushed Ukraine's new leaders Tuesday to pursue painful economic reforms and proceed with the promised dismantling of nuclear weapons. Gore, on a half-day visit to Kiev, pledged U.S. support to Ukraine at a meeting with President Leonid Kuchma, who favors closer ties to Russia and has criticized the West for being slow to help Ukraine revive its economy. The vice president's stopover, after a two-day visit to Poland, is the latest sign of Western interest in keeping Ukraine moving toward market reforms and nuclear disarmament. President Clinton visited Kiev earlier this year for talks with Kuchma's predecessor, Leonid Kravchuk. "I am here to reaffirm America's commitment to making even further progress in our relations, fulfilling our pledges in helping Ukraine proceed down the difficult road of economic reform," Gore said at Borispol airport, where he was greeted by Prime Minister Vitaly Masol. Gore met with Kuchma at Kiev's sky-blue Mariinsky Palace, the president's official residence, shaking his hand warmly and congratulating him on his election last month. Kuchma invited Gore to Kiev two months ago when he traveled to Washington. Kuchma was then a political outsider, a former prime minister ousted in a power struggle with Kravchuk. In his election campaign, Kuchma said the West, despite promises of billions in aid, had delivered next to nothing. He argued that ties with the West are important, but that Ukraine should focus on rebuilding trade links with Russia and other former Soviet republics. The United States pledged \$700 million in aid to Ukraine this year; the Group of Seven top industrialized nations pledged \$4 billion, plus \$200 million to help dismantle the Chernobyl nuclear power plant. Until recently, aid was held up by Kiev's refusal to sign international nuclear disarmament treaties. Ukraine argued it needed its share of the former Soviet arsenal for protection and prestige. Ukraine has since signed START 1 and pledged to sign the Nuclear Non-Proliferation Treaty, although Kuchma says that decision should be reviewed. Gore said he hoped to push forward an agreement Kravchuk signed in January to have Ukraine hand over its nuclear weapons to Russia for dismantling. The West also has been hesitant to deliver aid until Ukraine begins market reforms in earnest. On Friday the communist-dominated parliament elected earlier this year voted to suspend privatization until September. "We know that your current economic situation is difficult and challenging," Gore said.

"In our view there is no alternative to Ukraine committing to comprehensive economic reform." With 53 million people, a large industrial base and some of Europe's richest farmland, Ukraine has been stymied economically since the 1991 Soviet breakup. Last week, the International Monetary Fund's managing director, Michel Camdessus, was in Kiev pledging to help Ukraine draft economic reforms. "The principal message that Gore should receive from the elections is that the U.S. should move beyond promises of aid and start to act," said Ian Brzezinski, an American adviser to Ukraine's parliament.

## **MORE RUSSIAN NUCLEAR WORKERS JOIN PROTEST**

RTw 8/2/94 11:35 AM By Jean-Christophe Peuch MOSCOW, Aug 2 (Reuter) - About 150 Russian nuclear workers have joined hundreds of others staging a protest over salary arrears, trade unionists and industry officials said on Tuesday. Igor Fomichov, deputy head of Russia's Nuclear Workers' Trade Union, said about 350 workers and engineers at the Smolensk nuclear plant had started a protest on July 28. The workers, protesting by refusing to leave the plant, were joined on Monday by some 150 workers at the Kola nuclear plant, Fomichov said. Electricity production at both plants was continuing and there was no threat to nuclear safety, Fomichov said. Strikes in the nuclear industry are banned under Russian law. All protesters were members of the trade union, but it was not clear what percentage of Russia's nuclear workforce was involved in the protest. The Smolensk nuclear plant, about 320 km (200 miles) southwest from Moscow, has three RBMK-1,000 graphite-moderated reactors with total capacity of 2,775 megawatts. The Kola plant, in the far north Murmansk region, has four small VVER-440 pressurised water reactors, with a total capacity of 1,644 megawatts. Fomichov said workers in Smolensk were owed 6.8 billion roubles (more than \$3.3 million) in salary arrears and had not been paid since April. Protesters in Smolensk and Kola demand the closure of the state-run Russian electricity monopoly, the giant Unified Electrical System corporation (EES), saying the company failed to honour its debts to the plants. Fomichov said the Smolensk plant was owed 148 billion roubles (\$71.85 million) by the EES for electricity supplies. Industrial consumers are unable to pay EES for electricity because they too are owed billions of roubles. EES owed Russian nuclear power plants over 900 billion roubles (\$437 million), a spokesman for the state nuclear agency Rosenergoatom said. Fomichov said nuclear plants were unable to pay taxes to the government and faced hefty fines. The Smolensk plant owed 8.3 billion roubles (about \$4 million) to the federal budget. The trade union had appealed to President Boris Yeltsin and Prime Minister Viktor Chernomyrdin, demanding emergency measures to stop the payments crisis. But there had been no response, Fomichov said. Dozens of nuclear workers staged a protest movement in April, picketing government buildings in Moscow. They asked the government to overcome the sector's payment crisis and warned failure to do so could lead to a major disaster. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

## **NAGASAKI BOMB SURVIVORS HAVE HIGHER RATE OF DISEASE**

RTw 8/2/94 8:56 AM Release at 4 p.m. EDT (2000 GMT) CHICAGO, Aug 2 (Reuter) - A Japanese study has found higher incidences of autoimmune disease and thyroid cancers among survivors of the 1945 U.S. atomic bomb attack on Nagasaki, indicating low doses of radiation can have health effects even decades later, researchers said Tuesday. The study by the Radiation Effects Research Foundation found that of 2,587 1980s-era survivors of the blast, 447 had developed thyroid diseases, more than half of whom did not have a family history of such illnesses. "The present study confirmed the results of previous studies by showing a significant increase in (cancers) to the thyroid and demonstrated for the first time a significant increase in autoimmune disease among atomic bomb survivors," wrote the Foundation's Shigenobu Nagataki in the Journal of the American Medical Association. "These facts suggest that (formation of tumours) is present even more than 40 years after atomic bomb exposure," he wrote. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

## **COMMISSION AMENDS PROPOSAL ON IONIZING RADIATION ...**

RTec 8/2/94 7:03 AM COMMISSION AMENDS PROPOSAL ON IONIZING RADIATION DANGERS EUROPEAN DOCUMENT RESEARCH - August 2, 1994 + The European Commission has modified its proposal for a Council Directive on basic standards for protecting the health of workers and of the general public against the dangers arising from ionizing radiation. The changes are the result of amendments put forward by the European Parliament in April 1994. The majority of the changes accepted by the Commission do not substantially alter the proposal. However, four new recitals have been added relating to pregnant women, adequate environmental protection, international cooperation, and the proposal's scope. Ref: COM(94) 298 final; July 8; 34 pages EDR 88. This



document is available immediately from European Document Research on our normal terms. For further information and for copies of EC documents, please contact EDR at Rue de Treves 61, 3eme etage, B-1040 Brussels, Belgium. Telephone (322) 230 881 4, fax (322) 230 8965. END OF DOCUMENT  
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## **EXP--MEDICAL ISOTOPES**

APn 7/31/94 11:00 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By AVIVA L. BRANDT Associated Press Writer RICHLAND, Wash. (AP) -- Every day can be torturous for Ann Worcester, who suffers from multiple myeloma, a painful form of cancer in her bone marrow. Her only hope, she believes, is a yet-to-be-discovered radioactive isotope that can kill her cancer cells without killing her. The drugs she takes as chemotherapy attack her healthy cells as well as the cancerous ones. "I'm waiting for a cure. I hope it's not too late for me," Worcester said. "But surely I hope it's not too late for those who don't have cancer yet." Isotopes are different forms of an element with similar chemical properties but different atomic weights. For example, uranium-235 and uranium-238 are isotopes of uranium. Some scientists at the Hanford nuclear reservation say the shutdown earlier this year of an experimental reactor will mean new isotopes will go undiscovered. In addition, they say, it will cause a shortage of isotopes already used to treat lymphomas, thyroid conditions and other medical problems. For more than 40 years, Hanford created plutonium for nuclear weapons. Now the federal reservation has the nation's greatest volume of nuclear waste; cleanup of the site is expected to cost more than \$50 billion and take more than 30 years. Hanford is run by the U.S. Department of Energy, which hires contractors like Westinghouse Hanford Co. and Battelle's Pacific Northwest Laboratory to do research and development as well as the actual cleanup of the site. Hanford scientists like Robert Schenter and Darrell Fisher believe that some of the money could be better spent on research of medical isotopes. "We're interested in seeing some of the resources of the Department of Energy focused on talents and capabilities at the Hanford site that have been overlooked," said Fisher, a medical physicist at Battelle's Pacific Northwest Laboratory. "We have identified concepts and radioactive isotopes that can be more helpful in fighting cancer than anything already being used," he said. Even the nuclear waste at Hanford could be put to use and transformed into isotopes that could help save lives, he added. The United States produces minimal amounts of isotopes, including only 5 percent of those used in medical procedures. Radioisotopes are used in about 13 million diagnostic procedures and 60,000 therapies each year. Canada and Russia are the main suppliers for the U.S. market. However, Russia's nuclear program is in disarray, and Canada only uses one reactor to produce its isotopes. In addition, Canada has decided to shut down a backup reactor. Ron Kathren, professor of health physics at the Tri-Cities campus of Washington State University, believes the United States should be producing its own isotopes rather than importing them. "There's something unseemly about having to depend on other countries for our health," Kathren said. "If the Canadians for whatever reason -- a labor problem, a strike -- have a shortage, we aren't going to be No. 1 on their priority list." U.S. Department of Energy officials cited the \$80 million a year in operating costs as one factor in the shutdown of a reactor at Hanford known as the Fast Flux Test Facility. "It boggles my mind," Kathren said. "I find it hard to understand why we took our most modern reactor ... and shut it down. Think of where you're putting your money. They're taking it away from health ... and it's going to cost more to import isotopes than to keep FFTF running." Another Hanford scientist, Dave Jones, emphasized that former President Bush and Mrs. Bush both had to receive Canadian isotopes to treat their thyroid conditions. "It's unbelievable that the president of the United States needed health care that had to be imported from Canada," Jones said. Energy Secretary Hazel O'Leary has acknowledged the importance of DOE's role in producing the medical isotopes. "We are committed at the Department of Energy to be producers of (medical) isotopes," O'Leary said June 16 while in Richland for the Hanford Summit II. "We have shortly to determine where that should be." However, the day before, Owen Lowe, head of the DOE's isotope production and distribution office, ruled out restarting the Hanford facility in order to produce the isotopes. Robert Schenter, a Westinghouse Hanford Co. scientist who is one of the nation's leading experts in medical isotopes, said that some isotopes can only be produced at a facility like the FFTF. "The fact that the FFTF is the only fast reactor limits us on our capabilities," Schenter said. "There's still a lot of unanswered questions and until we answer those questions, it's like an insurance policy (to keep the facility running). It's such an important issue, curing cancer, and we don't want to put away any options that could be very important in the future." Schenter led a highly touted medical program that produced a radioactive isotope, called gadolinium-253, for early detection of osteoporosis, a crippling bone disease. The disease weakens the skeleton so that slight stress, such as bending or lifting, can cause a bone to snap. Some Hanford scientists believe it's just a matter of time until they can develop "magic bullets" to fight cancer. Those "bullets" would be antibodies with an attached isotope that would target certain types of cancerous cells. "The antibodies will carry the radioactivity right to the cancer, where it will irradiate and destroy the cancer, and the dose and damage to living healthy tissue will be minimized," Kathren said. End Advance for Monday, Aug. 1, and Thereafter

## ISRAEL, ARABS MEET IN CAIRO ON ENVIRONMENT

RTw 7/31/94 1:03 PM (Eds: Updates with details, statements at end of session) By Samia Nakhoul CAIRO, July 31 (Reuter) - Delegates from 20 states including Israel and most of the Arab world said on Sunday they were close to drafting a code of conduct that would curb environmental aggressions in the Middle East. "It has been agreed to make an outline on conserving the environment but we hope that in the future this moral environmental charter will turn into an executive one to punish the polluter and to cure the pollution," Jad Ishak from the Palestinian delegation told Reuters. Israeli delegate Zeev Ruria said: "There were lots of differences but there was a dialogue. The outcome of the meeting today is that we are about to draft a code of conduct which hopefully tomorrow morning will have the consensus of all the parties." The two-day meeting, which opened in Cairo on Sunday, focused on outlining the nature of the environmental relations between the regional parties and on limiting environmental violations that pollute the region, the delegates added. "The Middle East is full of environmental aggressions, for example, the Jordan river has become a mere passage for liquid wastes dumped by Israel," Ishak said. He said environmental aggressions were embodied by the daily desertification of Israeli-occupied Palestinian land, overuse of arable land, abuse of its agricultural potential and uprooting trees. One issue discussed was occupation and its impact on environment, mainly in the Israeli-occupied Arab territories. "We mentioned all the environmental factors which the Israeli authorities are ignoring. We have a major problem which is the hazardous waste, toxic waste, solid waste, liquid waste, nuclear radiation, air pollution and other issues," Ishak said. The meeting, chaired by Japan and known as a "consultative group meeting," was part of multilateral talks on the environment and is in line with the Middle East peace process launched by Washington and Moscow in Madrid in 1990. Syria and Lebanon are boycotting all the multilateral talks on the grounds that bilateral peace must come first. But many other Arab countries, including Egypt, Jordan, the Palestinians and Gulf and North African states, are taking part. The Israeli envoy said the points of controversy included the conservation of water, the prevention of desertification and the protection of the region's potential resources to maintain sustainable development. "Environment does not know borders. We must make sure to tackle potential environmental problems appropriately by working together in the wake of the peace process," Ruria said. REUTER

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## PAKISTAN-NUCLEAR

APn 8/25/94 1:54 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By GREG MYRE Associated Press Writer ISLAMABAD, Pakistan (AP) -- A former prime minister defended his claim that Pakistan has a nuclear bomb, and said he announced it to stop Prime Minister Benazir Bhutto from rolling back the country's nuclear program. The claim by former Prime Minister Nawaz Sharif, now leader of the main opposition party, has been criticized by government officials who say Pakistan can make a bomb but doesn't plan to do so. "I dismiss this as a very irresponsible statement," Ms. Bhutto said Wednesday night in the southern port of Karachi. She said Pakistan has no plans to alter its nuclear program, which is popular with the public and military leaders. In comments published Thursday in several newspapers, Sharif defended his statement and said he wanted to stop Ms. Bhutto from making concessions to archrival India, which is considered capable of making atomic bombs. "Prime Minister Benazir Bhutto was about to compromise on the nuclear program," Sharif told a small group of Pakistani journalists. Sharif gave repeated assurances during his 1990-93 tenure as prime minister that Pakistan had no nuclear arms. He has not said when Pakistan built the weapon. He also claimed India was preparing to launch attacks into the part of the Kashmir territory controlled by Pakistan. The disputed Himalayan state is divided into Pakistani and Indian sectors. "By bringing facts on the record, I have ... pre-empted the Indian aggression against Kashmir and the (Pakistan) government's planned rollback," Sharif said. Sharif's comments are widely seen as part of his campaign to weaken Ms. Bhutto's government, and not as a change in Pakistan's nuclear policy. "It is unlikely that Mr. Sharif has rethought his view on Pakistan's strategic doctrine," commented The News, a leading English-language newspaper. "He is a man of few thoughts and not given to cerebral labors of this sort." The United States cut off aid to Pakistan in 1990 when it declared that the country had crossed the "nuclear threshold." U.S. officials believe the country has enough enriched uranium to make several nuclear weapons that could be assembled within days or even hours. India has an even larger nuclear program, and could make perhaps a few dozen bombs with its stocks of weapons-grade plutonium, sources say. Pakistan and India have fought three wars since they both won independence in 1947, and many fear a future conflict could lead to a nuclear exchange. Both countries have refused to sign the Nuclear Non-Proliferation Treaty.

## **RUSSIA-REACTOR**

APn 8/25/94 4:00 AM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By MICHAEL TARM Associated Press Writer TALLINN, Estonia (AP) -- Russia has begun dismantling a nuclear reactor at a military base as part of its ongoing withdrawal from the former Soviet republic. The potentially dangerous operation was proceeding smoothly, said Estonian Foreign Ministry spokeswoman Mari-Ann Rikken. She said officials were satisfied Russian experts had taken adequate precautions, and Estonian rescue teams at the reactor site detected no radiation leaks. Technicians began removing fuel rods from one of two nuclear reactors at the Paldiski naval base, 20 miles west of the Estonian capital, Tallinn, on Wednesday. After fuel from the second reactor is removed in coming months, the materials will be shipped by train to Russia. The dismantling is expected to cost \$10 million, of which the United States is providing \$2 million, the Foreign Ministry said. The rest is expected to come from foreign aid. Removal of the nuclear fuel was slated to begin two months ago but was delayed after troop withdrawal talks between Estonia and Russia became bogged down. The two sides signed a withdrawal treaty on July 26 and four days later signed an additional protocol spelling out terms for dismantling Paldiski. Under the treaty, Russia has until Sept. 30, 1995, to dismantle the reactors, which served for decades as a main training base for Soviet nuclear submarine crews. Russia will be allowed to keep up to 210 civilians at Paldiski to monitor the dismantling.

## **U.S. CAUSED 1965 REACTOR "ACCIDENT," RECORDS SHOW**

RTw 8/24/94 2:16 PM WASHINGTON, Aug 24 (Reuter) - The Atomic Energy Commission purposely caused a nuclear reactor "accident" that produced a low-intensity radioactive cloud over Los Angeles in 1965, according to government documents made public Wednesday by a member of Congress. Representative Edward Markey, a Massachusetts Democrat, said the now defunct commission caused a reactor accident that "vaporized a significant portion of the nuclear core" as part of its test programme in Nevada for a nuclear-powered rocket. Documents showed the intensity of radioactivity that passed over Los Angeles and into the Pacific Ocean was low -- well below levels considered acceptable for annual exposure from commercial atomic power operations. But Markey, who for years has prodded the government to disclose the secrets of its nuclear experiments, said in a letter to Energy Secretary Hazel O'Leary: "An intentional reactor accident releasing a radioactive cloud should not be considered prudent public policy." Markey said a presidential committee studying the government's Cold War-era human radiation experiments should view this incident as a radiation test on humans. The panel is weighing whether and how subjects of once-secret government radiation experiments should be compensated, and the Energy Department has been making volumes of formerly classified documents available to the panel. Markey said the 1965 "radioactive cloud extended over a longer distance and exposed considerably more people than some operations already being considered as human experiments." He also said the panel should consider a case raised by government documents in which B-57 military planes were sent through the radioactive exhaust from a nuclear rocket being tested in 1960, and doses to aircrews were measured. The Atomic Energy Agency halted the nuclear rocket programme in 1972. REUTER  
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## **LITHUANIAN NUCLEAR PLANT CLOSED**

UPn 8/24/94 9:14 AM VILNIUS, Aug. 24 (UPI) -- The Ignalina nuclear plant in Lithuania has closed again due to radioactive leakage from a hole in the concrete lid of one of its working turbines and repair work is under way, officials confirmed Tuesday. The leakage developed Sunday while the second turbine was under repair, meaning Lithuania has to depend on its conventional power station for all its electricity. The second turbine has been out of commission since Aug. 1. Managers at the plant said radioactivity from the leakage was 5 to 10 percent below international norms and there is no danger for people in the area. The Ignalina plant was built in 1983 and contains one of the largest nuclear reactors in the world, the Russian-built RBMK 1500 MW, producing 1,500 megawatts of energy. A second 1,500-megawatt reactor was completed in 1986. The plant is in need of modernization and plant officials are seeking international financing to accomplish this. Ignalina's reactors, which are even larger than the 1,000-megawatt reactor at Chernobyl, often break down. There have been four previous failures this year, including one in which both reactors were briefly switched off simultaneously, resulting in power reductions to industry. The previous total failure took place when a control room keyboard malfunctioned and the operator could not press it to cool down the temperature in the reactor. Ignalina employees 5,000 technicians and engineers of whom 80 percent are Russians -- Lithuania does not have its own experts. The nuclear plant produces 80 percent of Lithuania's electricity. Repairing both reactors will take two weeks. Until then,

Lithuania will obtain electricity from a conventional power station producing 750 megawatts, and will import another 150-200 megawatts. Copyright 1994 The United Press International

## **A KG OF PLUTONIUM COULD MAKE ATOM BOMB--IN THEORY**

RTw 8/23/94 9:14 AM By Steve Pagani VIENNA, Aug 23 (Reuter) - A nuclear bomb could conceivably be made with as little as one kg (2.2 pounds) of plutonium, but renegade states lack such sophisticated technology, a U.N. nuclear official said on Tuesday. The United States and the International Atomic Energy Agency (IAEA) say between five and eight kg of nuclear material is needed to make a bomb, a threshold environmentalists describe as dangerously out of date. Asked whether one kg would be enough to manufacture a nuclear device, an IAEA spokesman said: "Yes, theoretically, if you were extremely experienced and wanted only a small bang, and had sophisticated technology. But that amount is very small indeed," he said. Fears that a non-nuclear country could acquire bombs-grade radioactive material have rocketed following the seizure of two batches of deadly plutonium-239 in Germany this month. Bonn says they came from Russia. In Washington on Monday, a group called the Natural Resources Defence Council said the IAEA and other nuclear authorities were overestimating the amount of plutonium needed to make a bomb. "From a technical standpoint, I guess there are people in the United States in weapons laboratories, who, if they were told they had to make some form of weapon with far less (nuclear material), could produce it," the IAEA spokesman said. "But that's a different kettle of fish from suggesting that a country or a group with an ambition to have a first nuclear weapon could do so with such a small quantity," he added. "It's not something you can do in a basement laboratory." He said attempts by Iraqi President Saddam Hussein to build nuclear weapons were a good example of how difficult it was for a state without top nuclear know-how to produce a deliverable bomb. Saddam had resources and cash to pour into a nuclear programme, but even after 10 years failed gather all three crucial elements needed for a bomb -- enough fissile material, a delivery system and detonation technology. In its report, the Natural Resources Defence Council said a one-kiloton bomb, powerful enough to cause severe blast damage over a 40-block urban area and kill thousands with fire and radiation, could be made with as little as one kg of plutonium. Christopher Paine, co-author of the report, said experts had known for 40 years that a bomb could be made with little material, and official thresholds were too high. "The criteria now in use are out of date, technically erroneous and clearly dangerous in light of the recent seizures of stolen Russian nuclear materials for sale on the black market," the report said. But the IAEA spokesman said less developed states without a huge technical backup were estimated to need at least eight kg of plutonium or 25 kg of enriched uranium. "Non-proliferation efforts and the whole question of trying to head off anybody with nuclear ambitions from getting a quantity of material are predicated on the fact that these people don't have 30 years of nuclear experience under their belt," he said. That is why Vienna-based IAEA inspectors set the benchmark at eight kg. Only the 120 governments which belong to the U.N. nuclear agency could change the limit, he added. The IAEA is mandated to inspect civil nuclear production but lacks powers to oversee military production in the five declared nuclear states -- the United States, Russia, China, Britain and France. Monitoring gram amounts of nuclear material would be very expensive in terms of manpower and would involve inspections more intrusive than some countries would put up with, the IAEA spokesman said. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

## **NORWAY SAYS RUSSIA PLANS NUCLEAR STORE IN ARCTIC**

RTw 8/22/94 10:47 AM OSLO, Aug 22 (Reuter) - Norway said on Monday that neighbouring Russia was planning to build what could be the world's largest storage site for nuclear waste on the Arctic archipelago of Novaya Zemlya. But Oslo said it had not been presented with a detailed outline of the project, what type of technology the Russians planned to use and how it would be financed. "This will probably be the world's largest storage site for nuclear waste," Boerre Pettersen, state secretary with the Environment Ministry, told Reuters. Norway's Environment Minister Thorbjørn Berntsen was informed of the preliminary plans by his Russian counterpart Viktor Danilov-Danilian at a meeting in Moscow in April. It was not immediately clear why the government had chosen to go public on it now. The Russians said they planned to dynamite a hole in the permafrost soil on Novaya Zemlya, Russia's sole nuclear test site, and store the nuclear waste in a cavern below the surface. The storage site would be about 10 times the size of an underground ice hockey stadium built in southern Norway for the 1994 Winter Olympics in Lillehammer. Pettersen said Norway was initially sceptical about the plan, particularly as to whether permafrost was suitable to contain nuclear waste. He said the Russians would also need international aid to finance the costly project. The Russians had pledged to keep Norway informed and to consult Oslo on the use of technology, location and financing, but added that Oslo had heard nothing since the ministers' meeting in April. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

## **BRITAIN'S NUCLEAR ELECTRIC FALLS OUT WITH ITS NAME**

RTw 8/21/94 2:02 AM By Tom Ashby LONDON, Aug 21 (Reuter) - Britain's nuclear power generator Nuclear Electric plc is thinking of shedding the "nuclear" from its name. The state-owned generator has hired consultants Thornton, Drummond and Brett to suggest a "greener" name for the company to prepare for a possible public flotation. Of 15 new names under consideration by the London-based public relations firm, not one contains the word "nuclear." In a survey, the consultants asked: "Which two names on the list would you most associate with an environmentally friendly company?" "Safeco" and "Envirogen" were two names on the list which seemed to jump out of the page. "Having "nuclear" in the name could be seen in some circles as more of a liability than an asset," agreed Doug McRoberts, media manager of Nuclear Electric. But he said the reason for the name change was that the company, after restructuring which might involve privatisation, could expand into other forms of electricity generation using gas, coal or oil as fuel. "If there is some form of restructuring, we want to be free to expand into new business opportunities. Any restructuring might involve a split into two companies and both couldn't be called "Nuclear Electric'," McRoberts added. "If they were sure that nuclear power was environmentally friendly, they wouldn't mind having it in their name," says Bridget Woodman at environmentalist group Greenpeace. Nuclear power produces roughly 27 percent of Britain's electricity. Popular opposition to the nuclear industry was boosted after a power plant leak at Three Mile Island in the United States in 1979 and the Chernobyl disaster in 1986 in Ukraine. "The public aren't stupid. Everyone knows that nuclear power produces a vast amount of nuclear waste and the industry doesn't know what to do with it," said Patrick Green of the environmentalist organisation Friends of the Earth. The British government is currently undertaking a review of the nuclear power industry and may decide to privatise Nuclear Electric. But Green of Friends of the Earth commented: "Without government subsidy, it is more likely that they'll build a gas turbine than a nuclear power station." As part of the privatisation package suggested by Nuclear Electric, old Magnox nuclear power stations built in the 1960s and 1970s would be kept by the government. The cost of decommissioning them over the next 10 years was deemed too high for them to be included in the package. While environmentalists see the privatisation as a bad deal for the British taxpayer, Nuclear Electric argues that it is relieving a burden from the public purse. "If privatisation took place, we would carry six billion pounds (\$9.3 billion) of liabilities out of the Treasury and into the private sector," said McRoberts. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

## **RUSSIA-NUCLEAR WORRIES**

APn 8/19/94 4:19 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By JULIA RUBIN Associated Press Writer MOSCOW (AP) -- Soldiers sell their guns and uniforms for cash. Impoverished nuclear workers allegedly smuggle low-grade uranium out of plants in their mittens or coat pockets. German officials say small amounts of weapons-grade plutonium are being slipped out of Russia. Could a nuclear warhead be next? "Ha!" said Yuri Rogozhin, spokesman for the nuclear regulatory agency Gosatomnadzor. "In principle, I do not rule out such a possibility. In practice, we can prevent such crimes." Russian officials say only low-level radioactive materials have made it past their security systems, which they insist equals any in the world. But the lawlessness and hunger for quick riches that characterize post-Soviet Russia are clearly nibbling at the edges of the huge, underfinanced military and nuclear establishments. Whether the four small amounts of plutonium seized in Germany this summer originated in Russia is not clear. But enough dribs and drabs of weapons-grade plutonium could leak out of the former Soviet Union for terrorists or an aggressive regime to make a bomb. Russia, Belarus, Kazakhstan and Ukraine inherited the Soviet nuclear arsenal. Russia got the bulk of it. The country is estimated to have more than 1,320 tons of bomb-grade uranium. In addition to the estimated 33,000 nuclear warheads, weapons-grade plutonium can be found at military factories and dismantling facilities. Nuclear power plants make a lower-grade plutonium that could be used in greater quantities to make bombs. There are also tiny amounts of lower-quality plutonium at hundreds of research facilities, hospitals and industries. It takes at least several pounds of weapons-grade plutonium or uranium to make an atomic bomb. Western experts say the lower-quality plutonium could be used to make bombs, although greater quantities would be needed. "The amount of plutonium is huge in Russia," said Heikki Reponen of the Finnish Center for Radiation and Nuclear Safety, who works regularly at Russian plants. "They have good systems for protecting the plutonium, but when the amount is so high, it's always possible that small pieces are smuggled out." So far, there has been little evidence of a demand for illegal nuclear materials. Police and researchers said three of the four cases in Germany were sting operations. The Soviet nuclear system was secretive and fragmented, and it is unclear what controls its successors exercise. Rogozhin said each nuclear division in Russia has its own inventory procedures, but he would not elaborate. The New York Times quoted Russian experts this week as saying Russia has no way of accounting for or protecting its bomb materials. Ukrainian officials also deny that bomb-quality materials could be stolen, but Anatoly Chernyshov of Ukraine's Nuclear Safety Oversight Committee said small quantities of lower-grade radioactive materials could be stolen because security systems for them

"fail to guarantee precision within grams." In Russia's far-flung nuclear archipelago, an estimated 14,500 groups and individuals are licensed to work with radioactive substances, news reports have said. In many of Russia's nuclear complexes have little money, and in some, workers are not paid for months. "The temptation is very high. Salaries are low, if they are paid at all," Reponen said, "and the number of people working on the civilian side is higher (than in military plants), so maybe the discipline is not as tight." Little is known about security at military facilities. Although the military in general has suffered from personnel and budget cuts, officials say nuclear operations are closely monitored. Russia's civilian nuclear complex shows no sign of shrinking. In late 1992, several years after the Chernobyl disaster in Ukraine halted many Soviet nuclear projects, Russia announced it would boost production of nuclear energy. Even some weapons factories Russia agreed to close are still making plutonium and provide heat and power to the workers' towns around them. The West is trying to use financial clout to exert some influence. Twelve countries have established nuclear assistance programs with Russia, U.S. State Department officials said. In January, the United States agreed to buy \$12 billion worth of uranium from dismantled nuclear warheads over 20 years to be reprocessed and used to produce electricity. Russia is to use some of the money for converting defense industries and improving nuclear power-plant safety.

## **BONN CALLS FOR COOPERATION TO BEAT NUCLEAR TRADE**

RTw 8/18/94 11:12 AM (Eds: adds international cooperation material) By Michael Christie BONN, Aug 18 (Reuter) - Germany said on Thursday that only international cooperation going beyond the European Union can crack an emerging underground market in deadly nuclear contraband from the former Soviet Union. The Interior Ministry in Bonn said EU interior ministers will discuss the problem with their counterparts from eastern Europe in Berlin next month during an informal EU meeting. "This new phenomenon cannot be mastered by one country alone," said Interior Minister Manfred Kanther of the four samples of smuggled plutonium-239 and enriched uranium seized in Germany in the past four months. "We need international cooperation going even beyond the European Union," he said. "Security measures in the countries where these materials are produced must also be strengthened." The EU ministers will hold a regular informal meeting on September 7 and 8 in Berlin and host the east Europeans on the final day, the interior ministry said in a statement. The announcement of an EU-East European meeting came as Chancellor Helmut Kohl's top intelligence aide, Bernd Schmidbauer, prepared for a weekend trip to Moscow intended to forge closer cooperation between Moscow and Bonn. President Boris Yeltsin had written to Kohl pledging to work together, while Moscow's initial denials that "even a gram" of Soviet fissile material may have gone astray made way for reports of arrests for trying to sell radioactive metals. Washington has also announced that the illicit trade will feature high on the agenda at a summit between Yeltsin and President Bill Clinton in late September. Schmidbauer told ZDF television the seizures of plutonium-239 -- an essential element in atomic weapons and so toxic that even a few millionths of a gram can kill -- and highly-enriched uranium were only "the tip of the iceberg." "There have been about 300 seizures of such nuclear material in many countries in Europe, the least of all in Germany," he said. But the finds have instilled Bonn and capitals around the world with nuclear angst because they are the first reported cases of weapons-grade material being smuggled since the collapse of the former Soviet Union. Wilhelm Gmelin, a director of the EU's atomic energy agency EURATOM in Luxembourg, said the plutonium seized in Germany definitely originated in Russia. He named Chelyabinsk, Yekaterinburg and Arzamas as the only centres which could have produced the material, but added that this did not imply that was where they may have been stolen. The New York Times reported on Thursday that Russia is far from establishing an effective system for protecting and accounting for its nuclear bomb materials. Quoting experts, the Times said Russia's nuclear supplies are spread across scores of unsecured research institutes, weapons laboratories and assembly plants, power plants, nuclear waste storage facilities, naval fuel depots and other centres. "It's possible to buy anything in our country, including weapons and samples," Russian physicist Igor Matveyenko told the newspaper. Harald Mueller, a nuclear expert at the Hessian Foundation for Peace and Conflict studies, said the strict controls governing the production and storage of nuclear weapons should be extended to civilian use of fissile materials. But he conceded that it would take years to barter the necessary international agreements into place. "Short-term help is equally urgently needed," he told ZDF. "First of all to ensure that scientists and technicians are decently paid and secondly to ensure that security equipment such as automatic cameras...are installed as soon as possible." In Berlin, meanwhile, authorities declined to elaborate on a statement that police had found evidence of a planned or maybe even successful shipment of plutonium to Pakistan during raids of seven apartments around the city on Wednesday. The Pakistani government denied that it was linked to any conspiracy to smuggle plutonium from Germany. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

## **STUDY FINDS NO LEUKEMIA, NUCLEAR PLANT LINK**

RTna 8/18/94 10:22 AM Release at 7 P.M. EDT LONDON (Reuter) - British statisticians using new techniques said Thursday they could find no consistent link between nuclear installations and leukemia in children. Several studies have shown people living around certain nuclear installations are more likely to develop cancers such as leukemia, while others have discounted any link. Researchers at Oxford University used a new statistical method to look at how many cases there were of leukemia around 23 nuclear installations in England and Wales. They found no more than would normally occur in a population by chance. "There is no evidence of a general increase of childhood leukaemia or non-Hodgkin's lymphoma around nuclear installations," they reported in the British Medical Journal. "This particular new method ... deals with the problem when you've got some possible source of pollution or whatever," said Gerald Draper, one of the researchers who worked on the study. "It looks at the rates at which these events occur and looks at the distance from the source. If there was an effect going on you would expect it was worse closer to the installations." But Draper said figures showed children living near nuclear installations were no more likely to get leukemia than any other children with one exception -- around the controversial Sellafield plant in northern England. "This method detected the well-known excess of cases near the nuclear processing plant at Sellafield; this is entirely due to six cases in the neighboring village of Seascale and remains unexplained," the BMJ said in a statement. The Imperial Cancer Research Fund and the London School of Hygiene and Tropical Medicine started a three-year study last November to see whether there is any link between the exposure of fathers to radiation at work and leukemia in their children. It will look at the families of 60,000 past and present employees in the nuclear industry. Scientists have recorded high levels of childhood leukemia around some nuclear power plants in Europe and the United States for years, but have never established that the radiation levels usually found there caused the disease. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

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## **EVENTS IN TEXAS AND NEIGHBORING STATES**

By United Press International

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Wednesday, Aug. 17:

In Austin, Texas Health Department co-sponsors seminar for the media, "Radiation: The Public Depends on You," Doubletree Hotel, 6505 I-35 North, 1 p.m. Contact: Margaret Henderson (512) 834-6688.

In Huntsville, Texas Board of Criminal Justice committees meet, Sam Houston State University, Criminal Justice Center, 1 p.m. Contact: Susan Power-McHenry (512) 475-3250.

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## **YELTSIN PLEDGES COOPERATION ON NUCLEAR SMUGGLING**

RTec 8/17/94 10:15 AM By Michael Christie BONN, Aug 17 (Reuter) - Russian President Boris Yeltsin has written to Chancellor Helmut Kohl pledging Moscow's willingness to work with Bonn to fight the trade in nuclear contraband, a German government spokesman said on Wednesday. Kohl said earlier he would telephone Yeltsin in the next few days to discuss nuclear smuggling from the former Soviet Union, which German officials believe is the source of four seizures of weapons-grade material in the past four months. Spokesman Norbert Schaefer said Kohl had received an answer from Moscow in which Yeltsin said Russia was "willing to work constructively together." Kohl had appealed to Yeltsin for help in a letter over the weekend. Bonn and Moscow have crossed swords over the suspected origins of the highly-radioactive plutonium-239 and enriched uranium seized since May -- the first time that smuggled weapons-grade material has cropped up on German soil. Officials in Bonn and at the European Trans-Uranium Institute, a nuclear research body in Karlsruhe which is analysing the material, remained tight-lipped about the latest test results which may pinpoint the precise source. But the German government said it saw no reason to change its assumption that the nuclear contraband came from Russian or Soviet nuclear facilities, despite Russian accusations of a "smear campaign" by the West. "Nothing has happened to make the German government change its assumption," Schaefer said. Bernd Schmidbauer, Kohl's coordinator for German intelligence services, told reporters he would fly to Moscow at the weekend to discuss ways of cobatting nuclear smuggling. The United States said on Tuesday it had contacted Russia to stress its

concern about the nuclear smuggling reports and said Bonn was "very wise" to send Schmidbauer to Moscow. Kohl told SAT 1 television in an interview to be broadcast later on Wednesday that Germany had turned out to be a nuclear smuggling centre because it is close to the former communist bloc and has open borders, the broadcaster said. "We are also called upon (to help solve this problem) because we are the current European Union president and I have very friendly relations with Boris Yeltsin," Kohl said. Foreign Minister Klaus Kinkel proposed that Europe's fledgling police agency, Europol, should be used as a clearing house for information on nuclear smuggling. He also appealed to his counterparts in Russia, Ukraine, Belarus and Kazakhstan to help thwart any more atomic contraband and offered the European Union's help to do this. The North German Television programme Panorama said Moscow's Kurchatov Institute research laboratory was the source of six grams of plutonium seized in May, according to tests. The programme, due to be broadcast on Thursday evening, also reported on a secret document from Russia's atomic energy commission detailing security lapses at the institute. "There is no actual inspection of nuclear material," the Hamburg-based television programme quoted the document, which is dated October 10, 1993, as saying. "There is no guarantee that unauthorised persons cannot remove, steal or swap nuclear materials." One of the three officials in charge of cleaning up the Chernobyl nuclear power station after the 1986 accident warned in an interview with the weekly Die Woche that far more nuclear material than suspected had already reached Germany. "Nobody can control this atomic smuggling," Die Woche quoted Vladimir Chernosenko as saying. "This industrial sector was traditionally controlled by the KGB," he said. "Now those structures have fallen away and there is no more control. A foreign organisation is certainly not able to get an overview." Kinkel said the Hague-based Europol, which began operating last January and has been used as a clearing house for European police forces for intelligence on drugs smuggling, should be used more in cases of international nuclear smuggling. "Nuclear smuggling must be fought where it starts, at the origin of this deadly trade," he said. Kinkel said he would put the issue on the agenda for an informal EU foreign ministers meeting in the Baltic Sea resort of Usedom on September 10 and 11. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

### **BRF--UKRAINE-CHERNOBYL**

APn 8/16/94 6:25 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. KIEV, Ukraine (AP) -- Ukraine plans to construct a huge storage dump to bury radioactive material from the so-called "dead zone" around Chernobyl, site of the world's worst nuclear accident, officials said Tuesday. Work on the project is scheduled to begin in November and finish in 2000, the officials added. Three factories will be built to crush, burn or smelt the contaminated material from the 1986 blast. Then it will be placed in containers and buried in an underground storage plant. The proposed site is close to the Chernobyl nuclear plant, according to Valentyn Kupny, deputy chief administrator for the restricted Chernobyl zone. The "dead zone" that authorities established in a 18-mile radius surrounding the accident's epicenter is a surreal region of deserted villages, towns and rusting machinery. Much of what stands in the dead zone is highly radioactive and needs to be dismantled and buried. The Chernobyl nuclear plant continues to produce nuclear power despite appeals by Western governments to close it for safety reasons. Ukraine says it needs the power generated by the plant's two working reactors.

### **RUSSIA SCOFFS AT ALARM IN WEST OVER NUCLEAR THEFTS**

WP 8/15/94 11:00 PM By Lee Hockstader Washington Post Foreign Service MOSCOW, Aug. 15 - Russian officials are brushing aside the latest and largest discovery of smuggled weapons-quality nuclear material in Germany despite growing alarm in Europe and the United States that former Soviet nuclear security systems are crumbling. A spokesman for the Ministry of Atomic Energy said today that no highly enriched plutonium or uranium had been reported missing from Russian nuclear facilities, according to the Interfax news agency. Despite such comments, German officials say tests can identify the manufacturing laboratories in the former Soviet Union that produced the 300 to 350 grams of radioactive plutonium-239 seized last week at Munich's international airport from baggage on a Lufthansa flight from Moscow. Three men on the flight, believed to be couriers, were arrested in what German police described as a sting operation. The seizure last week was the third announced by German authorities since May involving amounts of highly enriched, extremely toxic radioactive materials. Though not enough to make a bomb, Wednesday's discovery was by far the largest of the three, compounding worries that smugglers capitalizing on disorder and economic hardship in the former Soviet Union may be able to procure enough of the substances to make a nuclear device. Officials in Bonn and Munich said there was no doubt the materials seized last week and in May had originated in the former Soviet Union, and German Chancellor Helmut Kohl is sending an aide to Moscow this week to discuss nuclear smuggling. The aide, Bernd Schmidbauer, has said that Russian government officials as well as international networks are involved in the leakage of



the dangerous materials. German government spokesman Norbert Schaefer said Bonn had already supplied Russian authorities with a detailed analysis of the plutonium seized near the Swiss border in May in the garage of a German businessman. "The laboratory tests show the material originated in Russia and ... allow conclusions to be drawn about the laboratory it comes from," the Reuter news agency quoted him as saying. However, Vladimir Tomarovsky, a spokesman for the Russian Counter-Intelligence Service, the successor to the KGB, told Interfax today that the six grams of very pure plutonium confiscated in May from the "The laboratory tests show the material originated in Russia." - Norbert Schaefer, German government spokesman garage of businessman Adolf Jaekle had originated in Bulgaria, not Russia. Tomarovsky added that Moscow is prepared to cooperate in any investigation but has yet to see proof that the seized materials came from Russia. He appeared to contradict German government statements that Bonn had furnished Russia with proof of the origin of the seized materials, saying no official information had been provided by German intelligence services. In an interview last week, the vice minister for atomic energy, Nikolai Yegorov, also dismissed concerns about the security of weapons-grade nuclear materials in Russia. "The system has been functioning for almost 50 years already, and it has shown its viability as regards control over dangerous fissionable nuclear materials," he said. "I don't think our system of control over radioactive materials differs essentially from that of the United States or any other country's system." In Germany, Bavarian Interior Minister Guenter Beckstein said the smugglers arrested in Munich last week - two Spaniards and a Colombian - intended to sell a total of nine pounds of the plutonium for \$250 million to police posing as buyers, Reuter reported. That would be a good chunk of what would be required to make a small bomb. The material discovered in the baggage taken from the airplane was packed in a steel case shielded with radiation-absorbing lead, which police said prevented leaks that could have harmed passengers aboard the plane, Reuter reported. Russian officials involved in the nuclear weapons field have consistently downplayed concerns in the West about the security of nuclear materials. A number of officials, including Yegorov, have dismissed Washington's recent disclosures of previously secret nuclear data as little more than a propaganda ploy. Interior Minister Viktor Yerin, Russia's top police official, also played down concerns about nuclear security in Russia even as he was playing host last month to the visiting director of the FBI, Louis Freeh, who had come to Moscow specifically to talk about the matter. And the chief of the Russian Counter-Intelligence Service, Sergei Stepashin, said at the same time that he does not believe Russia's vast stockpile of nuclear weapons and materials is at risk. Stepashin said that he planned to ask Freeh to provide proof of the threat of nuclear terrorism. "Otherwise the FBI's interest in the issue may be interpreted by the Russian political opposition as a desire to establish U.S. control over nuclear installations"

## **PACIFIC-NUCLEAR DUMP**

APn 8/15/94 10:43 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By GEOFF SPENCER Associated Press Writer BRISBANE, Australia (AP) -- The Marshall Islands were ravaged by U.S. nuclear tests from 1946 to 1962. Now the president is offering one of the tiny Pacific islands as an international dump for nuclear waste and warheads. Environmentalists are aghast and neighboring countries are mystified. "It is a crazy idea," said Bunny McDiarmid, a campaigner with Greenpeace. "The island countries have fought for years to be nuclear-free. The Marshalls know better than anyone else the dangers of nuclear material." Some of the archipelago, 2,400 miles southwest of Hawaii, remains highly radioactive from the explosions, which included the first hydrogen bomb blast. But President Amata Kabua is willing to sacrifice one contaminated island, leasing it for waste storage and disposal. He believes the revenue would pay for the rehabilitation of other radioactive islands, which could then be resettled by their former owners, many of whom have cancer and other illnesses related to radiation. A huge problem for the rest of the world would be solved at the same time, Kabua argues. "Let us together regard this prospect as a glimmer of hope for mankind's salvation from nuclear dangers," he told a meeting of Pacific leaders in Brisbane earlier this month. Kabua has ordered an investigation into whether strict international environmental, economic and technical requirements could be met. An exact site has not yet been chosen. Two neighboring island countries, Kiribati and the Federated States of Micronesia, have criticized the proposal. Other members of the 15-nation South Pacific Forum are quietly hoping the investigation will find the plan impractical. The forum, which groups island states with Australia and New Zealand, declared their territories and waters a collective nuclear-free zone in 1985. For years the forum castigated France for testing nuclear weapons in French Polynesia. The tests were suspended in 1992. It is also drafting a treaty to ban dumping radioactive and chemical waste in the region by 1996. Kabua hopes the nuclear repository proposal can be exempted from the ban. Australia, which dominates the South Pacific economically and politically, is trying to cleanup hundreds of square miles of its own outback contaminated by British nuclear tests in the 1950s. It hasn't directly commented on the Marshalls' idea, although officials privately doubt it will get off the ground. The Marshall Islands is a collection of 34 islands with more than 50,000 people. It's one of the world's poorest nations with few resources and little economic potential. Wanting to make the best of a bad situation, Kabua thinks it could provide an ideal nuclear dump in the hard

volcanic rock of one of its atolls. "... My country may well be the oldest and the most geologically stable of all oceanic islands," he told the forum. "Many of our islands are geographically remote from human population and international trade routes." Ironically, these are the same sorts of reasons the United States chose it as ground zero for nuclear weapons tests almost half a century ago. After witnessing some of the heaviest fighting against the Japanese in World War II, the Marshalls Islands was administered by the United States as a trust territory on behalf of the United Nations. Nuclear tests made the northern atolls of Bikini and Enewetak uninhabitable for perhaps thousands of years. Hundreds of islanders were evacuated and some never returned. Many of those who did left a second time years later when scientists found soil, lagoons, fish and plant life were still poisoned despite cleanup attempts. Away from their homes, most islanders forgot traditional ways of life and became dependent of foreign aid and government handouts. Neighboring islands were caught in fallout from the blasts. Cancer, radiation illness and birth deformities continue to this day. Some Marshall Islands officials allege the U.S. government withheld information from the islanders and used them as unwitting guinea pigs. "... When the United States embarked on its testing program, the people of the Marshall Islands were given no realistic idea of what severe consequences would ensue," said Kabua. "My government lacks the technological and financial resources to undo the terrible damage suffered by my people and our lands." The Marshall Islands became independent in 1986, three years after it signed an agreement of free association with the United States, which retains responsibility for its defense. The U.S. military still uses one atoll, Kwajalein, as the target for missile tests launched from California.

### **SAFETY FEARS RAISED AT UK NAVY BASE**

UPn 8/15/94 8:45 AM LONDON, Aug. 15 (UPI) -- A leader of the opposition Labour Party charged Monday that the government is planning to turn a Scottish Royal Navy base facing privatization into a graveyard for decommissioned nuclear submarines. Brown, whose constituency includes the base at Rosyth, 10 miles (16 km) northeast of Edinburgh, cited a leaked Ministry of Defense letter prepared Aug. 1 to back up his claims. Ministry of Defense officials refused to comment on Brown's claims, saying they did not discuss leaked reports. Brown said the ministry letters implied safety regulations would be relaxed so seven nuclear submarines could be left at the base once they had been decommissioned. A second document showed that 300,000 pounds (\$460,000) had been set aside for "nuclear hulks upkeep" in budgets spanning 10 years to 2004, Brown said. "In the document it becomes clear that Rosyth is now to be a nuclear dumping ground for seven nuclear submarines," he said. "These decisions are being made despite official Ministry of Defense answers, as late as Friday, that no decision has been made. "Even when there is no nuclear work at the dockyard and no nuclear expertise there, there will be more nuclear waste and additional waste will be brought to Rosyth even after nuclear work has finished." The ministry's official line was that final disposal of decommissioned nuclear submarines remained under consideration. Copyright 1994 The United Press International

### **POST-SOVIET NATURE**

APn 8/13/94 11:00 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By JULIA RUBIN Associated Press Writer PRIOKSKO-TERRASNY NATURE RESERVE, Russia (AP) -- Pyotr Seryogin blows four blasts on a battered hunting horn, then calls into the thick green forest: "Little ones! Little ones! Little ones!" A family of five huge European bison answers, slowly emerging from the birch trees and lumbering through chest-high ferns toward the fence where Seryogin, 61, waits with pails of feed. It looks like something out of a Russian fairytale: the forest idyll, the beasts with long, curved horns, and their white-haired keeper. But even in places like this, the protected heart of a nature reserve, the troubles of modern-day Russia are pressing in. The bison, fenced in because of poaching and development, are suffering for lack of space, workers say. Other animals, allowed to roam outside the reserve, are being wiped out by poachers. Reserve workers are underpaid and underequipped. Some have been dismissed, others take time off to tend their own small farms. Russia's vast protected lands -- 88 nature reserves, two dozen national parks and various other wilderness designations -- include virtually every kind of ecosystem and an abundance of wild species and natural wealth. Like many things now, however, their management runs largely on autopilot while the country absorbs the shocks of the last few years and figures out who is in charge of what. Prioksko-Terrasny, a 12,350-acre reserve two hours south of Moscow, has been assigned to six different ministries and departments in as many years. Its exasperated director, Yevgraf Litkens, has resorted to using a letterhead with just his name. "We couldn't change stationery fast enough," Litkens said. Natalia Danilina, director of the Nature Reserves Department, says the reserves are in no danger of being dissolved, but that the government is still learning how to respond to a variety of new threats. From one angle, Russia's industrial decline could be seen as an environmental boon, causing some polluting factories to close and sidetracking large development projects. But from another, the economic crunch has given profit -- or simple survival -- the edge on preservation. Businesses and local governments are taking over land and resources. Poaching has

increased. "Local nature-protection organs are not always strong enough to oppose authorities interested in fast profits," said Vasily Khramtsev, director of the Lazovsky Reserve in the Far East, where trees have been felled in the habitat for endangered Siberian tigers. At a marine reserve near Vladivostok, an inspector said people were "literally emptying coastal waters" of salmon to sell the caviar. Russia's new rich are grabbing up protected woodland along roads and rivers for country houses. "Many people are under the illusion that we have such vast resources and such a tremendous country that it's inexhaustible," Litkens said. Under communism, the rules were clear. Across the Soviet Union, local party bosses used reserves and parks for their own private recreation, in the process protecting them from damage by others. Now the system of party patronage is gone, and the new government has much less clout. Aside from some flagrant violations -- a pulp mill on the shores of Lake Baikal, for example -- environmentalists say the Soviets generally took their parks and reserves seriously. Reserves were off-limits to the public. "It's a paradox: They made a mess, but they also protected a lot of territory," said David Gordon of the Pacific Environment and Resources Center in Sausalito, Calif., which works on Russian forest preservation. The Soviet system also controlled the land around wilderness areas, which now feel the loss of those buffers. In other former Soviet republics, the challenges may be even greater because wilderness managers have lost the Kremlin's financial support and the influence they had as part of a large parks system. In recent months, Russia has tried some Western-style solutions. One of the new Moscow banks finances programs to save endangered cranes and tigers, advertising its support for wildlife on television and billboards. Environmental groups such as Greenpeace are taking polluters and developers to court, although with little success so far. Federal officials say the most effective way to deal with violators is still the old-fashioned way: winning over prosecutors and local administrators who can apply pressure. Some communities and local governments are trying to attract big-spending tourists, hunters and fishermen. Alexander Lisitsin, who guides groups of foreign hunters for a Moscow company named Greenfield, says money from hunting licenses can protect bear populations that are being devastated by poaching, and habitat now being cleared by loggers. "There's no money anymore to pay the bureaucrats, so who's left to protect wildlife?" he said. "Everything's commercial now." Even officials of some closed reserves talk of opening areas to the paying public. "Many see it as a necessary evil," Gordon said. "Others are very upset by it." Park rangers earn the equivalent of only \$25-\$30 a month, which could make them susceptible to bribes. At Prioksko-Terrasny, director Litkens tries to supplement employees' incomes with livestock and supplies. Seryogin, in his 15th year at the bison-breeding center, says survival is getting harder for both staff and animals. "There used to be lots of deer and wild boars," he said, but "this winter, there were no boars and only a few dozen deer." He blames poaching and road traffic outside the reserve, pollution from local factories, even the 1986 nuclear explosion at Chernobyl, in Ukraine. "There's something wrong with the climate," Seryogin said. "I don't know. There are hardly any birds anymore." End Adv Sun Aug 14

### **CHINA PLANS TWO MORE NUCLEAR PLANTS**

UPn 8/13/94 1:36 AM BEIJING, Aug. 13 (UPI) -- Desperate to meet escalating power demands, China intends to build two new nuclear plants in southern Guangdong Province where the country's first plant was closed following a hydrogen leak, official media said Saturday. Wang Quanguo, chairman of the board of the Guangdong Nuclear Power Joint Venture Company Ltd., said the plan has been approved by the Cabinet-level state council, the Xinhua News Agency reported. The two will be built within 10 years. One is planned for Ling'ao, 5 miles from the Daya Bay nuclear plant that was closed July 2 after the discovery of a leak in the hydrogen cooling system. Despite the reopening of the facility last month following assurances from plant general manager Zan Yonlong that the repaired leak posed no threat, jittery Hong Kong residents fear a more serious problem could occur, exposing them to harmful levels of radiation. At a reception at Daya Bay, Wang said the facility at Ling'ao will have four generating units, each with a capacity of 1 million kilowatts, while the other on the Yangjiang River will have six units. China's booming economy is currently fueled primarily by burning coal, accounting for 74 percent of the non-renewable energy used in the country. Even with nuclear power, thermal power and hydroelectricity, some 120 million Chinese have no electricity. China's energy needs are rising by 10 percent per year. Starting with the Ling'ao plant, China will introduce patented technology from abroad involving designs and construction of large nuclear power plants, Wang said. Two generating units, each with a capacity of 900,000 kilowatts, were completed and put into commercial operation last February and May at Daya Bay. The efficiency of the units is higher than expected and the generating cost lower, Wang said. Seventy percent of the power produced at Daya Bay goes to Hong Kong's electricity grids, and the remaining 20 percent to Guangdong Province. Copyright 1994 The United Press International

### **GERMANY-NUCLEAR SMUGGLING**

APn 8/12/94 10:53 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By

LARRY THORSON Associated Press Writer BERLIN (AP) -- A businessman has been under arrest since May. A real estate agent was arrested this week to face the same charge: smuggling nuclear materials originating in the former Soviet Union. They are only the alleged middlemen. But who are the sellers and buyers? FBI Director Louis Freeh calls the smuggling trend the "greatest long-term threat to the security of the United States" since the end of the Cold War. The two cases in Germany set off alarms because they were the first to involve weapons-grade materials -- tiny amounts of plutonium and highly enriched uranium. The FBI director traveled through Germany, Poland and Russia and other former Soviet states in early July to open FBI liaison offices and call attention to the dangers of Russian organized crime and nuclear smuggling. Freeh said there was no indication that organized crime had access to nuclear weapons. But his German counterpart, Hans-Ludwig Zachert, head of the Federal Criminal Police, says, "At some point these criminals might succeed. ... It's a matter of time and money." German authorities suspect that the ultimate buyers of nuclear materials could be terrorist groups or such countries as Iran, Iraq or Libya. "But we can't prove anything, and we don't know yet what they intend," said a spokesman for the Federal Criminal Police who cannot be named according to regulation. "It's all really speculation," said Patricia Lewis, director of the Verification Technology Information Center in London, an independent organization that follows nuclear issues and other security affairs. She named several other possible buyers: North Korea, Algeria, Syria. But she, too, warned that terrorist groups could be especially interested. "Now that this (nuclear smuggling) is definitely known to be happening ... should a terrorist group ever threaten to use a nuclear weapon, it would have to be taken seriously," Lewis said in a telephone interview. She recalled how governments reacted to Iraq's threat of chemical weapons during the Gulf War. Israel gave everyone gas masks. The British government put airports on full alert, and "people talked about the possibility of chemical weapons being used in Western cities," Lewis said. "The fear of it is all you need." And the sellers? Police in Germany, Switzerland, Austria and elsewhere have nabbed a series of con men peddling radioactive material that couldn't be made into atomic bombs. Some were so ignorant of what they were handling that they suffered radiation burns from the waste, some of it from nuclear facilities in the former East Bloc. Since Freeh's trip, Russian police have announced several arrests and seizures of nuclear materials, indicating greater vigilance at the suspected source of the trouble -- the former Soviet nuclear facilities where poorly paid workers are tempted to sell dangerous materials on the black market. The Russian successes, however, did not involve weapons-grade materials. In one case, three officers of Russia's Northern Fleet were charged with stealing about 10 pounds of uranium from their base last November. In another, 11 pounds of uranium was stolen from the weapons plant in the Urals city of Chelyabinsk. Russian news reports said some of those arrested weren't aware that the less dangerous uranium 238 they stole could not be made into bombs; another report said the substances were stolen because of the value of the platinum containers that held them. The Russian smugglers are people suffering hard times after the breakup and economic troubles of the Soviet empire. But it is harder to understand why people in wealthy western Germany were being caught as middlemen. "People with no scruples or morals -- you always see it in the arms trade," said Lewis. Bavarian police have released little information on those arrested in the most recent German case. Five of the suspects were from the Czech Republic and Slovakia, arrested in mid-June and in July. The first arrest included the seizure of less than 1 gram of weapons-grade uranium 235, the second involved 600 grams of non-weapons material, police said. The sixth suspect was a woman real estate agent living in Landshut, about 35 miles northeast of Munich. In May, police in the southwestern state of Baden-Wuerttemberg arrested a businessman, Adolf Jaekle, as a suspect in counterfeiting. A search of his garage turned up a lead container of deadly plutonium. Bavarian police said the enriched uranium 235 apparently came from a Russian submarine base -- and it was just a sample, indicating more was for sale.

## **U.S. TO GIVE LIGHT-WATER REACTORS TO NORTH KOREA**

RTna 8/12/94 6:39 PM (Eds: Combines takes) By Philippe Naughton GENEVA (Reuter) - The United States and North Korea issued a joint statement Saturday on agreed steps aimed at settling their standoff over Pyongyang's disputed nuclear program. The two countries also said they were prepared to establish diplomatic representation in each other's capitals "as a move toward full normalization of political and economic relations." At the heart of the accord, released after late-night talks at the North Korean diplomatic mission in Geneva, was a U.S. pledge to provide light-water reactors to replace North Korea's graphite reactors. In return, North Korea agreed to halt construction of two reactors near completion and to "forego reprocessing" of spent uranium fuel rods which the West fears pose a radiation risk. The statement said Washington was prepared to provide light water reactors with approximately 2,000 megawatts worth of power "as early as possible." North Korea reaffirmed its readiness to remain a party to the Nuclear Non-Proliferation Treaty (NPT) and to allow implementation of its safeguards agreement under the 1970 text. "Important issues raised during the talks remain to be resolved," the statement said. Technical experts will continue discussions on the transformation to light-water reactor power plants, "the safe storage and disposition of the spent fuel," provision of alternative energy and establishment of liaison offices. The United States and North Korea agreed to adjourn their third round of talks and to resume negotiations in Geneva on September 23. Both sides said they agreed that the elements

and pledges contained in their statement "should be part of a final resolution of the nuclear issue." Assistant Secretary of State Robert Gallucci headed the American delegation in the week-long negotiations with a North Korean team led by Deputy Foreign Minister Kang Sok-Ju. "The agreement that we reached this evening we both regard as being a very useful one -- one that addresses objectives that we both share," Gallucci told a throng of reporters waiting in the dark at the North Korean lakeside mission. But he added: "I want to be clear that while the agreement does capture the areas of significant agreement between us, there are many difficult issues to be resolved." Kang told reporters: "Our view of the agreement we have reached is that it is a weighty and significant document we have finally agreed to with hard labour and lengthy discussions." He said the agreement was only two pages long in its Korean version but added: "That little document carries great weight and significance." REUTER Copyright 1994 Reuters America Inc. All rights reserved.

## **NUCLEAR RESEARCH**

APn 8/12/94 3:36 AM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. WASHINGTON (AP) -- Congress has killed a nuclear research reactor program but at the same time approved \$20.7 billion for other defense and civilian energy research, nuclear-waste cleanup and water projects. The Senate approved an appropriations bill containing the provisions by voice vote Thursday and sent it to President Clinton. It passed the House on Wednesday. Funding for the fiscal year that begins Oct. 1 includes \$10.3 billion for the Energy Department's defense nuclear programs and \$3.3 billion for civilian programs related to nuclear energy, solar and renewable energy, environmental restoration and waste management, and magnetic fusion. The measure also includes \$4.3 billion for water projects run by the Army Corps of Engineers and the Interior Department's Bureau of Reclamation. The bill also contains \$83.8 million to cancel the advanced liquid-metal-reactor research program being conducted at Argonne National Laboratory facilities in Chicago and Idaho. The administration had asked that the program be ended. Critics have argued that the reactor program is too expensive and could lead to nuclear proliferation. But supporters have defended it as a possible way to dispose of plutonium left over from nuclear warheads and spent nuclear fuel. The reactor essentially would burn the plutonium and could also produce commercial electricity.

## **GREENPEACE CONDEMNS PLUTONIUM AIR TRANSPORT PLANS**

RTw 9/2/94 8:43 AM VIENNA, Sept 2 (Reuter) - Greenpeace accused the United Nations and the nuclear industry on Friday of planning to make way for plutonium transport by air under weak safety standards which posed a threat of serious leakage. A statement from the organisation in Vienna said experts meeting at the International Atomic Energy Agency (IAEA) would authorize new standards permitting air transport of large quantities of plutonium and other radioactive materials. It said these norms would improve on existing insufficient safety provisions but would still fall far short of what airline pilots and the United States government stipulate. "While people around the planet are trying to stop commerce in weapons material, the IAEA is about to bring plutonium to an airport near you," the statement quoted Damon Moglen of Greenpeace as saying. "Plutonium and air transport are a recipe for nuclear disaster. This is a nightmare concocted by those who produced Hiroshima and Chernobyl," Moglen went on. Greenpeace did not say in what way a new IAEA regime of official air-transport safety provisions might be connected to recent cases, discovered in Germany and Russia, of plutonium theft and smuggling. IAEA spokesman Hans Meyer confirmed that experts were discussing new air-transport specifications at IAEA headquarters but said nothing had yet been decided. "What Greenpeace evidently has is a draft," Meyer said. Moglen was quoted as saying: "The IAEA has decided that the interests of the plutonium industry in a handful of nations is more important than the wellbeing of people and the environment around the globe." The new recommendations would "launch a rash of reckless and potentially deadly transports," he added. Central to the argument of 'how safe is safe?' are the specifications for radioactive material packages. Current standards state that these be able to withstand a test impact of 13 metres per second velocity without leakage. The IAEA technical committee itself says this is inadequate, according to Greenpeace, and recommends a new drop test velocity of 85 metres per second. But the environmentalists say U.S. standards require that radioactive containers can withstand an impact velocity of 282 metres per second, in order to rule out the risk of bursting open in an air crash or explosion. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

## **INDONESIA PROBES KILLER BLAST NEAR TEST REACTOR**

RTw 9/2/94 6:41 AM (Eds: Updates with sabotage possibility.) JAKARTA, Sept 2 (Reuter) - Indonesian officials on Friday investigated a deadly explosion near a nuclear research reactor and a senior industry official said sabotage had not been ruled out. "At this stage we are still looking into the cause of the explosion... We have not ruled out the

possibility of sabotage," Djali Ahimsa, director general of the Indonesian Atomic Energy Agency (Batan), was quoted as saying by the Antara news agency. A Batan official told Reuters earlier that an agency employee was killed when an air conditioning unit exploded on Wednesday at Serpong, 30 km (20 miles) from Jakarta. The official gave no details but industry sources said there was no danger of radiation leaks following the blast in an engineering laboratory some distance from the main area. Ahimsa, quoted by Antara, said any sabotage could have been carried out by people who wanted to discredit Batan, which is spearheading a controversial nuclear-power programme. "But based on the situation at this stage the possibility of sabotage appears small because, from police reports, there appeared to be no remains of explosive material," he added. The 30-megawatt test reactor at Serpong, provided by Siemens of Germany, has been in operation for four years. Indonesia said last month it planned to start building its first nuclear power plant on Java in 1996 after the completion of a feasibility study into the \$1.2 billion project. Critics say nuclear reactors are risky in earthquake-prone Indonesia, especially on Java, where 60 percent of the archipelago's 188 million people live. Batan won approval last year for the 600-megawatt nuclear power plant. Central Java's Muria Peninsula was chosen tentatively as the site. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

### **RUSSIA: RADIOACTIVE EMISSION 'HARMLESS'**

UPn 9/1/94 7:50 AM By RON LAURENZO MOSCOW, Sept. 1 (UPI) -- A radioactive discharge following an accident at a Russian nuclear and chemical facility poses no threat, officials said Thursday. Emissions of cesium-137 amounted to 4.35 percent of the maximum permissible levels and posed no danger to the local population or the environment, said a statement from the Russian Atomic Energy Ministry, which tried to play down the incident. Cesium-137, which emits deadly gamma rays, is a byproduct of nuclear power generation. According to the ministry, a "minor fire" occurred Wednesday at a nuclear fuel reprocessing plant at the Mayak complex at Chelyabinsk-65 in the Ural mountains, 1,147 miles (1,912 km) southeast of Moscow. The ministry said that workers, who were not exposed to any radiation, quickly extinguished the fire after an automatic safety system cut power to the equipment. The workers had been disassembling a nuclear fuel holder when its protective casing burnt through, causing the fire. Mayak tests of the factory and surrounding area showed no increases in background radiation, though cautionary warnings were broadcast to the population. At worst, the incident ranks as a 1 on the 7-point international scale for rating atomic accidents, said Georgy Kaurov, head of the Ministry of Atomic Energy's information department. He said tests showed that no more than one curie, the unit used to measure radioactivity, had been released into the atmosphere. The Chernobyl nuclear power plant explosion in 1986 ranked 7 on the nuclear accident scale and released an estimated 20 million curies. Chelyabinsk-65 was a top-secret nuclear city during the Soviet era, not even appearing on maps. It is one of an estimated 16 such sites built with slave labor in the 1950s to push the Soviet Union's ambitious nuclear program. Accidents at such sites were common and most of them were never reported. In 1957, an accident at Chelyabinsk-40 released radioactive material, possibly comparable to the Chernobyl explosion, the world's worst nuclear accident. Officials said an investigation into the accident at the Mayak complex has been launched. Copyright 1994 The United Press International

### **GERMANY-NUCLEAR**

APn 8/31/94 2:32 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By ARTHUR ALLEN Associated Press Writer BONN, Germany (AP) -- A pacifist group filed charges Wednesday against German police for allegedly endangering millions of people by running a sting operation that lured a deadly plutonium shipment to Germany. The German chapter of International Physicians for the Prevention of Nuclear War charged an unidentified undercover agent with incitement to illegal dealing in radioactive materials. Prosecutors are unlikely to pursue the charge, brought in a Munich court, because the agent's actions was part of their investigation of nuclear smuggling. The physicians conceded police would be able to argue they were preventing greater evils. But the case amplified a recent chorus of criticism over the German government's handling of the smuggling of radioactive material from the former Soviet Union. In three of four cases revealed since May, undercover police agents or informants acted as buyers for the material. The opposition Social Democrats have accused the government of staging seizures of weapons-grade nuclear material to give the impression of an effective anti-crime policy and influence the Oct. 16 federal elections. In one sting operation, police on Aug. 10 confiscated a suitcase arriving on a Lufthansa flight from Moscow to Munich containing about 350 grams (13 ounces) of weapons-grade plutonium. Three suspected smugglers -- two Spaniards and a Colombian -- were arrested. The physicians group charged that Bavarian police could have prevented the plutonium from entering Germany by notifying authorities in Russia. Had the plane crashed and the plutonium vaporized, millions of people could have been contaminated and suffered fatal cancers, the doctors said. Helmut Meier-Staude, chief prosecutor in Munich, said police agents kept dangerous material from falling into the wrong hands. Smugglers

instigated the deal by approaching a government informant in Munich with samples of plutonium, and only then did police decide to try buying a larger quantity and put an end to the business, he said. "Had our informant not engaged with the smugglers -- had they instead made a delivery to a commercial interest -- we would never have found out about the plutonium," Meier-Staude said. Germany did not alert Russian police before the smuggler flew out of Moscow because they were not sure the plutonium was aboard the plane and had been told by the smugglers that senior Russian officials were involved, he said. "We still don't know if this is true," Meier-Staude said. He said scientific consultants told police the radiation risk from transporting material into Germany was "practically non-existent." Heinz-Joerg Haury, a scientist at the Environment and Radiation Research Institute in Munich, said the physicians' group exaggerated the risk of contamination. Plutonium radiation is highly damaging at close range but first has to be absorbed in the body, he said.

## **NUCLEAR WASTE**

APn 8/31/94 1:52 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By SCOTT SONNER Associated Press Writer WASHINGTON (AP) -- The Energy Department has spent \$23 billion over the past five years to clean up nuclear waste sites, but little cleanup has resulted, partly because of resistance to new technology, a government audit said Wednesday. "New technologies are not being seriously considered or used to clean up DOE's contaminated sites," the General Accounting Office said. "Senior headquarters environmental officials told us that new technologies have not been rigorously evaluated, much less employed," the audit said. Resistance to the new techniques is due in part to DOE's reliance on the recommendations of on-site contractors who have investments in existing clean up practices, as well as local governments that stand to benefit from economic development tied to extended cleanup schedules, the GAO said. In addition to health and safety threats, the problem is of concern to taxpayers because it will cost an estimated \$300 billion over 30 years to clean up the radioactive and hazardous waste at the former nuclear weapons plants across the country. Current cleanup methods "are often ineffective, extremely expensive ... and offer only short-term solutions," the GAO said. "Developing less costly and more effective cleanup technologies may be the only way the nation can afford to clean up the vast amounts of waste generated by the nation's nuclear weapons production complex," the audit said. Energy Secretary Hazel O'Leary requested the review in January 1993. DOE officials said Wednesday they already are taking steps to address the concerns. "We basically agree there are problems with getting innovative technology implemented due to a lot of different barriers as pointed out in the report," said Gerald Boyd, acting associate deputy assistant energy secretary for technology and development. DOE is working with its contractors "to try to help them understand how new technology can be a benefit to them and not a barrier" to meeting cleanup deadlines, Boyd said. "Quite often current technology is used because it is tested, tried and true, although it may take longer and cost more," he said. Over the past 40 years, the DOE and its predecessors disposed of more than 1 billion cubic feet of hazardous and radioactive waste at the weapons plants nationwide. Often the waste was poured directly into the soil or stored in drums or cribs that have deteriorated, resulting in liquid contaminants seeping into the soil and ultimately reaching the ground water. More than 5,700 individual contaminated areas have been identified on DOE lands. Only about 10 percent of DOE's contaminated sites have been cleaned or closed, the GAO said. The Energy Department has spent substantial money to develop waste cleanup technology, such as the vitrification program that turns waste into glass for easier disposal at the Hanford Nuclear Reservation in Richland, Wash. But "little new technology finds its way into the agency's cleanup actions," the report said. Other innovations that have shown promise include a ground-penetrating radar system in which helicopters bounce radio waves off the ground capable of locating buried objects such as drums or waste containers. Heating the ground to vaporize liquid contaminants, injecting air into wells and digging trenches to create chemical barriers to separate dissolved contaminants from ground water also deserve more attention, the GAO said. The GAO, the investigative arm of Congress, studied the problem from January 1993 to June 1994. In large part, it agreed with the recent conclusions of the Western Governors' Association, which warned that rapid cleanup is hampered by a system that relies on traditional technologies selected by "risk averse" cleanup managers who have no incentive to innovate. "Field officials also often rely on recommendations from on-site contractors who may favor particular technologies on the basis of their own experience and investments," the GAO said. Local officials also fear that using new technology may lead to missing deadlines in cleanup agreements the DOE has signed with individual states and the Environmental Protection Agency, the audit said.

## **BRF--SWEDEN-NUKE SHUTDOWN**

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STOCKHOLM, Sweden (AP) -- A leaking valve has forced the shutdown of a nuclear power plant in southern Sweden. There was no radiation leak and the shutdown of the Barseback plant was not serious, the management said Wednesday. The valve, part of the reactor's emergency cooling system, was installed in late 1992 to prevent sludge build-up. Several valves were replaced last July. "We don't know if there is fault with the valve or if the work to replace the valve was faulty," spokesman Lars-Gunnar Fritz told the national news agency TT. Maintenance work is expected to last at least one day. The Barseback power plant has two of Sweden's 12 nuclear reactors. The first Barseback reactor was shut down earlier this year for regular maintenance, and is expected to be back in service Sept. 25. The Barseback plant is near the southern city of Malmo, opposite Copenhagen, the Danish capital. Danish politicians have often criticized the plant and demanded it be taken out of service.

### **RUSSIA-RADIOACTIVE-THEFT**

APn 8/31/94 11:43 AM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. MOSCOW (AP) -- A capsule containing a tiny amount of radioactive cesium was stolen from a chemical plant in southern Russia, officials said Wednesday. The theft came amid rising international concern over nuclear safety following the seizures in Germany of plutonium and other nuclear materials allegedly smuggled from Russia. Thieves broke through a wall of a storehouse at a chemical plant in Tambov, about 250 miles south of Moscow, on Tuesday and took a capsule containing .16 ounces of cesium, said Karl Smolikov of the Russian Ministry for Emergency Situations. According to police, the device could emit lethal radiation if handled improperly, the ITAR-Tass news agency reported. The agency quoted nuclear experts as saying the cesium-137 is widely used in industrial and medical measuring devices. It is not an ingredient in nuclear weapons. Since the collapse of the Soviet Union in 1991, there have been increasing thefts of radioactive materials by underpaid workers at Russia's industrial plants and research centers, and cash shortages have forced nuclear plants to take shortcuts in safety measures, industry officials say. A fire broke out Wednesday at a nuclear processing plant in the eastern city of Ozyorsk in the Ural Mountains. Officials said no one was exposed to radiation and there was no dangerous leak of radioactivity. A small amount of radioactive gases escaped into the atmosphere through plant filters, said Vitaly Nasonov, a spokesman for the Russian Nuclear Power Ministry. The plant is used for disassembling fuel rods from nuclear power plants, which are reprocessed to extract plutonium and other elements. The fire was apparently caused by a short circuit in electric equipment and was extinguished within minutes, Nasonov said. Meanwhile, Hungarian police seized 4.4 pounds Tuesday of what they believed were uranium fuel rods coming from Russia. Vladimir Tomarovsky of the Russian Federal Counterintelligence Service said he was unaware of the case. Russian officials acknowledge that lax security at many plants has led to the thefts of uranium and other radioactive substances, but deny any weapons-grade material has been stolen. They said it has not been proven the stolen radioactive substances turning up in the West originated from Russia, and said the cases might have been staged by competitors trying to compromise Russia's nuclear industry. "The uproar lets them obscure the earlier media reports on unaccounted production of weapons-grade plutonium at the military nuclear facilities (in Western countries), which was measured in kilograms," Russian President Boris Yeltsin told the Interfax news agency before leaving for Germany on Tuesday. Also Wednesday, ITAR-Tass said Russian agents arrested members of a criminal group who smuggled titanium worth \$9.1 million out of Russia. Titanium is an extremely lightweight and valuable substance commonly used by manufacturers in the air and space industries.

### **BLAZE AT SECRET RUSSIAN NUCLEAR FUEL PLANT**

RTw 8/31/94 10:54 AM MOSCOW, Aug 31 (Reuter) - A fire broke out at a secret nuclear fuel plant in the Urals on Wednesday but it was quickly brought under control, the Russian Atomic Energy Ministry said. Itar-Tass news agency, quoting the ministry, said the blaze just after midnight at the Mayak nuclear fuel manufacturing plant in the town of Ozersk -- formerly called Chelyabinsk-65 -- was extinguished after equipment was switched off. Tass quoted an unnamed ministry official as saying no one was exposed to radiation and the incident posed no danger for local people. It said the amount of radioactivity which escaped into the atmosphere was 4.35 percent of the maximum permissible level. The Mayak plant was one of three named by Greenpeace earlier this month as the possible origin of a small quantity of weapons-grade plutonium seized in Germany. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

### **NUCLEAR POWER STILL BATTLING CONTROVERSY**



RTna 8/31/94 7:27 AM By Steve Pagani VIENNA (Reuter) - Bombs, plutonium smuggling and the Chernobyl disaster have cast a shadow over the nuclear industry, heralded 40 years ago as the clean, cheap answer to global energy needs for the 20th century and beyond. Yet despite the bad publicity, more countries are planning to turn to nuclear power to meet the needs of their growing economies, especially in Asia and Eastern Europe. Nuclear power currently produces 17 percent of the world's electricity and is expected to rise to up to 20 percent in 10 years' time. The industry is only just emerging from a period of stagnation brought on by the catastrophic explosion and fire at the Chernobyl nuclear plant in Ukraine in April 1986, the world's worst civilian nuclear disaster. The explosion, which killed 31 people outright and an estimated 8,000 more from the after-effects, released a radioactive cloud over Europe, contaminating crops and livestock. "Any accident anywhere would have a very strong negative effect on public acceptance of nuclear power. We saw that with Chernobyl," Leonard Bennett, an official at the Vienna-based International Atomic Energy Agency told Reuters. Most West European states froze their nuclear programs after Chernobyl and many Asian countries that were on the verge of building their first reactor postponed the decision, he said. "If there were to be another accident it would be very detrimental to the industry," added Bennett, head of planning and economic studies in the IAEA's Nuclear Power Division. The environmental group Greenpeace said another Chernobyl would sound the death knell for nuclear power. "Apart from accidents, what many people are afraid of is the amounts of radioactive waste that have to be disposed of," said Greenpeace Austria spokesman Heinz Hoegelsberger. Greenpeace caught the Russians last year pumping liquid waste into the Sea of Japan. Moscow has acknowledged dumping whole reactors in the Arctic Ocean in the past. Hoegelsberger said that instead of spending time promoting nuclear power, the IAEA should do much more to guard nuclear material and try to halt the black market in plutonium and uranium, the key ingredients in making a nuclear bomb. Germany has seized three small consignments of plutonium and one of uranium this year, which Bonn said had come from Russia. The IAEA, the nuclear arm of the United Nations, was set up in 1957 to oversee the nuclear industry and ensure that radioactive material is used solely for non-military purposes. While advising on nuclear power, the agency is also aware that a country could secretly use some of the fuel for a nuclear bomb-making program. Such has been the problem with North Korea, suspected by the West of using fuel from its one small reactor to make a crude nuclear device. Although Pyongyang has signed the 1970 nuclear Non-Proliferation Treaty which allows the IAEA to check a signatory's atomic sites, North Korea has so far refused to let inspectors build a full picture of its nuclear program. Some nuclear states, such as Pakistan, India and Israel, have yet to set their seal on the NPT, and the IAEA is powerless to investigate their nuclear industries. The Pakistani government denied claims by former prime minister Nawaz Sharif last week that Islamabad had a nuclear bomb. But U.S. officials have said Washington believes Pakistan and India, which both have nuclear reactors, can assemble a bomb in a short space of time. The nuclear power option will be the theme of a conference in Vienna from September 5 to 8 organized by the IAEA to mark the 40th year since the world's first nuclear reactor plugged into a national grid in Obninsk in the former Soviet Union. Delegates will discuss, among other issues, the pressing task of upgrading old graphite-moderated and light water reactors in the former Soviet Union and Eastern Europe. Improving safety levels at the reactors is considered paramount but this could cost the cash-strapped states billions of dollars. The G7 industrialized nations offered Ukraine \$200 million at their summit in Naples in July to shut Chernobyl down but Kiev's nuclear chief said the figure was only a fraction of what was needed to compensate the former Soviet republic, struggling to meet power demands without cheap access to Russia's vast fossil resources. The IAEA's Bennett said, however, that the economic argument for nuclear power was compelling. Nuclear reactors are between 25 and 50 percent more expensive to construct than a traditional fossil-fuel plant but fuel costs could be up to 40 percent cheaper, especially if a country has to import coal, gas or oil, Bennett said. In addition, following the 1992 Rio Environment Summit, many countries committed themselves to reducing emissions of sulphur dioxide produced by fossil fuel power plants, he said. In 1993, 430 nuclear reactors were operating, and 55 others were under construction, in 32 countries. "The nuclear option is very strong in regions where there are large projected growths in electricity needs such as eastern Europe and southeast Asia," Bennett said. Indonesia was near to making a decision on its first nuclear reactor and Thailand was also seriously considering introducing nuclear power, he said. China, Asia's nascent economic powerhouse, has only two operational nuclear plants and is set to link a third plant, at Guangdong, to the grid this year. Beijing is planning a considerable expansion in nuclear-generated electricity, Bennett said. Lithuania produces the highest share of its electricity from nuclear power with 87 percent, followed by France with nearly 78 percent. Belgium and Slovakia are the two other states generating more than 50 percent of power from nuclear. The World Energy Council has projected a growth rate of electricity demand of 2.3 percent per year from 1990 to 2020. IAEA director general Hans Blix, in a speech in Obninsk in June on nuclear energy in the wake of the Cold War, said the challenge of the nuclear industry was to improve the economic performance of nuclear power while enhancing its safety. "Our think tanks are no longer concentrating on how best to maintain the prospect of a mutually-assured destruction...they can now focus on how to develop our economic, social, political and cultural systems," Blix said. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

## **BRF--UKRAINE-NUCLEAR PLANT**

APn 8/29/94 7:15 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. LVOV, Ukraine (AP) -- A reactor unit at the Khmelnik nuclear power plant near this Ukrainian city was shut down Monday because of problems in the safety system, news agencies reported. Both ITAR-Tass and Interfax quoted chief engineer Alexander Vasilchenko. Neither gave any details. Interfax said the incident did not involve any increase in radiation levels in or around the plant, which has two pressurized water reactors.

## **FINLAND TO INSTALL RADIATION METERS AT BORDER**

RTw 8/29/94 7:47 AM HELSINKI, Aug 29 (Reuter) - Finland plans to install radiation meters on its eastern border to help detect radioactive materials, a national customs board official said on Monday. The equipment, to be fixed at custom stations, would make surveillance more efficient, customs secretary Heikki Sevon said. Finland shares a 1,270 km (800 mile) border with Russia. German police have made four seizures of illegal weapons-grade plutonium and uranium since May. Bonn believes it may have come from former Soviet stocks in Russia. Sevon stressed that the decision to get the equipment was made before the latest seizures in Germany. About seven customs stations on the eastern border and the harbour in Helsinki would get the new equipment. One meter is already installed at Helsinki's international airport. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

## **RUSSIA-NUCLEAR**

APn 9/17/94 2:17 AM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By DAVE CARPENTER Associated Press Writer MOSCOW (AP) -- Moving to plug holes in Russia's widely questioned nuclear security, President Boris Yeltsin ordered tough new rules for storing, using and transporting nuclear materials. His decree, announced late Friday, tightens border controls to try to prevent nuclear smuggling. It also calls for a commission examining the registration and storage of nuclear materials. Worries about Russian nuclear security increased with recent seizures in Germany and Hungary of weapons-grade plutonium and uranium that apparently came from former Soviet republics. Russia denied that 350 grams (13 ounces) of weapons-grade plutonium confiscated Aug. 10 in Munich -- the largest amount seized in the incidents -- came from within its borders. But Moscow did sign a cooperation agreement with Germany on stopping the illegal trade in radioactive and nuclear material. Russian experts were quoted last month as saying the country had no way to account for or protect its nuclear bomb materials. Yeltsin on Friday proposed a system to register nuclear materials. He instructed government agencies to work with their counterparts in the Commonwealth of Independent States to register and properly store nuclear materials. Yeltsin also made the government's Nuclear Safety Oversight Agency directly answerable to him. Earlier this month, the chairman of the U.S. Nuclear Regulatory Commission voiced widely held concerns about the ability of Russia and Ukraine, in particular, to control their vast nuclear stockpiles. "Unless virtually airtight control is imposed on weapons-grade fissile material in the former Soviet Union today, tomorrow rogue states or terrorists could threaten any of us," Ivan Selin said.

## **U.N. WANTS MORE MONEY, ATTENTION FOR CHERNOBYL**

RTw 9/16/94 12:52 PM KIEV, Sept 16 (Reuter) - A top U.N. official said on Friday he hoped a conference of donor nations next week would provide more funds and draw more attention to the victims of the 1986 Chernobyl disaster. Peter Hansen, Undersecretary of State for Humanitarian Affairs, told a news conference after a tour of the Chernobyl power plant that a 1991 U.N. aid conference had secured only \$1 million in aid instead of \$600 million sought by organisers. "Chernobyl is competing for attention with a number of other human catastrophes that can be photographed and where the consequences are visible and immediately dramatic," he said. "What cannot be photographed are the invisible effects of radiation. This tragedy and the psychological and medical burdens of traumas are not as easily conveyed as pictures of land mines and of children and grownups hacked by machetes." Hansen met senior officials in Ukraine, Belarus and Russia -- all affected by the April 26, 1986 fire and explosion in Chernobyl's fourth reactor. Large swathes of territory in all three former Soviet republics remain contaminated and thousands of people are still to be rehoused in radiation-free territory. Expenditure on the aftermath of the disaster soaks up about 10 percent of the national budgets in Ukraine and Belarus. Ministers from all three countries are to attend the conference opening on Monday in Geneva. Hansen said organisers would be less ambitious in seeking funds for specific projects, like treating thyroid cancer in children and ensuring contamination-free food production. The 1991 conference failed to generate the

requested sums of money, he said, because it occurred as the Soviet Union was collapsing, leaving donors confused on how to fund projects. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

### **ISRAEL SAYS '66 MISHAP KILLED 1 AT NUCLEAR SITE; ...**

WP 9/15/94 11:00 PM Israel Says '66 Mishap Killed 1 at Nuclear Site; Radiation Said to Have Had No Role in Death By Caryle Murphy Washington Post Foreign Service JERUSALEM, Sept. 15 - Details have emerged here of a long undisclosed accident nearly 30 years ago at Israel's secret nuclear research facility in which one worker was killed and at least one other injured. The Israeli newspaper Maariv reported on Wednesday that the accident, which occurred on Dec. 14, 1966, in a laboratory at the facility, required an emergency cleanup that took two months. Maariv's account, which was submitted to Israeli military censors before publication, did not say that the cleanup was to remove radioactive materials or that the accident involved an explosion. But Environment Minister Yossi Sarid said in an interview that "there was a blow-up within the laboratory," which was located separately from the facility's nuclear reactor at Dimona in the Negev Desert. Sarid also said that "there was a certain degree of radiation inside (the laboratory), but outside there was no radiation." "It was cleaned up. It was 28 years ago," he added. This is the first detailed information that has surfaced about an accident in Israel's nuclear program, which began in great secrecy in the 1960s. For 20 years U.S. and other analysts have said Israel has developed nuclear weapons, but the Israeli government has never acknowledged this. Through censorship, Israeli authorities have effectively prevented the press here from reporting about the facility's work. The Israeli Atomic Energy Commission admitted for the first time in July that a "work accident" at Dimona had occurred after Israel's Channel One aired an interview with an employee of the site who said that an accident more than two decades ago had left one person dead. In its brief statement two days after the program, the commission said the death of the employee, whom it did not name, was not "connected directly or indirectly to radioactivity," but was the result of a blow to his head. It said the incident had caused no environmental contamination. Maariv reporter Alex Doron, who wrote this week's story with Leat Ron, said that after the commission's admission of an accident, his paper attempted to find out more details. Maariv found a notice in Israeli papers about the death of Abraham Gofer, then 22, on Dec. 15, 1966. The notice lacked the usual information about where, how and when he died. The paper located the brother and mother of Gofer, a lab technician, and interviewed them. Maariv's article said that in the accident, Gofer was killed on the spot and three other employees were injured. Sarid said only one person was injured and he said Gofer died after the "blow-up" when "something was falling down and he fell down and died." Asked if the lab had totally collapsed, Sarid said he did not know, but he added that it "was harmed." Sarid said there have been no other accidents at the facility since then and he called Dimona "one of the most secure (nuclear facilities) all over the world." Copyright 1994 The Washington Post

### **NUCLEAR INDUSTRY VIES WITH GREENS FOR PUBLICITY**

RTna 9/15/94 11:01 AM LONDON (Reuter) - Nuclear industry chiefs are claiming to have stolen a march on their opponents, with two thirds of British adults now in favor of nuclear energy as a source of power. "Just as the collapse of Communism has killed the rhetoric of jingoism and the Cold War, so there are signs that the old polarities around nuclear (energy) have lost their appeal," said Roger Hayes of the British Nuclear Industry Forum. "Two thirds of the British public prefer to walk down the middle." He was speaking at a two-day industry conference entitled "The nuclear industry - into the 21st century?" Anti-nuclear protesters outside the hall scorned the idea. "Whilst the world struggles with the legacy of Chernobyl, nuclear waste and dilapidated reactors, the world's nuclear bosses are meeting in a plush hotel in London to promote their image and sell their wares," said a spokesman for the Anti-nuclear Network, a London-based pressure group. Representatives of environmental pressure group Friends of the Earth inside the conference saw no erosion in their support. Earlier this year some 150,000 people signed a petition against nuclear power, noted Dr Rachel Western, a nuclear researcher for the group. But industry leaders from the UK, France and North America were resolutely upbeat. They pointed to improved productivity and reduced costs, symbolized by the completion of Britain's Sizewell B plant on time and to cost. "For the first time ... there are signs of something real about to happen -- like a new dawn after a stormy night," said James Hann, chairman of Scottish Nuclear Limited. "The nuclear industry needs to be reminded that running a plant is a business, not a religious calling," countered Western, adding: "The uncertainties surrounding waste management, for example, are not resolved." The disposal of radioactive waste has become the focus of much anti-nuclear campaigning in recent years. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

### **BULGARIA, RUSSIA TO DISCUSS NUCLEAR WASTE STORAGE**

RTw 9/15/94 9:50 AM By Liliana Semerdjieva SOFIA, Sept 15 (Reuter) - Bulgaria plans to sign a new deal with Moscow next week for its Soviet-made nuclear power plant but the two sides must first agree on the transport of highly radioactive nuclear waste, an official said on Thursday. Energy Committee chairman Nikita Shervashidze told Reuters that a government delegation would leave on Monday for talks in Moscow on updating bilateral nuclear cooperation agreements from 1966 and 1972. Shervashidze said Bulgaria would push for a new protocol to guarantee that spent fuel from the Kozloduy plant would be stored in Russia and also secure the consent of Ukraine and Moldova to transport the material through their territory. "We are prepared to discuss the issue with Moldova and hope Russia will do the same with Ukraine...Otherwise the protocol loses sense," he said, adding that the acting cabinet had authorised the delegation on Thursday to sign the protocol. Shervashidze said buying fresh fuel for the Kozloduy nuclear plant from Russia and storing its spent fuel there were tightly related issues which had to be resolved simultaneously. The former Soviet Union, which built the Kozloduy plant, used to reprocess the waste without charge until a bilateral agreement expired in 1990. The spent fuel has since been left unprocessed in a temporary storage facility at Kozloduy. In June, Russia agreed to receive the spent fuel from the two 1,000-megawatt reactors for a sum to be negotiated and refused the waste from the four older 440-megawatt reactors. Shervashidze said that if an agreement was not reached with Russia, Bulgaria would have to construct its own disposal storage for spent fuel. "Hungary, which could not resolve the transport problem with Russia, decided to construct its own permanent storage for spent fuel and has already found a site for it," he said. The six reactors at the Kozloduy station were built to provide up to 40 percent of the country's energy needs. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

### **COURT DISMISSES CHERNOBYL 160M ECU DAMAGES CLAIM**

RTec 9/15/94 5:09 AM LUXEMBOURG, Sept 15 (Reuter) - The European Court of Justice dismissed on Thursday a claim by Greek farmers for damages of 160 million Ecus from the EU Council over losses following the Chernobyl nuclear accident. Greek wheat producers said the Council had "unlawfully" and "inaccurately" fixed maximum radioactivity levels in produce following the 1986 disaster. Farmers belonging to the huge cooperative KYDEP say they lost 47 billion drachmas (160 million Ecus) as the result of a Commission telex sent to member states just after the accident. KYDEP said the telex, sent as a interim measure before formal legislation could be published, set tolerance levels that were too high. The cooperative also criticized the Council, and the European Commission, for not helping farmers whose consignments were outlawed through intervention buying or export refunds. The court threw out the KYDEP claims, saying they were "inadmissible." It said the cooperative had produced "nothing" in terms of scientific or general evidence to show the Council and Commission had set levels that were too high. The tolerance levels were subsequently accepted by all the EU member states and 20 non-member states as being fair, said the court in its judgment. KYDEP had also asked for 34 per cent interest to be paid on the damages. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

### **BULGARIAN POLICE IN BIG RADIOACTIVE HAUL**

RTna 9/14/94 11:20 AM (Eds: Confirms reports, adds details) SOFIA (Reuter) - Bulgarian police have found 19 containers of radioactive materials, including plutonium, caesium and strontium, hidden by amateur thieves in two cellars in Sofia, an interior ministry official said Wednesday. Six Bulgarians were arrested in a week-long police operation to recover the biggest haul ever reported in this former communist state. One of the containers, holding caesium-137, gave off radiation 1,000 times the normal level. Another, containing plutonium-239, radiated 250 times the normal level. The haul follows a series of high-profile seizures of smuggled radioactive materials in Germany but Bulgarian police, amazed at the ignorance of the alleged thieves, found no evidence of any trafficking network. "There was no sign that they were connected with foreigners...or that a deal was done," said the official, who declined to be named. "None of them had specialised technical knowledge or education." A senior official from the Bulgarian Atomic Energy Committee which supervises registration of all radioactive materials in the country, said the haul was probably stolen locally. "In Bulgaria small quantities of radioactive material have been produced mainly for medical usage. Most probably the material was stolen from Bulgarian industrial enterprises," said the committee's safety director Petar Todorov. "We cannot say how much there is before specialised studies are performed," said Todorov. He added that during the last year the committee had received information on 75 unregistered enterprises where sources of radioactivity were in use. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

### **SCAROLINA WINS RULING AGAINST EUROPE NUCLEAR WASTE**

RTw 9/13/94 7:37 PM COLUMBIA, SC, Sept 13 (Reuter) - A federal judge Tuesday blocked shipments of nuclear waste from being stored at a South Carolina facility, setting back an ambitious plan by the federal government to store the waste from seven European countries. South Carolina officials, who filed the lawsuit against the Department of Energy (DOE) Friday, want to stop over 400 nuclear fuel rods from seven nations from being stored at the state's Savannah River Site (SRS). "The primary feature of the order is that it prohibits the Department of Energy and the foreign reactors from sending the waste that is at sea into the United States until there is a final resolution of the case," said Carl Roberts, South Carolina's senior environmental attorney. The lawsuit calls for the DOE to conduct a detailed environmental study before admitting the nuclear waste to the state. "The court hereby enjoins the defendants and interveners from allowing the spent fuel assemblies currently at sea to enter the United States until this litigation is resolved on its merits," read the order from U.S. District Judge Matthew Perry, based in Columbia, capital of South Carolina. In Washington, the Energy Department issued a statement saying that it is asking the Justice Department to review the ruling. Both sides are to give the court, within two working days, a time frame for when arguments can be heard. Under the National Environmental Policy Act of 1969, federal agencies are required to determine whether proposed federal actions have significant environmental impacts. The federal government had argued that acceptance of the fuel was safe and would reduce the potential spread of dangerous weapons materials abroad. The 409 spent fuel rods slated for the SRS are to come from Austria, Denmark, The Netherlands, Sweden, Greece, Germany, and Switzerland. Fuel that has been withdrawn from a reactor following irradiation is called spent fuel. It can be generated from commercial nuclear power production reactors, defence production reactors, research reactors, and naval reactors. Two ships loaded with spent fuel are already at sea. The plan was to have the ships unload the nuclear cargo at the Sunny Point Military Terminal in Wilmington, North Carolina and from there it would travel by rail through Charleston, South Carolina on its way to the Savannah River Site. "It will be up to the Department of Energy and the shipper ... to decide what to do with the shipment," Roberts said. The SRS is a 310-sq-mile (802 sq km) federal government facility constructed in the early 1950s to produce materials for nuclear weapons. With the end of the Cold War the site's mission has evolved largely into one of environmental cleanup and waste management. It is located on the western border of South Carolina and Georgia along the Savannah River. South Carolina Governor Carroll Campbell, who will end his two-term tenure this year, said he was strenuously opposed to bringing the nuclear waste because there was no long-term disposition plan. He said it would just sit underwater at SRS. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

### **MORE RADIOACTIVE MATERIAL IN GERMANY**

UPn 9/12/94 9:56 AM BERLIN, Sept. 12 (UPI) -- German police said Monday they had arrested a Zairean man who tried to smuggle about 28 ounces (800 g) of uranium ore into Germany. The man, who was later released, told police he had found the ore in his native Zaire and brought it to Germany to have it examined in a laboratory and see if it was worth anything. The African was travelling from Zaire to Germany via Moscow, though police in Potsdam, the authority responsible for Berlin's Schoenefeld airport, said they did not suspect the ore originated in Russia. Customs officials at Schoenefeld were alerted after the man's luggage gave off a signal in the airport checkout X-ray machine. The ore, in the form of stone splinters, was discovered in a plastic bag in his suitcase. Experts at Brandenburg state's environment office were asked to examine the ore, and classified it as harmless. "It was giving off radiation of 2 microsieverts an hour, which is 20 times higher than natural background radiation in Brandenburg, but lower than the level for many other parts of Germany," said Dieter Schuette, a spokesman for the environment office. He said that while the ore was radioactive, it had not been classified as nuclear material and presented no danger to humans. Police said the 34-year-old Zairean, who had lived in Berlin for several years, was being investigated on suspicion of violating Germany's regulations on transporting hazardous materials. Schuette said there was "no explanation" for what the man intended to do with the ore. "Theoretically you can use it to make uranium, but the technology for this is very complex, and you would need far more than 800 grams of ore," he said. German authorities have made four major seizures of nuclear material this year, including the sensational interception of 11 ounces (312 g) of weapons-grade plutonium aboard a Lufthansa flight from Moscow arriving in Munich airport last month. The seizures have raised fears that bomb-making material diverted from nuclear facilities in Russia and smuggled into Europe by organized criminals could fall into the hands of rogue states and international terrorist gangs. Copyright 1994 The United Press International

### **HUNGARY FINDS PERMANENT SITE FOR NUCLEAR WASTE**

RTw 9/12/94 6:34 AM BUDAPEST, Sept 12 (Reuter) - Hungary has found a site for permanently storing highly radioactive nuclear waste that could be an alternative to the material's increasingly controversial transport to Russia, a Hungarian official said. The site, located about one km (half a mile) below ground in southern Hungary, has the capacity to store all of Hungary's nuclear waste for decades, said Erno Pungor, head of the National Committee for

Technological Development (NCTD). "I am happy to announce that we have found a...layer where high-radioactivity nuclear components can be placed," he told a news conference. "It offers a five million year guarantee that radioactivity will not escape." Scientists searching for a permanent nuclear storage site found the layer in the Mecsek mountains near Pecs about two months ago, Pungor said, adding that the area can also safely hold highly toxic chemical waste. Most of Hungary's nuclear waste comes from its Paks power plant, which produces about half the country's electricity. Russia has been increasingly unhappy about a commitment made by the former Soviet Union in 1966 to accept Paks's spent nuclear rods and other nuclear waste. Russian Prime Minister Victor Chernomyrdin signed an agreement during his visit to Budapest in April under which Russia will continue receiving Paks's spent rods. But Russian politicians ranging from environmentalists to nationalists, including the country's environment minister, have said they dislike the deal. In the meantime, Paks has begun preparations for building a facility where spent rods can be stored for a few years. Hungary has to prepare for a time when Russia will no longer accept Hungary's radioactive waste, Pungor said. "The fact that Russia has agreed to accept it is only temporary," he said. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

#### **FOUR COUNTRIES PLEDGE MORE CASH FOR CHERNOBYL**

RTec 9/10/94 1:11 PM LINDAU, Germany, Sept 10 (Reuter) - Two small members of the European Union and two aspirant states on Saturday pledged to come up with more money to help finance the clean-up and closure of Ukraine's Chernobyl nuclear reactor, diplomats said. "The Dutch, Norwegians, Austrians and Danes all pledged to find more money towards the Chernobyl cleanup," one said after the informal Ecofin meeting. The European Commission promised at the Naples G7 summit in July to provide one-third of the 1.5 billion European currency units the clean-up is estimated to cost. The group of seven nations -- the United States, Canada, Japan, Britain, Italy, France and Germany -- promised a further 200 million dollars. Economic Affairs Commissioner Henning Christophersen asked the EU's non-G7 members and the four states applying to join the bloc next January and whose central bankers and finance ministers attended the informal, if they could also chip in. German Finance Minister Theo Waigel, who hosted the meeting, said the ministers had been told that another accident at the reactor like the explosion in 1986 would be a disaster of world proportions. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

#### **NUCLEAR WASTE**

APn 9/9/94 9:14 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By JESSE J. HOLLAND Associated Press Writer COLUMBIA, S.C. (AP)-- South Carolina sued the U.S. Energy Department on Friday in an attempt to block shipments of European nuclear waste to a weapons-material plant. U.S. District Judge Matthew Perry agreed to temporarily block a shipment of 159 spent European fuel rods that the state said was already on a ship heading for the United States. The federal government wants to store the waste without considering its long-term environmental impact, which is illegal, according to Gov. Carroll Campbell and Attorney General Travis Medlock. The lawsuit is the latest salvo in Campbell's opposition to the plan to store the fuel rods at the Savannah River Site near Aiken, S.C. "I've tried to work with DOE for more than a year to show them better ways to manage this spent fuel, but they are simply blind to any other options," Campbell said. Campbell said the waste can be safely stored at foreign reactors or reprocessed into more stable forms. The department has said it had no choice but to accept the first shipment of the spent fuel rods from Austria, Denmark, the Netherlands and Sweden. When the United States sold the fuel, it agreed to take it back to limit nuclear proliferation. A second shipment of 250 fuel rods from Greece, Germany and Switzerland is expected within six months, Medlock said. Energy Department spokeswoman Jayne Brady said the shipment won't be allowed into the United States pending a Monday hearing before Perry. Energy Department Secretary Hazel O'Leary said the agency was disappointed that the state would raise an eleventh-hour challenge. In June, 20 states sued the federal government to force it to begin disposing of high-level radioactive waste from nuclear power plants by 1998. South Carolina was not among them.

#### **RUSSIA-NUCLEAR TEST**

APn 9/9/94 1:32 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By DAVE CARPENTER Associated Press Writer TOTSK, Russia (AP) -- A plain concrete slab in a windswept field endures as evidence of the terrible secret that 44,000 Soviet troops once swore to keep. All but a few of those "atomic soldiers" reportedly are dead, and few visitors travel the rutted dirt road to see the stark monument, erected only in 1991.

But next week's 40th anniversary of their role as guinea pigs in an unprecedented Soviet nuclear test won't go unnoticed. Older residents on the surrounding steppes of central Russia still vividly recall Sept. 14, 1954. They too were exposed to the bomb that showered nuclear fallout as far as 125 miles away. It was the day of the blinding flash, the day the animals died, the day raging flames consumed forests and villages for miles around. "Many of my friends have died" from radiation-induced illness, said Lyubov Ivanovna, 70, who lived in a village near the epicenter that no longer exists. "Now my son and daughter are both sick." Ivanovna, who still lives in the area, said villagers didn't know the danger of remaining in the contaminated zone, "and they didn't warn us." Russian Defense Minister Pavel Grachev, touring the site Wednesday on his way to joint U.S.-Russian exercises six miles away, condemned the test as "barbaric" and "monstrous." But according to a documentary film of the test released last year from Soviet archives, Russian generals recently told veterans seeking compensation and treatment that it was an "imitation" atomic explosion. Packing the power of 20,000 tons of TNT, similar to the bomb the Americans dropped on Hiroshima, it generated a mushroom cloud seven miles high. Within minutes, troops waiting three miles away in trenches or makeshift shelters were sent streaming toward the epicenter wearing little or no protective gear. Some 170 planes flew through the mushroom cloud to fight a fictional enemy, Col. Alexander Vasiakin told a rare group of visiting reporters this week. The goal: To learn whether troops could fight a battle in an area immediately after it was hit by a nuclear bomb. As for the thousands of civilians in the area, military officials said most living within a range of five to 12 miles were evacuated. But farmers were ordered to stay, and several survivors -- who live or work at the Totsk military base -- confirm that some other men also were not evacuated. Mikhail Dvornoyov, 57, lived 10 miles from the epicenter. Unlike many of his neighbors, he has survived for four decades since the blast. But he says he is in terrible health. "Suddenly I saw a spark," Dvornoyov recalled. "I couldn't see the sun. I was blinded for a second. I had the feeling the wall was falling down on me. I was dizzy." The soldiers spent the day on the scorched, contaminated site that now lies grassy and silent, dotted with rusted tanks and MiG fuselages that were hauled to the field in later years and used as bombing targets. By the time the men arrived, horses, cows and goats that were left at the blast area lay scorched. Nikolai Kurapov, a retired army major and history teacher, recalls the horror of coming across the animal carcasses two weeks later when he went to the site. "I would wish that no one goes through such suffering," said Kurapov, 69, hands folded atop his cane as he retold the story. The soldiers showered at the end of the day, but kept their contaminated boots. They also kept the tales of suffering to themselves, signing vows not to reveal what happened for at least 25 years. The secrecy also meant villagers were not warned to stay away from ground zero. So they returned to their old homes, had their cattle graze at the site when new grass grew, ate foods grown in contaminated soil. Some salvaged parts of the mangled military equipment at the site. "No one warned us," said a 70-year-old woman in a red scarf who gave her name only as Yekaterina. "There was a lot of cancer as a result. Lots of people I knew died because of it," she said, her voice quavering. U.S. nuclear tests in the same era, including those in Utah and the Marshall Islands, produced similar complaints. Reports about the Totsk secret experiment surfaced only in October 1991 in a report in the then-official newspaper Pravda, prompting veterans to form a group. But too few remain alive for their case to win justice.

### **BRF--RUSSIA-NUCLEAR PLANT**

APn 9/9/94 11:59 AM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. MOSCOW (AP) -- Authorities shut down a turbine at a nuclear power station in central Russia after steam leaked from a cylinder, the Interfax news agency reported Friday. The steam contained no radioactivity and posed no danger to plant workers or the environment, officials told the news agency. The turbine was in the third reactor at the Kursk Nuclear Power Station, a facility that uses Chernobyl-style RBMK reactors, Interfax said.

### **RUSSIAN NUCLEAR WATCHDOG CLEARS MAYAK LEAK PLANT**

RTw 9/7/94 6:43 AM MOSCOW, Sept 7 (Reuter) - An investigation into a radiation leak at a secret Russian nuclear plant last week has concluded that the site is completely safe, the state monitoring agency Gosatomnadzor said on Wednesday. The Russian atomic energy ministry has maintained all along that the accident, at the Mayak nuclear fuel processing plant in the Urals on August 31, was insignificant and the radioactivity leaked into the air just 4.35 percent of the maximum allowed. But Gosatomnadzor had taken a more cautious view of the incident at Mayak, in Ozersk -- formerly Chelyabinsk-65 -- until the release of its preliminary findings on Wednesday. "Radioactivity around the plant does not pose any danger for the local population and the environment," a Gosatomnadzor spokesman said by telephone. REUTERS Copyright 1994 Reuters America Inc. All rights reserved.

## **CANADA SIGNS NUCLEAR SAFETY AGREEMENT WITH RUSSIA**

RTw 9/7/94 4:26 AM MOSCOW, Sept 7 (Reuter) - Canadian nuclear specialists will work full-time in nuclear plants in Russia to improve safety practices and engineering designs, the Canadian Embassy in Moscow said on Wednesday. It said the specialists would be sent to Russia under a protocol agreement launching a joint nuclear safety and engineering programme. The agreement, the largest Canadian technical assistance project in Russia, was signed on Tuesday by Canadian Ambassador Jeremy Kinsman and Russian Atomic Energy Minister Viktor Mikhailov. The embassy said in a news release that the total cost of the programme, focusing on Chernobyl-type RBMK reactors, will be C\$10 million (US\$7.3 million) over two years. It quoted Kinsman as saying Canada wanted to share with Russia its experience in the safe design and operation of nuclear power plants. Western experts have been concerned about the state of Russian nuclear facilities since the 1986 Chernobyl disaster sent radiation over much of Europe. The embassy said the project was part of the three-year C\$30 million (\$22 million) Nuclear Safety Initiative announced in June 1992. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

## **VA COMPENSATION**

APn 9/6/94 5:41 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. WASHINGTON (AP) -- A federal appeals court on Tuesday overturned a decision denying compensation to an Army veteran for skin ailments he blames on radiation exposure in Japan during World War II. The U.S. Court of Appeals for the Federal Circuit said the Department of Veterans Affairs too narrowly interpreted a 1984 law intended to simplify such compensation claims. The court agreed with the Disabled American Veterans that the Radiation Compensation Act was meant to supplement existing procedures for proving disability claims, not replace them. Clyde Combee, a military policeman during the war, arrived in Japan about two weeks after the atomic bomb was dropped on Nagasaki in 1945. He filed two claims for compensation in 1989 with the VA regional office, but both were denied. The Board of Veterans Appeals and the Court of Veterans Appeals affirmed the denials, saying his skin ailments were not among the 38 diseases named in the Radiation Compensation Act. Arthur Wilson, national adjutant for the Disabled American Veterans, said the ruling is a "major victory for veterans whose disabilities may be caused by radiation exposure but are not on the list of illnesses officially assumed to be associated with radiation exposure." VA spokesmen were unavailable for comment Tuesday.

## **RUSSIAN DEFENCE PLANTS ESCAPE NUCLEAR WATCHDOG**

RTw 9/6/94 8:44 AM MOSCOW, Sept 6 (Reuter) - Russian military facilities are not all subject to the same scrutiny by the state nuclear monitoring agency as civilian plants, a senior official at the agency said on Tuesday. "All civilian nuclear facilities are now under our control, but this is far from being the case with all the military ones," Yuri Volodin, department head at Gosatomnadzor, told a news conference. "This is, of course, abnormal," he said. Volodin's remarks come amid continued concern over safety at Russian nuclear plants following the 1986 Chernobyl disaster that sent clouds of radiation over much of Europe. The agency claims responsibility for supervising all civilian and military nuclear reactors, although its jurisdiction does not extend to investigating possible smuggling of nuclear material out of Russia. Volodin said Gosatomnadzor was holding talks with the Atomic Energy Ministry and the Defence Ministry on ways to "improve collaboration," but he declined to elaborate. Gosatomnadzor, set up in late 1991, has seven regional branches which are mostly responsible for monitoring Russia's nine civilian nuclear power plants. Russia has 13 VVER pressurised water reactors, 15 RBMK Chernobyl-style graphite-moderated reactors and one fast breeder reactor. Their total nuclear power generating capacity is 21,242 megawatts, but the Atomic Energy Ministry plans to increase it sharply in coming years. It is not known how many reactors are in the military sector. Gosatomnadzor's headquarters in Moscow have about 180 employees, while the regional branches have more than 1,200 inspectors. "That is to say the main burden for monitoring nuclear facilities lies with our regional services," Volodin said. He said Gosatomnadzor inspectors had been dispatched to nearly all of Russia's big nuclear facilities. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

## **IAEA BOSS SAYS NUCLEAR POWER HURT BY SCARE REPORTS**

RTw 9/5/94 6:24 AM By Steve Pagani VIENNA, Sept 5 (Reuter) - U.N. atomic agency chief Hans Blix said on Monday the end of Cold War should make nuclear power more acceptable but the industry was still tainted by scare reports of plutonium trafficking and safety breaches. Blix, director general of the International Atomic Energy Agency



(IAEA), said more countries would adopt nuclear power to generate electricity only if the industry continued to demonstrate its safety and environmental advantages. "With the end of the Cold War and the prospect of massive nuclear disarmament, the fear of nuclear war should no longer rub off on nuclear power," Blix said in a speech opening a four-day conference on the future of nuclear power. "It is regrettable that the issues which now dominate the media tend to create an atmosphere in which it is difficult to have a balanced public discussion of the nuclear power option," he said in an address to some 200 experts from 40 countries. The spectre of nuclear bombs sprouting in the world's potential flashpoints, careless dumping of toxic waste and fears of "another Chernobyl" have harmed prospects of what advocates insist is a reliable source of cheap, clean energy. Blix said alarm over plutonium trafficking and the nuclear programmes of such states as Iraq and North Korea had overshadowed the benefits of nuclear power. "Disturbing as some of these developments are, they do not negate the overriding trend towards ever greater international cooperation to promote the peaceful use of nuclear energy," Blix said. He urged national authorities to make more effort to prevent nuclear material getting into the hands of traffickers and said the IAEA was discussing with its 120 member states how the agency can help fight against the illicit trade. Germany seized three small consignments of plutonium and one of uranium this year, which Bonn said had come from Russia. The IAEA was set up by the United Nations in 1957 to promote and oversee the peaceful use of nuclear energy. Blix acknowledged that nuclear power had failed to achieve the market share of the energy industry that had been expected when the first nuclear power plant began operating in Obninsk in the former Soviet Union 40 years ago. "One thing is certain. Despite ambitious energy saving and higher prices the demand for electricity will continue to grow," he said, citing an OECD report projecting a 75 percent increase in global demand by the year 2010. "It is unclear to what extent nuclear power will be used to meet projected increases in the global demand for electricity generation," he added. Nuclear power currently produces 17 percent of the world's electricity with growth expected in Asia and Eastern Europe. Blix said nuclear power would become more competitive as fossil fuel prices were expected to rise due to more demand and the costs of reducing harmful emissions of sulphur dioxide and carbon dioxide. Nuclear reactors cost 25 to 50 percent more to build than traditional oil or coal plants but can run up to 40 percent cheaper with no sulphur dioxide emissions. Blix said that despite public and media perceptions, nuclear power plants performed as well and in some cases more reliably than fossil-fuelled plants. But nuclear experts concede that another accident comparable to the Chernobyl explosion in the former Soviet Union in 1986 could wreck the industry. The blast, which killed 31 people outright and an estimated 8,000 more from the after-effects, spewed a radioactive cloud over Europe, contaminating crops and livestock. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

## **NUCLEAR EXPERTS TO TACKLE INDUSTRY'S IMAGE PROBLEM**

RTw 9/4/94 6:37 AM By Douglas Hamilton VIENNA, Sep 4 (Reuter) - Nuclear energy experts gather in Vienna this week to discuss the future of an industry whose dark side is never far from the headlines and whose benefits are often taken for granted. A brief but predictable flurry of alarm over a fire at a nuclear plant in Russia last week was just the latest, small cloud on the horizon of what advocates insist is a safe, reliable source of cheap, clean energy. The spectre of the spread of nuclear weapons, careless dumping of almost everlasting toxic waste, an underground trade in radioactive fuel and above all the lingering fear of "another Chernobyl" are among the perceived drawbacks dogging this 20th century industry. The four-day conference on "The Nuclear Power Option," organised by the 120-member International Atomic Energy Agency (IAEA), will focus on how to further improve safety, increase public acceptance and boost economic performance. The IAEA was set up by the United Nations in 1957 to promote and oversee the industry and curb the spread of the bomb. About 200 experts from 40 countries are attending the Vienna conference. Nuclear power, born with a big bang just 40 years ago, produces 17 percent of the world's electricity. In 10 years, this is expected to rise to up to 20 percent. Reactors cost 25 to 50 percent more to build than traditional coal- or oil-fired plants but can operate up to 40 percent more cheaply, without sulphur dioxide emissions. In 1993, 430 nuclear plants were operating worldwide and 55 were under construction in 32 countries. But stark contrasts remain. France meets 78 percent of its power needs from the atom. Austria, host to the IAEA, has forsworn nuclear energy altogether on environmental and safety grounds and intercedes vigorously with neighbours planning reactors near its borders. IAEA director-general Hans Blix, in a speech in June, said the nuclear industry's main challenge now that the Cold War was over was to improve economic performance and safety. "Our think-tanks are no longer concentrating on how best to maintain the prospect of a Mutually-Assured Destruction...they can now focus on how to develop our economic, social, political and cultural systems," Blix said. In regions where electricity needs are expected to grow quickly, such as Eastern Europe and southeast Asia, the nuclear option is attractive. Indonesia and Thailand are close to opting for atomic power. China plans to expand its modest nuclear base. Critics long derived their most effective arguments from memories of the terrific blasts and lethal radiation that began the nuclear age with the U.S. atomic bombing of Japan at the end of World War Two. Experts concede that the industry is only just emerging from a period of stagnation, brought on by the catastrophic

explosion and fire at Ukraine's Chernobyl plant in 1986, the world's worst civilian nuclear disaster. Most West European states froze their nuclear programmes after Chernobyl and many Asian countries on the verge of building their first reactor postponed it. "Any accident anywhere would have a very strong negative effect on public acceptance of nuclear power. We saw that with Chernobyl," said the IAEA's Leonard Bennett. IAEA spokesman Hans Meyer said this week's Vienna conference, in keeping with previous meetings held roughly every 10 years, was not expected to produce dramatic decisions. The emotive atmosphere enveloping nuclear energy was underlined on the eve of the gathering, in an allegation by the environmental organisation Greenpeace that the IAEA was preparing to approve transportation of plutonium by air. "The IAEA is about to bring plutonium to an airport near you," it said in a statement. "This is a nightmare concocted by those who produced Hiroshima and Chernobyl." The conference opens on Monday. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

## NUCLEAR LEGACY

APn 9/3/94 11:28 AM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By DONALD M. ROTHBERG Associated Press Writer LOS ALAMOS, N.M. (AP) -- As bomb maker James Mercer-Smith sees it, his contribution to world peace was designing weapons so terrifying no one would dare use them. "I view myself as the witch in all of Grimm's fairy tales. My job is to scare little children," he says. He and his colleagues succeeded admirably. Deterrence worked. But the price was leftover arsenals of thousands of nuclear weapons and a lineup of nations like North Korea, Iraq and Iran bent on developing their own. So now the scientists and engineers who built the bombs are shifting their focus to the task of the '90s and beyond: counter proliferation. American wizards of a generation's nightmare now work to keep their handiwork from becoming all too commonplace. Perhaps the most dramatic example of the drive to halt the spread of nuclear weapons is the cooperation between U.S. and Russian scientists who spent a generation competing to develop weapons of greater force and efficiency. As one Russian scientist told Ron Auguston, of Los Alamos: "Our two labs caused this problem." Right now, old habits of secrecy limit the cooperation between the former nuclear rivals. And there are frightening signs that Russia is losing control of some of its vast store of plutonium. "Everybody has a sense proliferation has not slowed down in the absence of superpower confrontation," said Roger Hagengruber, head of defense programs at Sandia National Laboratories in Albuquerque. "In fact, it may have speeded up." "There are lot of things people would like to uninvent, if they could," said weapons designer Rod Schultz. "The only problem is, some think you can do it." Coping with the legacy of the nuclear age is a challenge every bit as daunting as the one that faced the handful of scientists who moved to this remote New Mexican community in 1943 and developed the bombs that destroyed Hiroshima and Nagasaki and forever changed the way the world thought about war. Each of the two bombs dropped on Japan in August 1945 had the explosive force of 20,000 tons of TNT. Compare that to World War II's conventional bombs, few of which contained more than 500 pounds of explosive. Harold Agnew, who later ran the Los Alamos laboratories for many years, tells the story of giving tours of Tinian Island to VIPs eager to see the place from which the planes took off carrying the atomic bombs dropped on Japan. There wasn't much to see. Models of "Fat Man" and "Little Boy" and the machinery used to load them. Little else. One display was the wooden box that carried the plutonium pit -- a grapefruit-size metal-clad ball that is key to creating a nuclear explosion. "Just a minute, sonny," interrupted a visiting admiral. "Are you trying to tell me that you carried in that box right there something that was the equivalent of 20 thousand tons of TNT?" "Yes, sir, that's right," said Agnew. "Young man, you may believe that, but I don't have to." With that the admiral and his entourage marched out. That story illustrates one of the horrors of the nuclear age. Plutonium pits are as transportable as bowling balls. They don't glow; they're not hot; they don't give off instantly lethal doses of radiation. But in the right hands or the wrong, they are the heart of nuclear weapons. Fifteen pounds of plutonium in the hands of a terrorist with the know-how would be enough to produce a crude bomb, the equivalent of one or two thousand tons of TNT. Enough to topple the twin towers of the World Trade Center if set off in its parking garage. The Manhattan Project produced only two bombs -- and both were used. After the explosion that destroyed Nagasaki, the U.S. atomic arsenal was empty. If Japan had refused to surrender and a third bomb was needed, scientists at Los Alamos would have had to scramble to build it. The third bomb was never needed. Untold bombs were tested by the United States, the Soviet Union, Britain, France and China. But none was used in all the world's wars since 1945. The arsenals grew by multiples of thousands, and not until the end of the Cold War were serious steps taken to reduce them. Almost daily specially designed trucks deliver nuclear weapons to a sprawling industrial complex on the outskirts of Amarillo in the Texas Panhandle. The Department of Energy's Pantex plant is where nuclear weapons are put together and taken apart. The work is done in domed areas called Gravel Gerties, the name stemming from their unique feature: a roof covered with 17 feet of sand and gravel. Plant officials say there is no danger, absolutely none, of a nuclear explosion during the process. But there is the possibility of a conventional explosion. Should that occur, the sand and gravel would collapse into the area to prevent the radioactive materials from escaping. In this age of dismantlement,

the Department of Energy hopes to take apart up to 2,000 nuclear weapons a year at Pantex. Still, it is not explosions that worry people who live around Pantex. It's the pits. When a weapon is taken apart, the plutonium pit is removed and placed in temporary storage at Pantex. Temporary started out meaning about seven years. Now the talk is closer to 50. But whatever worries Pantex neighbors have about its plutonium storage are minor compared to those that scientists at Los Alamos and Sandia have about plutonium in Russia and elsewhere in the world. If security is tight enough, if no one sells one, pits are easy to keep track of. Plutonium dust and shavings are another issue. Hegengruber said that even in a well-managed program the plutonium that is unaccounted for is in the range of a few percent -- "the material in the pipelines, the material in the ventilators, material in the filters." That's a well-managed program. In the case of the former Soviet Union, he said there is "a handful of tons of material" unaccounted for. In August, German police arrested three men when they arrived at Frankfurt from Russia with a little over a pound of weapons-grade plutonium in their luggage. The other key element to building a bomb is knowledge and experience. There's plenty of both in the former Soviet Union. "It's hard for us to imagine what's happening in the breakup of the Soviet Union," said Paul Robinson, who has worked at both Los Alamos and Sandia and from 1988 to 1990 was chief U.S. negotiator at nuclear test ban talks. Suddenly Russian weapons scientists stopped getting regular pay checks and some took side jobs as truck drivers. "Once you start driving trucks you get mobile and I'm worried," he said. "I am worried that maybe the contacts (from countries seeking their talent) are easier." To help stem that potential movement of talent, U.S. scientists are "trying hard to find ways to develop lab to lab contact," said Hegengruber, to help their Russian counterparts "find meaning for their lives and their profession in a world that is undergoing change." How tight are international efforts to prevent countries from obtaining the materials and expertise they need to develop nuclear weapons? The labs train the International Atomic Energy Agency inspectors who go to Iraq and other countries in search of evidence that a weapons development program is under way. They also play what Mercer-Smith calls the "Catch a Thief game." The goal is simple, he explained: "How would an experienced weapons designer look at export controls as an amusing challenge and try to go around them?" The results of this deadly serious game can alert intelligence agencies about "the stuff the designer couldn't get around, and how he got around all the other stuff." But he also points out that the scientists who built the first bombs lacked today's vast store of available knowledge, as well as today's computers. "You can go to a hardware store and buy a hand calculator for \$5 or \$10 that is better than any of the computers available for the Manhattan Project," he said. "A portable computer today has more computing capability than Los Alamos did before 1975." Like most of his colleagues, Mercer-Smith sees no hope of holding back the technology. Perhaps the only answer lies in the terrifying power of the bomb itself. "Take the leaders of the world every 5 or 10 years and let them see a megaton," he said softly. "Make them see a megaton."

### **EXPLOSION KILLS ONE AT INDONESIAN NUCLEAR CENTER**

UPn 9/3/94 12:45 AM JAKARTA, Sept. 3 (UPI) -- An explosion has killed one person and injured another at Indonesia's nuclear testing laboratory, located at the Center for Science and Technology Development in West Java, news reports said Saturday. Djali Ahimsa, director general of the National Atomic Energy Agency, known as "Batan," told local media that the explosion took place Wednesday, but it caused no radiation leaks. "In order to avoid confusion, I stress that what exploded Wednesday was not the stored radioactive materials," Ahimsa said. "What was stored (at the laboratory) were non-radioactive components." Ahimsa said his office is still trying to determine the cause of the blast, and has not ruled out the possibility of foul play. "We have not ruled out the possibility of sabotage," Ahimsa said, adding that certain groups might have caused the blast in an effort to discredit Batan, an agency which was created to examine the possibility of Indonesian development of a nuclear power plant in densely populated central Java. Ahimsa confirmed that Wednesday's explosion in Serpong, some 18 miles (30 km) southwest of Jakarta, killed a laboratory staffer, and a cleaning service worker was injured. He said the demolished laboratory was used only for engineering activities and "no chemicals were stored there." The Indonesian Environmental Forum, known as "Walhi," has demanded that the Indonesian government thoroughly inspect the extent of the damage, and determine whether the blast caused radiation leaks. Indonesia chose the lab site at Mount Muria, on the northern coast of crowded central Java, for the country's first 600-megawatt nuclear power plant. The government has said construction of the plant is due to begin in May 1996, following the completion of a project feasibility study sometime next year. But international and domestic environmentalists fear the risks of building the plant in Java, which is home to more than 100 million of the nation's 190 million citizens. The groups also claim a nuclear plant would be a major risk because of the frequent volcanic eruptions that occur on the earthquake-prone island. Wlahi acknowledged that Mount Muria, a dormant volcano, has not erupted in recent memory. But the volcano evokes memories of Mount Pinatubo in the Philippines, which was also considered dormant before it erupted two years ago. Copyright 1994 The United Press International

## **EUROPEAN NUCLEAR FUEL ARRIVES IN SOUTH CAROLINA**

RTw 9/30/94 1:56 PM WASHINGTON, Sept 30 (Reuter) - The first shipment of nuclear waste from European research reactors arrived at a federal site in South Carolina Friday, the Energy Department said, despite protests from the state. The Energy Department said 153 spent fuel elements from reactors in Austria, the Netherlands, Denmark and Sweden were to be placed in underwater storage at its Savannah River Site near the Georgia border. South Carolina had sued to block the shipments, saying that the federal government has no long-term plans on what to do with the spent fuel it is trying to recoup as part of its nuclear weapons non-proliferation programme. A panel of federal judges on September 23 ruled against the state, and said the nuclear waste could enter the country for storage at Savannah River. Energy Secretary Hazel O'Leary in a telephone news conference Friday said there is enough highly-enriched uranium in the 153 rods to produce four nuclear weapons. "This is the kind of material we don't think should be at research reactors" where it may be vulnerable to theft, O'Leary said. The United States is trying to recover the highly enriched uranium it produced that is being used in European reactors for medical and other research. There are plans to recover another 256 spent rods early next year, and to recover some 15,000 fuel rods over the next 15 years. An analysis of the environmental impact of the nuclear waste is due next spring and O'Leary said it will lay groundwork for long-term storage or disposal plans. She said it was essential for the United States to reclaim the shipment of 153 rods, or else Europe will think Washington is backing away from its commitment to take the spent fuel. The highly enriched uranium material is to be replaced at reactors with low-enriched material. "The debate's been in the wrong venue," O'Leary said. "It really isn't about the federal government versus the state of South Carolina. We're attempting to live up to longstanding commitments the United States made with reliable partners to discontinue the use of enriched uranium in research reactors." REUTER Copyright 1994 Reuters America Inc. All rights reserved.

## **CHERNOBYL SEEKS \$500 MILLION OF PRIVATE INVESTMENT**

RTw 9/29/94 7:56 AM By Robert Powell MADRID, Sept 29 (Reuter) - The head of Ukraine's Chernobyl nuclear power station said on Thursday he was seeking \$500 million of private foreign investment to improve safety and boost production at the partially crippled plant. "We need \$500 million over six years," Sergei Parashin, the general director of Chernobyl, told Reuters on the sidelines of the World Economic Development Congress in Madrid. "We would like to apply this to the creation of safety systems at the nuclear power plant," he added. Parashin said he had not yet received any offers of private-sector investment, but he said was looking to Germany in particular to provide funds. Chernobyl was the scene of the world's worst nuclear accident in 1986 when an explosion at one of its four reactors sent clouds of radiation drifting over much of Europe. That reactor is now encased in a sarcophagus of sand and concrete, but two others are still working. Parashin said the \$500 million of private investment sought would enable a third reactor, currently mothballed after a fire, to be brought back on stream within two years. This and a 700-megawatt increase in the capacity of one of the two working reactors could boost Chernobyl's electricity output to 20 billion kilowatt hours, he said. Parashin did not detail the safety work to be undertaken with the help of private investment but said it could turn the stricken power plant into a profit-making concern. "These are systems which would provide security at the nuclear power plant and could allow it to make a profit," he said. Parashin said the Ukrainian government's financial difficulties did not allow it to finance the safety work itself. Ukrainian officials say they will need between \$4 billion and \$6 billion to build a new cover for the stricken reactor, bring Chernobyl up to Western safety standards, complete partially built reactors elsewhere in the country and ensure the safe operations of the entire Ukrainian nuclear industry. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

## **CHERNOBYL CHIEF REJECTS SHUTDOWN**

UPn 9/28/94 9:59 AM By LUKE HILL MADRID, Sept. 28 (UPI) -- The general director of the Chernobyl nuclear power complex in Ukraine, speaking at a conference in Madrid Wednesday, rejected calls for the plant's shutdown as well as Western aid packages attached aimed at solving Ukraine's power deficit. Instead, Sergey Parashin proposed a \$500 million line of credit for 15 years to upgrade the plant's operations and safety, saying such a plan would provide a good opportunity for the money to be paid back with receipts from Ukrainian power sales abroad. Parashin outlined the plan and its merits before the Project Finance Summit of the World Economic and Development Congress being held in Madrid in conjunction with the International Monetary Fund-World Bank joint annual assembly. He said he would be discussing the plan with World Bank officials. In a subsequent interview with United Press International, Parashin labelled a European Union proposal for Chernobyl's shutdown in return for a massive energy development aid package "rough political pressure." Recalling previous Western promises made in return for nuclear disarmament in the former Soviet Union, promises that Parashin inferred had not been kept, he characterized the EU proposal as "first shut down, then get money -- this is not business like." "There are no grounds to speak about shutdown," Parashin said. "There are grounds

to speak about upgrading and improving safety." The Chernobyl complex was the site of world's worst nuclear accident. In 1986, one of its four reactors exploded, sending airborne radioactivity circling the globe and contaminating a wide area of the surrounding region, where signs of long term damage are still emerging. Ukraine has resisted a shutdown of the three remaining reactors, which Western neighbors consider unsafe, saying it would face a crippling power shortfall, a shortfall the EU has pledged to help solve. However, Parashin said the closure plan was not sound, both from a technical viewpoint and one of safety. He pointed out it would take six to 10 years to decommission the reactors anyway, whereas the normal operating life span for plants 1, 2 and 3 is slated to run out in 2007, 2008 and 2011, respectively. Upgrading the plants' efficiency and improving their safety offers a better solution, Parashin said, adding, "Shutdown will only make things worse, for the safety." "Unfortunately the European Union is negative and its opinion ungrounded," he told UPI. "It is not substantiated from the technical view and it does not take into account the serious home situation (in Ukraine)." Copyright 1994 The United Press International

### **SCHOOLBUS CRASH RAISES RADIATION FEARS**

RTw 9/27/94 11:52 AM MIAMI (Reuter) - A school bus was hit by a delivery truck carrying a small amount of radioactive material Tuesday, causing concern among parents of radiation poisoning, police said. The accident happened at 8:13 a.m. EDT when a bus carrying about 25 children to Stirrup Elementary School in Miami stopped at a railroad crossing near the city's airport and was hit from behind by a Federal Express delivery truck, police said. Ten of the children and the bus driver, Edna Holmes, were taken to a hospital with minor injuries, but parents were more concerned when they learned that the Federal Express truck's cargo included radioactive material. Police dispatched a hazardous materials team to the scene, which determined that the amount of radioactive material was so small there was no risk of radiation poisoning. Yves Semexant, the truck driver, who was not injured, was charged with careless driving, police said. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

### **THE NEW NUCLEAR MANTRA**

WP 9/24/94 11:00 PM HIS PREPARED text said that, with the passing of Soviet power, nuclear weapons play a "greatly changed" role in American strategy. But in presenting the results of a major Clinton administration nuclear policy review at the Henry Stimson Center last Thursday, Secretary of Defense William Perry got bolder and said the nuclear role is "dramatically reduced." It's so. The threat now centers on potential rogue bombs, not on real Soviet ones. The sense of civilizational and global endangerment is gone. Cold War nuclear diplomacy is only a memory. The American Army and Marine Corps have been shorn of these arms and the Navy and Air Force clipped way back. To us anyway, it is inconceivable that the United States would actually use or brandish the still very large total of 3,000-plus weapons it intends to have on hand in a decade, according to a schedule of reductions planned by the Bush administration and now confirmed by President Clinton. Certainly it is not possible to imagine that the United States plans to use the hundreds of weapons it means to keep in Europe. Nor is it conceivable that nuclear arms would be employed against conventional attack - a theoretical option the administration retains. But for an indefinite period, Secretary Perry made clear, nuclear weapons will remain a factor, diminished but undeniable, in American strategy. Essentially, the Clinton review embraces the Bush policy. This is a disappointment to those who feel that the times allow an ever fuller denuclearization of the American arsenal and of American thinking. At a time when the United States is pressing a global campaign to discourage other nations from acquiring or keeping nuclear weapons, for instance, it cannot help for Washington to be reaffirming the value and continuity of its own nuclear arsenal. At the same time, however, the United States still has not merely the nuclear habit but the responsibilities of a global power. The administration has reasons of prudence not only to call on a lagging Russia to catch up to its earlier disarmament pledges but also to hedge against what Secretary Perry calls the "small but real" risk that Russia, currently with 25,000 nuclear weapons (against 15,000 in American hands), might again become hostile. Meanwhile, the administration foresees further steps in arms control and disarmament. Whether there will be much of an emphasis on the further reduction of force levels and reinforcement of mutual deterrence in a "START 3" agreement may become clearer in the forthcoming Clinton-Yeltsin summit. In any event, there definitely will be an emphasis on the new strategic mantra of "MAS" or Mutual Assured Safety: nonproliferation, controls on fissionable materials, safety and security of weapons ("loose nukes") and the like. This new agenda is urgent and laudable in its own right. Copyright 1994 The Washington Post

### **COURT RULES EUROPEAN NUCLEAR WASTE CAN COME TO U.S.**

RTec 9/24/94 6:46 AM By Lorrie Grant CHARLOTTE, United States, Sept 24 (Reuter) - Nuclear waste from four European countries can come to the United States as part of the U.S. nonproliferation plan, and be stored in South

Carolina against the state's wishes, an appeals court ruled on Friday. South Carolina earlier this month won an injunction in U.S. District Court in Columbia barring the U.S. Department of Energy from storing 153 nuclear fuel rods now en route to the state's Savannah River Site (SRS). The 4th U.S. Circuit Court of Appeals in Richmond, Virginia, said South Carolina had not given enough reason for keeping the shipments out. "... For these 153 spent fuel elements at sea, the state of South Carolina has not, at this stage, demonstrated an immediate, irreparable and actual harm that requires us, at this time, to dismiss the significant concerns expressed by the Secretary of State and the Department of Energy," the appeals court said in a 2-1 ruling. Two ships loaded with nuclear material from Austria, Denmark, Sweden and the Netherlands are already on their way to the United States carrying 153 of the 409 nuclear fuel rods that the United States says require urgent storage. The appeals court ruling only referred to the 153 spent nuclear fuel rods because the South Carolina district court's injunction was directed at those rods now in transit. Other nations with fuel rods not yet sent are Greece, Germany and Switzerland. The United States agreed to accept the nuclear waste in an effort to halt proliferation of weapons-grade uranium. "The acceptance of this spent nuclear fuel sends a strong message to our foreign allies that the United States is a serious partner in eliminating the enriched uranium in the global marketplace," said Hazel O'Leary, the Secretary of Energy. The dissenting appeal court jurist, Donald Russell, protested the "piecemeal approach" the government has taken in disposing the waste. "This shipment is only part of a proposed course of action on the part of the United States to accept 10,000 to 15,000 spent nuclear fuel elements from foreign parties over the next 10 to 15 years," Russell wrote. There are only 1,400 burial slots to be filled at SRS before the site will have to close. Travis Medlock, South Carolina Attorney General, said in a statement that he would file a petition Monday for a rehearing before the appeals court and will seek another temporary injunction to keep the nuclear fuel out of the state. South Carolina had argued that the waste should not come to SRS until the government completed an environmental assessment deeming the delivery safe. The Energy Department countered that its environmental review showed no danger and that a further report was not necessary. The federal non-proliferation programme also attempts to persuade foreign research reactor operators to take on the financial and technical burdens of converting to low-enriched uranium. Without the incentive of spent-fuel acceptance, research reactor operators will not continue to convert to low-enriched fuel and that could gravely undermine non-proliferation policy, according to Secretary of State Warren Christopher. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

## NUCLEAR ACE

APn 9/23/94 12:10 AM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By ROBERT BURNS Associated Press Writer WASHINGTON (AP) -- The Clinton administration, in rethinking U.S. nuclear arms policy, has decided not only to play the same disarmament hand it inherited from the Bush administration, but also to slip a nuclear ace up its sleeve. In describing what he called a new way of thinking about nuclear weapons, Defense Secretary William Perry said the key feature was flexibility -- being willing to shrink the nuclear arsenal as planned but at the same time keeping in store the expertise, materials and facilities to reverse the cutbacks if need be. "It's prudent to provide some hedge," he told a Pentagon news conference Thursday. One form of that "hedge" concerns the U.S. nuclear warheads being taken out of active service in order to comply with the 1991 Strategic Arms Reduction Treaty and its sequel, the 1993 START II deal. Instead of them all being destroyed, some will be put in a kind of reserve so America can rearm fairly quickly in case the prospect of nuclear confrontation arises again. The START treaties require that long-range missiles be destroyed, but not their warheads. Perry says this approach is necessary in light of the Clinton administration's view that Russia's efforts to convert to democracy may fail, and that a regime in Moscow may arise that is hostile to the United States. Perry noted in a speech this week that with 25,000 nuclear weapons still in its possession, Russia remains the only nation capable of destroying the United States. The United States has about 8,000 nuclear weapons. Some nuclear strategists outside the government think Perry's approach is badly flawed, arguing that it is evidence that the administration is not ready to accept that nuclear arms have lost most of their usefulness. "The policy might more aptly be labeled 'Cold War Lite,'" said Stan Norris, a leading nuclear specialist at the Natural Resources Defense Council, a research group that advocates faster nuclear cuts and greater nuclear safety. Norris thinks the United States should be taking steps to encourage Russia to speed up its nuclear disarmament, while the "hedge" approach is likely to have just the opposite impact on the Russians. "This one-sided approach ... is not likely to engender much enthusiasm on the Russian side," Norris said. Norris estimated that the U.S. "shadow arsenal" of nuclear weapons held in reserve after the START treaties are fully implemented early in the next decade could include as many as 3,200 warheads for long-range bombers and missiles. That is only slightly fewer than the 3,500 it will keep in active service. In other words, the U.S. arsenal -- counting those in reserve -- could be nearly twice as large as advertised under the START treaties. John Deutch, the deputy defense secretary, told reporters Thursday that the administration, in a nearly yearlong study it called the Nuclear Posture Review, had considered eliminating one whole class of nuclear weapons -- the silo-

based intercontinental ballistic missiles. But in the end it was decided that the ICBMs -- one leg in the "triad" of U.S. nuclear strategy, along with long-range bombers and missile-toting submarines -- should be kept, Deutch said. That decision is another illustration of the value the administration places on the "hedge" aspect of its strategy. One calculation made in deciding to keep the ICBMs was that they can be "uploaded," meaning additional warheads could be placed on them to beef up the U.S. force if rearmament were needed. As it is, the administration intends to carry through with the Bush administration's plan to reduce the number of ICBMs to about 500, and to leave just one warhead on each. In another move designed to support the "hedge" approach, the administration decided to continue low-rate production of D-5 long-range missiles that are carried aboard Trident submarines. Reason: to maintain the technical base to produce larger numbers of missiles should rearmament become necessary. In an apparent reply to the policy announcement, the House Armed Services Committee and Senate Governmental Affairs Committee released a report Thursday indicating that "prospects have improved significantly for the implementation of two major arms control agreements by the four nuclear inheritor states of the former Soviet Union." The report by the Congressional Office of Technology Assessment refers to arms reduction efforts with Russia, Ukraine, Kazakhstan and Belarus. It urges continued aid to the former Soviet states to help them dismantle their weapons and prevent their nuclear scientists from selling their skills to terrorist states.

### **ROMANIA STAGES FIRST NUCLEAR-ACCIDENT DRILL**

RTw 9/22/94 12:04 PM By Adrian Dascalu CERNAVODA, Romania, Sept 22 (Reuter) - Thousands of Romanians living near the Cernavoda nuclear power plant joined a mock evacuation on Thursday in trains, boats and trucks when the authorities staged the first nuclear accident drill. "People must know there is a risk and that they must be prepared for evacuation in case of a major nuclear accident," said Colonel Ioan Spiridon, who headed the exercise. "The evacuation drill is running perfectly. We are very satisfied," Spiridon told Reuters. He made the remarks while monitoring from his hill-top command post the evacuation of some 4,000 people living around the country's first nuclear plant. Military helicopters hovered over the five reactor towers and the nearby town of Cernavoda, directing columns of trucks to evacuation points. Spiridon said the exercise had been intended to test the preparedness of authorities in charge of protecting people and the environment in the event of a disaster at the plant. Canadian "Candu" nuclear technology is being used in the first nuclear plant built in the former communist Balkan state. The plant, on the River Danube, 170 km (106 miles) east of Bucharest is expected to begin producing electricity next May, supplementing existing coal and hydroelectric stations. "The Candu-type plant is very safe," Cernavoda plant general manager Viorel Marculescu told Reuters. "There are 22 such plants in the world and none of them has ever reported a major technical incident. We do our best to meet all safety standards here...but, however, I think that such kind of exercises are necessary," he said. Sirens sounded as troops and police helped the large groups of running adults and children in Cernavoda get to ships waiting at nine makeshift piers alongside a canal linking the town to the Danube. The crowds were eventually ferried to a railway station from which trains took them to safe areas, far from a "possible catastrophic release of radioactivity from the plant." Firefighter trucks and vehicles carrying decontamination teams, sped through Cernavoda to put out fires lit for the occasion to simulate accidents. "The population responded very well and we are confident that everybody will know what to do in case something goes wrong at the plant," Spiridon said. He said the local authorities planned to distribute free of charge gas masks and decontamination gears to all 23,000 people living in Cernavoda, to ensure them "a minimum of protection" in case of a nuclear accident. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

### **NUCLEAR-SAFETY**

APn 9/22/94 8:25 AM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. VIENNA, Austria (AP) -- Forty-three countries have signed a U.N.-sponsored convention aimed at applying basic safety standards to potentially hazardous nuclear plants of former communist states. Signing of the accord, the first of its kind regarding nuclear power plants, opened Tuesday during the weeklong annual convention of the 121-nation International Atomic Energy Agency. "It is the first legal instrument to address directly the issue of safety of nuclear installations worldwide," said Hans Blix, the agency's general director. Signatory countries agree to meet basic nuclear safety principles and submit to regular international reviews. They also agree to close aging or unsafe plants that cannot be upgraded, although they are given wide latitude to consider social and economic effects before doing so. The convention will take effect as soon as it is ratified by the legislatures of 22 states, at least 17 of which have operating nuclear power plants. Ratification is expected to take about six months. Among the first to sign were Canada, Germany, the United States, Russia, France, China and Ukraine. Many smaller states with nuclear plants also have signed, and more endorsements are expected in the coming months. The IAEA lists at least 430 nuclear power reactors operating in 30

countries, and 55 more under construction. The convention applies only to civilian nuclear power plants -- not research or military facilities -- and sets down broad safety principles rather than specific technical standards. A main intent is to begin applying modern safety standards to aging and unsafe plants in newly independent states of Eastern Europe and the former Soviet Union. Among reactors deemed potentially dangerous by international inspectors are several older-model units at Bulgaria's Kozlodui complex and at Chernobyl in Ukraine, scene of the world's worst nuclear power accident in 1986. Convention language was softened over two years of negotiations to accommodate such states, which contend that they cannot afford to scrap any reactors without compensation. Bulgaria, which also signed the accord Tuesday, depends on Kozlodui for more than a third of its electricity needs. Austrian Foreign Minister Alois Mock, whose country is concerned about nuclear plants in neighboring former communist states, called the accord "the best obtainable compromise."

### **COURT HEARS DOE APPEAL TO ACCEPT FOREIGN NUCLEAR WASTE**

RTw 9/21/94 5:40 PM (Eds: fixes slugline) By Lorrie Grant CHARLOTTE, NC, Sept 21 (Reuter) - A federal court delayed ruling Wednesday on an appeal of a lower court decision that blocked European nuclear waste from coming to the United States. South Carolina earlier this month won an injunction in U.S. District Court in Columbia barring the U.S. government from letting more than 400 spent nuclear fuel rods come to the state for storage at the Savannah River Site. South Carolina argued that the waste should not come to Savannah River until the government completed an environmental assessment deeming the delivery safe. The Energy Department countered that its environmental review showed no danger and that a further report was not necessary. The 4th U.S. Circuit Court of Appeals did not say when a decision would be issued. Two ships loaded with nuclear material from Austria, Denmark, Sweden and the Netherlands are already on their way to the United States carrying 153 of the 409 nuclear fuel rods that the United States says require urgent storage. "(Delivery) of the 409 are necessary to keep these reactors from closing," said Edward Shawaker, who argued the case for the government. However, South Carolina Assistant Attorney General Kenneth Woodington, who said there were 1,400 more slots available at Savannah, fears the federal government will use the same excuse for the approximately 15,000 nuclear fuel rods to come. "They have said the 409 will be the last urgent shipment, but I don't think they can predict that," Woodington said. The ships are due to dock in North Carolina where the nuclear fuel rods would then be transported by rail. The Energy Department would not comment on the whereabouts of the ships. "I can't tell you exactly when the ships are to arrive because of security considerations," Shawaker said. Each rod contains about one kilogram (2.2 pounds) of highly enriched uranium. It takes 15 kilograms (33 pounds) to make a bomb comparable to the U.S. atomic bomb dropped on Hiroshima in 1945, the Energy department has said. In an effort to halt proliferation of weapons-grade uranium, the United States agreed to accept the nuclear waste. The non-proliferation programme also attempts to persuade foreign research reactor operators to take on the financial and technical burdens of converting to low-enriched uranium. "Without the incentive of spent fuel acceptance, I believe that research reactor operators will not continue to convert to low-enriched fuel, which would gravely undermine our non-proliferation policy," Secretary of State Warren Christopher said in a statement presented in court. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

### **U.S., RUSSIA SIGN NEW NUCLEAR SAFETY DOCUMENT**

RTna 9/20/94 8:49 AM By Steve Pagani VIENNA, Austria (Reuter) - Member states of the International Atomic Energy Agency, led by the United States and Russia, signed a new nuclear safety document Tuesday designed to improve security at atomic reactors worldwide. The Convention on Nuclear Safety, drawn up by 84 IAEA members in June, applies to land-based civil nuclear power plants and seeks to avert accidents such as the 1986 explosion at Chernobyl, the world's worst civil nuclear disaster. U.S. Energy Secretary Hazel O'Leary described the convention as a further example of international cooperation following the end of the Cold War. "This is an historic day ... we are clearly recognizing our international obligations with many separate nations with the same goal of nuclear safety in mind," O'Leary said before signing the convention on behalf of the United States. "I believe we are actualizing a new era in multinational and multilateral collaboration," she said. A total 485 nuclear power plants were operating or being built around the world in 1993, according to IAEA statistics. IAEA director general Hans Blix, speaking before the signing ceremony at the agency's headquarters in Vienna, said the convention will require signatories to establish laws and regulations to govern safety at nuclear power plants. "It is the first legal instrument to address directly the issue of safety of nuclear installations worldwide," Blix said. Work on the convention began in 1991 after the fall of the Iron Curtain made the former communist bloc's aging and technically backward nuclear power plants more accessible to scrutiny by the West, already shaken by Chernobyl. Signatories of the convention are required to submit a report on atomic installations and, if necessary, urgently carry out improvements to upgrade the safety of sites. "If such upgrading cannot be achieved,



plans should be implemented to shut down the nuclear installation as soon as practically possible," the convention says. Such an obligation may mean states like Ukraine having to close its Chernobyl-style reactors if considered to be faulty. But critics said the convention lacked tough measures to force a country to comply with the regulations. It was still unclear whether Ukraine, which now owns the Chernobyl plant following the collapse of the Soviet Union, would sign the document. The convention will come into force 90 days after 22 countries sign the document. Seventeen of the countries must be states which possess a nuclear reactor. Early signatories included Britain, France, Japan, Germany, Canada, South Africa, India, Pakistan, and South Korea, all of which operate nuclear power plants. China said Monday it also intended to sign the convention. IAEA officials said the 22-nation threshold would probably be reached later Tuesday. National parliaments will also have to ratify the convention. The ceremony took place on the sidelines of the IAEA's 38th annual conference which began on Monday. Russia's Nuclear Energy Minister Viktor Mikhailov said the convention could lead to greater assistance from nuclear states to developing countries which aim to produce electricity from nuclear reactors. "In my opinion, the 21st century is going to be a century of nuclear power development balanced with environmental protection," Mikhailov said. The convention calls on countries setting up a new nuclear power plant to carry out safety assessments before building begins and to ensure on-site and off-site emergency plans are routinely tested. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

## **RUSSIA-NUCLEAR**

APn 9/17/94 2:05 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By DAVE CARPENTER Associated Press Writer MOSCOW (AP) -- The Kremlin is dispatching a top counter-intelligence official to Germany to discuss ways of stopping illicit trade in radioactive substances. Worries about Russian nuclear security have increased with recent seizures in Germany and Hungary of weapons-grade plutonium and uranium that apparently came from former Soviet republics. Russia has so far taken a defensive line in response to international uproar over alleged nuclear smuggling. Sergei Stepashin, head of the Federal Counterintelligence Service, said on the eve of his trip to Germany on Sunday that even the Germans had stopped saying the plutonium they found in recent sting operations came from Russia. He said safety and control systems where weapons-grade plutonium is manufactured in Russia are "sufficiently exact." "Some people would like to present Russia as some sort of radioactive hole, a source of radioactive danger," he said in remarks reported by the Interfax news agency. "We understand perfectly who wants to do it today and what for -- to establish control over Russia's security system as a whole," said Stepashin, whose agency is the successor of the Soviet KGB. His remarks were belied by the sweeping measures President Boris Yeltsin ordered Friday to improve the control and safekeeping of nuclear materials -- a tacit admission that the nation's present nuclear security is flawed. The decree establishes new rules for the storage, use and transportation of nuclear materials and tightens border controls to try to prevent nuclear smuggling. It also orders a government commission to examine the registration and storage of nuclear materials. The international community largely blamed lax Russian security for the series of recent seizures of radioactive materials, citing Russia or Ukraine as the likely source. The Kremlin accused the Western press of sensationalism and denied that 350 grams of plutonium confiscated last month in Munich -- by far the largest amount seized -- came from within its borders. But privately, Russian experts were quoted as saying Russia had no way of accounting for or safeguarding such materials. In an agreement concluded with German officials last month, Moscow acknowledged the "urgent necessity" of working to stop the illegal trade in radioactive and nuclear material. Yeltsin's decree ordered implementation of "international obligations on the nonproliferation of nuclear weapons," and put the Nuclear Safety Oversight Agency directly in control of the president.

## **REPORT ON SECRET U.S. RADIATION TESTING**

RTna 10/12/94 12:02 AM NEW YORK (Reuter) - A committee probing secret Cold War era U.S. radiation tests on human subjects has found the amount of experimentation was 10 times higher than originally thought, The New York Times reported. The story in the newspaper's Wednesday editions described the initial findings of the President's Committee on Human Radiation Experiments, which is sifting through reams of information from a dozen government agencies. Test planning was done at the highest levels of the U.S. government, the committee found, and there was more discussion of the ethics involved than the committee had expected to find, the Times reported. The newspaper quoted the chairwoman of the committee, Dr. Ruth Faden as saying, "Did we find new horror stories? Well, we know now that much more experimental work was done than anyone guessed." Faden, an ethicist at Johns Hopkins University in Baltimore, said the committee is "now piecing together the story of the past, an unsuspected past to help inform the future on these questions." Disclosures of the secret testing began last year when the Albuquerque Tribune reported on patients given doses of radiation for experimental purposes. In reaction Energy Secretary Hazel O'Leary responded by

promising to open her agency's files, and President Clinton ordered the committee to investigate. Among the experiments reported on by the Times was one listed in military records in which 12 human "volunteers" and 700 rabbits were subjected to light flashes from six atomic detonations to test the effects on eye function. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

## ISRAEL-DUMPING RUSSIANS

APn 10/10/94 11:48 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By KARIN LAUB Associated Press Writer JERUSALEM (AP) -- Tsharna Gilman came from the Ukraine three years ago but stands little chance of joining the Israeli mainstream: she speaks only a smattering of Hebrew and high blood pressure keeps her out of the job market. Since the founding of the nation in the ashes of the Holocaust, Israel has had an open-door immigration policy for any Jew, like Mrs. Gilman. But many Israelis are wondering aloud whether Israel should foot the bill for tens of thousands of infirm and elderly immigrants among the 477,000 who have arrived from the former Soviet Union since 1989. Mrs. Gilman, a 56-year-old widow, said she left because she was alone, unable to hold a steady job and feared her fragile health would be aggravated by living near the Chernobyl nuclear disaster site. "Back home, I also lived alone, and there was the fear of radiation. If I would have continued to live there, it would have been much worse," said Mrs. Gilman, wearing a faded blue-and-white check housedress and surrounded by cardboard boxes in her room at a state-run hostel in the Diplomat Hotel. Welfare Minister Ora Namir touched off the debate recently by saying immigrants should be screened because Israel was becoming a dumping ground and that its social security system could no longer shoulder the burden. Namir charged that many young, skilled Russian Jews send off their elderly parents to Israel to be taken care of while they themselves emigrated to Western countries. While she was never clear about who should be allowed into Israel, Namir implied that only whole families should be let in. Her call for "selektia," or selection, a word strongly associated here with Nazi death camps, sent chills through a nation that has brought in Jews from more than 100 countries, sometimes in daring rescue missions. But the subsequent arguments raging in coffee shops, TV talk shows and in the Cabinet laid open a surprisingly strong undercurrent of resentment among Israelis who complained that many Russians came for a free ride, not because of Zionist ideals. A third of the Russian newcomers are spouses or relatives who are not even Jewish, and others are economic refugees rather than committed Zionists. Politicians and immigrant leaders have warned that this was dangerous talk. "There is no such thing as selective immigration, and woe to us if we ever reach such a stage," Prime Minister Yitzhak Rabin reportedly snapped at Namir during a Cabinet meeting. Israel's Cabinet on Sunday issued a statement, reaffirming its commitment to "execute the policy of open gates." Israel's most famous immigrant, former Soviet dissident Natan Sharansky, warned that debate about limiting immigration raised questions about Israel's right to exist. "This can destroy our state no less than arguments about war and peace," Sharansky said. Yet many Israelis questioned at random said the government should change the Law of Return, which gives anyone with a Jewish grandparent, parent or spouse automatic entry to Israel. "I'm in favor of immigration, but let's be smart about it. We should only let families come," said social worker Bracha Ronen. There is no doubt that immigration is an expensive enterprise. Israel is spending \$3.6 billion on immigrant absorption this year, or 8.5 percent of the state budget, the second biggest item after defense. Immigrants get free language classes, job training, rent subsidies and monthly living allowances. Retirees draw pensions. The bulk of immigrants in the past five years has been from the former Soviet Union, but there have also been clusters from Ethiopia, Argentina, the United States, Canada, South Africa and Eastern Europe. Yair Tzaban, the minister of immigrant absorption, argues that Israel has reaped benefits from highly skilled Russian newcomers, among them 58,000 engineers and 10,000 scientists. "Every wave of immigration, after first placing a social burden on the state for the first two or three years, turns into a source of economic growth and brings prosperity to the veteran Israelis," Tzaban said. Tzaban also noted that only about 15 percent of the immigrants are older than 65, a rate that has held steady for the past five years. Many Israelis, burdened with an income tax rate of up to 50 percent, appear to be less willing to sacrifice for the newcomers than they did in the past. When Israel army radio asked listeners this week to comment on Namir's views, 80 percent of 1,600 callers supported her. Resentment is running especially high among poor Israelis and among Sephardic Jews, or those who immigrated from North Africa and the Middle East in the 1950s. "I'm denied an apartment because all the public housing is going to the Russians," said Dodi Massoudi, a 37-year-old welfare mother of Moroccan descent. At the 480-room Diplomat Hotel, once a five-star hotel with a panoramic view of the Judean Hills, immigrants presented a different view. "We didn't expect that the Israelis would treat us like this. In Russia, we were Jews, and here, we are Russians," said Mikhail Brum, 65, a retired engineer who shares a room with his wife, Zina, and his grandchildren Natasha, 19, and Dimitri, 14. Brum, whose family draws a monthly pension of \$495, points with pride to Natasha. She speaks Hebrew like a native and is in her second year of history studies at the Hebrew University.

## **UTAH-RADIATION**

APn 10/9/94 6:44 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. SALT LAKE CITY (AP) -- The Air Force simulated nuclear reactor meltdowns in the Utah desert in 1959, spewing radiation clouds into the air, The Deseret News reported Sunday. The eight tests were conducted at Dugway Proving Grounds, the site of dozens of chemical, biological and radioactive tests during the Cold War, said the newspaper, which reviewed government documents obtained through the Freedom of Information Act. The documents showed that sensors tracked radiation clouds up to 20 miles downwind and across a 210-square-mile area. The newspaper reported, however, that the clouds spread and at least two small towns in northwestern Utah may have been in their path. Based on government figures, the newspaper estimated that the total amount of radiation released was 14 times higher than that emitted during the Three Mile Island reactor disaster in 1979 near Harrisburg, Pa. Experts were divided on the danger to the public. Daniel Hirsch, former director of a nuclear policy institute at the University of California at Santa Cruz, said the tests may have caused "tens to hundreds" of cases of cancer downwind. Richard Wilson, a Harvard University physics professor who specializes in nuclear reactor safety, said there was little or no risk to residents downwind. The tests were conducted as the Air Force and the Atomic Energy Commission were attempting to develop a nuclear-powered aircraft. They decided they should assess the hazards of the craft's reactor melting down. In other tests from 1949 to 1952, the energy commission, Army Chemical Corps and Air Force conducted six tests of radiation-spreading devices in Utah. Radioactive particles were loaded onto cluster devices then dropped from about 15,000 feet, the General Accounting Office, the investigative arm of Congress, reported last year.

## **THE FERNALD FIGHT**

APn 10/8/94 11:00 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. Roselle noted that workers still can file private suits. And, she said, they have won major concessions with a change in workers' compensation. A three-expert panel will be appointed to examine claims; if it says the illness is related to radiation exposure, neither the government or contractor can challenge it, she said. In the past, every claim was challenged, Roselle said, with workers and widows facing high-powered lawyers and teams of expert in hearings that frequently dragged on for 10 years. Less than a handful prevailed. Even then, there was little to show. Herbert Kelly, a 27-year Fernald veteran, waged a seven-year battle to win total permanent disability after exposure to radium, thorium and uranium. "They ridiculed him ... and treated him like a dog. It was just terrible," said his widow, Corrilla. "He fought for so long for so little. ... It took the life out of that man." In June, Herbert Kelly died of cancer. He was 65. His case was still on appeal. Now, his widow will not have to start over. "I would like to see more monetary gain, and I know he would have," she said. "But I'm tickled to death no one will have to go what he went through." Roselle said this settlement goes as far as the law permits in righting wrongs. But she concedes it is no panacea. "Can we undo history? No," she said. "In the best of all possible worlds, you'd like to make these men 35 years old and healthy again, but you know I can't do that." "When you are going up against the United States government, there aren't big victories. You don't take huge jumps. You take steps. This is a step." ----- EDITOR'S NOTE -- Sharon Cohen is the AP's Midwest regional reporter, based in Chicago. End Adv for Sunday, Oct. 9

## **NUCLEAR TEST ANGERS KAZAKHSTAN, NEXT TO CHINA**

RTw 10/7/94 10:53 AM (Eds: writes through, adds background) ALMA-ATA, Oct 7 (Reuter) - Kazakhstan denounced China's latest underground nuclear test near their joint border on Friday, saying it was a threat to health and the environment in the region. A foreign ministry statement said the early morning blast at China's Lop Nor facility undermined the process of non-proliferation of nuclear weapons. "Kazakhstan would welcome a decision by the leadership of the People's Republic of China to end nuclear explosions and join in the process of a general ban on the testing of nuclear weapons," it said. It said the test aroused "serious concern" in Kazakhstan and could seriously damage health and the environment. A ministry spokesman, contacted separately by Reuters, said Kazakhstan was "outraged" at the blast, which according to Australian seismologists was four times the size of China's last test in June, measuring 6.1 to 6.3 on the Richter scale. The other four major nuclear nations -- Britain, France, Russia and the United States -- have suspended such testing and continued Chinese blasts have brought international protest. Scientists said the June test pushed up radiation levels along the 1,700-km (1,050-mile) Sino-Kazakh border. Environmentalists say the Chinese have pushed radiation levels in the capital, Alma-Ata, to alarming levels. Kazakhstan, a huge territory of 16 million people which also has a long border with Russia, has regularly complained about explosions at the Lop Nor site,

which began in 1963. Lop Nor, in the Xinjiang region, is less than 300 km (185 miles) from the border with Kazakhstan. The Kazakh capital, Alma-Ata, is itself very close to the border. Officials say the proximity of the capital to the Chinese border has contributed to Kazakhstan's decision to shift its capital 1,000 km (620 miles) to the north to the bleak town of Akmola by the year 2000. The former Soviet republic has signed a nuclear non-proliferation treaty, designed to prevent the spread of nuclear weapons, which comes up for renewal in 1995. Talks started earlier this year on a Comprehensive Nuclear Test Ban Treaty, to which China has given a commitment. In April it said it might stop tests by 1996. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

## **URANIUM STORAGE**

APn 10/4/94 7:36 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By DUNCAN MANSFIELD Associated Press Writer OAK RIDGE, Tenn. (AP) -- The contractor for the plant where the nation's nuclear weapons are disassembled defended its safety record Tuesday in the face of a government-ordered suspension of work there. "We have not discovered anything at this point that represents a safety problem," said Margaret Morrow, plant defense manager for contractor Martin Marietta Energy Systems Inc. However, she said, "We have found several other incidents where we have found confusion in the way (regulations) were written and called out, and things we need to change." But the Department of Energy manager for the plant said the situation that led to the shutdown of the plant's uranium reprocessing work was serious. "The plant has had several instances in the last year where there were violations and procedures were not followed," the DOE's Bob Spence said. "That is the bottom line." The plant in Oak Ridge, Tenn., disassembles and stores the uranium from up to 1,000 warheads annually. It is known as the Y-12 plant, its World War II code name. Outside inspectors cited problems in the way bomb-grade materials were being stacked at the plant during a Sept. 22 review and the lack of response from employees responsible. As a result, all shipments of enriched uranium from the DOE's Pantex Plant in Amarillo, Texas, were halted indefinitely and a massive retraining program for about 5,000 employees was ordered. In the meantime, other activities at the plant are continuing. John Conway, chairman of the Defense Nuclear Facilities Safety Board that conducted the inspection, said there was no indication any uranium neared criticality -- the start of a nuclear chain reaction that produces a rapid spread of radiation. "But the problem is a lack of discipline of operations," he said from Washington on Tuesday. "When one goes back and looks over a period of time ... it appears to be a pattern." In a Sept. 27 letter to Energy Secretary Hazel O'Leary, Conway wrote that the board had sent DOE "a number of reports during the last two years indicating the existence of safety-related concerns ... at Y-12." Morrow said 80 percent to 90 percent of the 1,100 violations involved administrative or "housekeeping" problems and not something that would put anyone in danger. But Spence said it is important that all regulations are followed. "Some examples may sound foolish on the surface," he said, "but there were other things that people, regardless of what the (regulations) say, are required to follow."

## **UKRAINE AGREES TO CLOSE CHERNOBYL NUCLEAR ...**

RTw 10/4/94 8:26 AM Ukraine agrees to close Chernobyl nuclear plant-EU diplomats LUXEMBOURG, Oct 4 (Reuters) - Ukraine's new government has agreed in principle to close the Chernobyl nuclear plant -- scene of the world's worst nuclear accident to date -- European Union diplomats said on Tuesday. "They have made it absolutely clear. They are prepared to close Chernobyl," one said during a meeting of EU foreign ministers. But the diplomats stressed that while the agreement was a breakthrough, it was only in principle and set no timeframe for the closure. They added that Ukraine's government had also told a delegation from the Group of Seven industrialised nations last week that they were prepared to put in train economic reforms demanded by the International Monetary Fund. Both of these accords could trigger release of some \$4 billion over the next two years from the IMF, G7 and the EU. The EU foreign ministers, who are due to dine with Ukrainian Foreign Minister Hennady Udovenko on Tuesday, briefly discussed relations with Ukraine during the morning. In a statement released after the discussions, the ministers said the bloc's policies towards the country were sound. "In particular, in the long term: support for economic and political reform, close co-operation with the European Union; in the short term: closure of Chernobyl and the accession of Ukraine to the Non Proliferation Treaty." REUTER Copyright 1994 Reuters America Inc. All rights reserved.

## **ATOMIC BOMB WOES**

APn 10/3/94 11:08 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. NEW YORK (AP) -- Safety violations have nearly closed down the only Department of Energy plant that handles uranium from

disassembled nuclear bombs, The New York Times reported Tuesday. The plant in Oak Ridge, Tenn., disassembles and stores the uranium from up to 1,000 warheads annually. The most serious violations involved packing uranium parts more closely than safety rules allow. Such mishandling could spark a nuclear chain reaction that would spray a deadly shower of radiation through the storage vaults, the Times said. Such accidents have occurred at other Energy Department bomb plants. All of the approximately 1,300 employees handling nuclear materials at the plant been ordered to undergo further training, the Oak Ridger newspaper in Oak Ridge, Tenn., reported last month. The sloppy handling was discovered by an inspector from the independent Defense Nuclear Facilities Safety Board, but went uncorrected by a chain of workers and supervisors after the inspector pointed it out, the Times said. Only when the inspector went to a senior Energy Department official at the plant were operations stopped. A followup inspection uncovered hundreds of other violations, said John T. Conway, chairman of the safety board. The plant is run by Martin Marietta. A spokeswoman told The Times no one who could comment was available. In 1992, 19 workers were contaminated with radioactive cesium. An investigation found that the contamination had spread to the homes of three workers. Last year, a worker died in an industrial accident at the plant.

### **U.S. RADIATION EXPERIMENTS INVOLVED 23,000 PEOPLE**

WP 10/21/94 11:00 PM By Gary Lee Washington Post Staff Writer Radiation experiments sponsored by the federal government were conducted on more than 23,000 Americans in about 1,400 different projects in the 30-year period after World War II, according to a report released yesterday by an independent panel studying the issue. The figures suggest that the deliberate exposure of humans to radiation during the Cold War was far more widespread than previously believed. The panel, appointed by the Clinton administration to investigate the experiments, also has found that discussions about the ethical implications of radiation tests took place as early as 1953, and involved senior officials, including the secretary of defense. The panel has documented fully 400 government-backed biomedical experiments involving human exposure to radiation conducted between 1944 and 1975, and has received materials describing 1,000 other tests over the same period, the report said. A 1986 congressional probe of federal radiation tests, commissioned by Rep. Edward J. Markey (D-Mass.) and until now considered the most authoritative account of radiation experiments, discussed only 31 separate experiments. In June, Energy Secretary Hazel R. O'Leary revealed information about 48 additional experiments. According to the picture painted in the panel's report and in an interview with the panel's chairman, government researchers carried out projects exposing thousands of U.S. military personnel and civilians to radioactive substances, in spite of ethical concerns that were raised in high-level government discussions. "This suggests that experimentation was a much bigger deal than anyone knew," said Daryl Kimball, associate director of Physicians for Social Responsibility. "And that is going to make the panel's work all that much harder." Cold War researchers conducted several hundred so-called intentional releases, in which radioactive substances were emitted into the environment, usually to test human responses and often without the knowledge of those exposed, the panel's report said. Federal officials had previously acknowledged overseeing only 13 such releases, including the controversial 1949 Green Run incident, in which significant amounts of radioactive iodine and other elements were emitted in eastern Washington state, where they drifted downwind, eventually exposing people in surrounding communities. While the Markey commission identified only 700 participants in federally sponsored radiation studies, at least 23,000 people now have been identified as taking part in the tests sponsored by the forerunners of the Health and Human Services Department, the Veterans Affairs Department and other departments, according to Ruth Faden, a Johns Hopkins University ethicist who chairs the panel. That figure does not include those involved in tests sponsored by the Department of Defense or the Department of Energy, Faden said. She added that "probably many thousands" of participants will be added to the total after individuals who participated in tests conducted by those departments are counted, she said. Faden also emphasized that some of the experiments provided the participants with medical benefits but added that the number who benefited is not yet known. Earlier this year, after O'Leary and the Albuquerque Tribune newspaper brought the extensive use of humans in federal radiation tests to national attention, President Clinton appointed an interagency task force to explore the implications of the issue. The task force in turn appointed the panel. Officially called the Advisory Committee on Human Radiation Experiments, it is made up of 14 leading ethicists, medical researchers and legal experts. Among the material already reviewed by the panel are documents suggesting that discussions took place about the radiation experiments among senior officials in the Truman administration. In 1953, then-Secretary of Defense Charles E. Wilson and the secretaries of the Army and Navy were involved in the discussion, according to documents in the panel's files. "Until now, we were under the impression that debate about the issue only took place among lower-level officials and laboratory researchers," Faden said. Despite the discussions, which touched on such questions as informed consent and how much patients should be told about the tests, there are indications that the reservations of senior officials about the radiation issue were not relayed to laboratory researchers who conducted the tests. Over the next six months, Faden said, the panel will address key questions about the experiments, such as the extent to which researchers gained the

consent of participants, how participants were chosen and whether participants should be compensated for damages they suffered. The panel's final report is due in April. The panel is supposed to collect data about experiments sponsored across the federal government, but it has not received full cooperation from all agencies, according to the report. For example, the departments of Defense and Energy have refused to hand over documents relating to the intentional releases. Officials from the agencies have refused to declassify the documents, citing national security concerns, Faden said. Central Intelligence Agency officials have said the agency was not involved in radiation tests and have refused to give any files to the panel. But the panel has found that CIA officials were at least involved in discussions about the tests in the early 1950s. The agencies' refusal to cooperate already are causing "roadblocks" for the committee, Faden said. Copyright 1994 The Washington Post

### **CHERNOBYL BLAMED FOR CAESIUM TRACES IN CZECH DEER**

RTw 10/21/94 2:07 PM PRAGUE, Oct 21 (Reuter) - Traces of the radioactive metal caesium originating from Ukraine's 1986 Chernobyl nuclear accident have been found in dead deer in the south of the Czech republic, the Czech news agency CTK reported on Friday. "It is Chernobyl caesium," Pavel Beran, who heads the regional radiation hygiene department in Plzen, about 1,200 km (745 miles) east of Chernobyl, told CTK. Caesium, a silver-white alkaline metal that has been detected in the radioactive fallout which emanated from the Chernobyl nuclear plant explosion, has a half-life of 30 years. Beran said humans were not threatened by the detected levels of caesium he has found in the Suma hills, around the villages of Hartmanice and Prasily. They could eat the meat of about three radioactive deer per year at these levels without harm. Ukraine authorities estimate that about 8,000 people have died as a result of the blast in the area around Chernobyl, site of the world's worst nuclear accident on April 26, 1986. Doctors in the Ukraine say it is difficult to know how many people were affected by the radioactive elements that have built up in people's liver and bones. The explosion and fire in Chernobyl's fourth reactor sent clouds of radiation over most of Europe. A cracked pipe forced Ukraine on Tuesday to shut down the plant for a week. Ukraine's parliament last year reversed a pledge to close Chernobyl by the end of 1993. The country's leaders say between \$4 and \$6 billion is needed to close the facility and find alternative sources for the power it produces. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

### **JAPAN STRESSES NEED FOR CLOSE WATCH ON NUCLEAR SEEPAGE**

RTw 10/20/94 1:29 PM BRUSSELS, Oct 20 (Reuter) - Japan, the only country to have suffered a nuclear attack, stressed on Thursday the need for tight monitoring of seeping nuclear waste from sunken vessels of the former Soviet fleet. "The Japanese government attaches great importance to this issue (seepage) and the issue of non-proliferation," Sumio Tarui, director of the national security policy division in the Japanese Ministry of Foreign Affairs, told reporters. He said Japan did not want any more ocean-dumping of nuclear waste by Moscow as happened after it destroyed eight nuclear submarines under disarmament agreements following the end of the Cold War. "You may remember the Soviet Union dumped nuclear waste in the Sea of Japan quite illegally," he said. "We have been trying to stop Russia doing this any more and recently finally reached an agreement." He added his government was "very relaxed and satisfied" to have found a large degree of common ground on this topic with NATO officials during two days of talks at the headquarters of the 16-nation alliance in Brussels. NATO sources said the question of non-proliferation and monitoring of radio-activity levels from sunken submarines, warships and ice-breakers in the Russian Arctic and Sea of Japan had formed a large part of the discussions. "There is no immediate problem but we are all concerned about the future, the effects of corrosion and potential build-up in levels of radioactivity," Jean-Marie Cadiou, NATO's Assistant Secretary-General for Environmental Affairs told Reuters. He said both sides had agreed on the need for constant dialogue with Russia to ensure the safe scrapping of its once-huge nuclear arsenal over coming years and monitoring of radioactivity levels from already-dumped material. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

### **BRF--NUCLEAR FINE**

APn 10/20/94 5:56 AM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. CHICAGO (AP) -- Federal regulators slapped the operator of a nuclear power plant with a \$100,000 fine because someone at the plant slipped a radioactive disk into a worker's pants. "The fact that such an event can and did occur ... is evidence of a lack of respect for radiological hazards and management expectations," said John Martin, regional administrator for the Nuclear Regulatory Commission. The fine Wednesday was in connection with an August incident at Commonwealth

Edison Co.'s Quad Cities plant in northwestern Illinois. NRC officials said a coin-sized disk of strontium-90 was slipped inside the worker's pants for about 12 minutes, and she received a dose of radiation that was about half the annual limit set by the NRC for nuclear plant workers. NRC officials said the dose should not cause any health problems. "We agree with the NRC that this should not have happened," said ComEd spokesman Art Massa. "We have now, since the event, taken corrective measures to make sure that such activity would not happen again."

### **UKRAINE-CHERNOBYL**

APn 10/18/94 12:30 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. KIEV, Ukraine (AP) -- A burst pipe has shut down a reactor at the Chernobyl nuclear plant, site of the world's worst commercial nuclear power accident, authorities said Tuesday. The closure followed the rupture Monday of a pipe that carries water to cool nuclear fuel rods. The government refuses to close the plant despite international concern about its safety. Viktor Hrynov, deputy chairman of Ukraine's State Control Committee, described the incident Monday at reactor No. 3 as "minor." There was no serious damage and no risk to personnel, he said. Hrynov would not comment on how much water leaked out or give the level of radioactivity of the water. He confirmed that "a level of radiation was present in the spillage," and said it lasted for at least 13 minutes from the time the spill was detected until the shutdown Monday morning. The reactor should be reopened within four to seven days, he estimated. Chernobyl's reactor No. 4 exploded April 26, 1986, releasing a cloud of radiation. The explosion killed at least 32 people, and thousands more may have died from radiation exposure. In 1991, a fire forced Chernobyl's reactor No. 2 to be shut down indefinitely. The Ukrainian government last year reversed an earlier decision to close the plant. Chernobyl generates about 7 percent of the country's electricity.

### **RADIATION LAWSUIT**

APn 10/17/94 5:21 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. WASHINGTON (AP) -- A nonprofit organization that is being sued as a result of a 1940s radiation experiment on hundreds of pregnant women filed suit Monday against its own insurance company. The Nutrition Foundation said seven Travelers Insurance Companies have breached their contract by refusing to defend the Nutrition Foundation in a class-action suit. Because of the refusal, the foundation said, it has had to pay substantial costs to defend the lawsuit and was advised by Travelers that the insurance companies "do not have a duty to indemnify the Nutrition Foundation for all sums that may be awarded to plaintiffs." The foundation's action was filed in U.S. District Court in Washington. Keith Anderson, a corporate spokesman for Travelers in Hartford, Conn., said the companies had not seen the suit and would not comment on it. The case had its start in February when Emma Craft of Nashville sued the Vanderbilt University Medical Center and others, blaming a Vanderbilt study for the death of her 11-year-old daughter from cancer. In July, a federal judge in Nashville declared the lawsuit a class action, meaning that up to 1,500 women involved in the study become part of it. The suit asks compensatory damages from Vanderbilt and others. The Nutrition Foundation, which is incorporated in New York but has headquarters in Washington, said Travelers was asked to defend the foundation under the insurance policies. The suit said the insurers have not done so and "have reserved their rights to deny coverage of the claim." As part of the experiment, 829 pregnant women were given a radioactive isotope to trace the absorption of iron in the uterus.

### **NON-ATOMIC POWER ALONE UNABLE TO MEET FUTURE DEMAND**

RTw 10/17/94 10:57 AM UNITED NATIONS, Oct 17 (Reuter) - The director-general of the International Atomic Energy Agency (IAEA) said on Monday nuclear power had been stagnating in the Western industrialised countries but alternative power sources were unlikely to meet predicted future demand. In a speech to the U.N. General Assembly, Hans Blix said reduced reliance on nuclear power was due partly to a comfortable electricity supply situation in several countries and partly the result of opposition, particularly after the 1986 Chernobyl nuclear plant accident in Ukraine. Blix, who noted a number of countries in East Asia were moving ahead with vigorous nuclear construction programmes, said continued stagnation elsewhere could be problematic. "Ambitious energy saving and the greater use of renewable sources of energy -- like solar and wind power and biomass -- will not be enough to meet the demand for increased base load electricity which everyone predicts," he said. The burning of more fossil fuels, especially coal and gas, to meet power demands caused by population increases and economic expansion would add to pollution of the atmosphere. While sulphur dioxide and nitrogen oxides could be removed from flue gases, governments were also committed to reducing or at least stabilising the level of carbon dioxide emissions to try to ward off global warming. "Although

nuclear power is essentially emission-free, and although uranium resources and existing industrial capacity would allow a vast expansion of nuclear generating capacity, it is not suggested that nuclear power, alone, can be the solution to this dilemma. "It is very difficult on the other hand to see that there can be a solution to the dilemma without a substantial nuclear component in the world energy mix." REUTER Copyright 1994 Reuters America Inc. All rights reserved.

### **RADIOACTIVE EXPOSURE**

APn 10/16/94 12:26 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. WISCASSET, Maine (AP) -- A nuclear power plant has discontinued tours after members of a college chemistry club were exposed to radioactive gas. A spokesman for the Maine Yankee plant said there was no health threat. A radiology expert said the exposure could put the students at greater risk of developing several forms of cancer. The 10 students from a University of Southern Maine chemistry club were exposed to radioactivity Tuesday, when they passed through an area in which rubidium gas had been released, said Joseph Quattrucci, the club's president. Maine Yankee spokesman Marshall Murphy said no one received a measurable dose of radiation. The gas dissipated quickly and posed no health threat, he said. Jimi Yerokun, senior resident inspector at the plant, agreed. "The doses that the kids were exposed to (are) of no real concern." However, Ernest Sternglass, professor of radiology at the University of Pittsburgh, said the danger lies in the likelihood that the students inhaled a radioactive substance. The rubidium decays into strontium, which gives off beta rays and remains in bone. The exposure can lead to immune system disorders and higher rates of leukemia and breast and skin cancers. "Very tiny amounts are harmful," he said. Murphy said the incident was the first time members of a tour group had set off radiation monitors. Nearly 2,000 people tour the plant annually. The Nuclear Regulatory Commission was notified of the incident, though Maine Yankee was not required to report it, Murphy said. A spokesman for the Committee For a Safe Energy Future, William Linnell, expressed skepticism over the Maine Yankee account. "Too often Maine Yankee gives its spin without our being given the opportunity to challenge them," he said. "Maine Yankee's attorneys will never allow them to say radioactive exposures are harmful to the public."

### **CURRENT STANDARDS FOR RADIATION EXPOSURE OK - STUDY**

RTna 10/13/94 10:55 AM Release at 7 P.M. EDT LONDON (Reuter) - Current standards for radiation exposure seem to be within safe boundaries, doctors who studied 96,000 nuclear industry workers reported Thursday. Dr Elizabeth Cardis of the International Agency for Research on Cancer in Lyon, France, said a study of the health records of seven groups of nuclear industry workers in the United States, Britain and Canada showed that when workers kept exposure within the guidelines, their death rate from cancer was no higher than for people who were not exposed. Fears had been expressed that because most countries used standards based on data from Japanese atomic bomb survivors in Hiroshima and Nagasaki, the data would be exaggerated. "Since these individuals received relatively high doses over short periods, the worry was that estimates by extrapolation would be erroneous," the Lancet medical journal, which published the findings, said in a statement. "These are the most precise direct estimates so far made of carcinogenic risk after protracted exposure to low-dose ionising radiation. They provide little evidence that the estimates that form the basis of current radiation protection recommendations are appreciably in error," Cardis wrote. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

### **NO MORE CHERNOBYLS**

WP 10/12/94 11:00 PM By Ivan Selin In Vienna last month, after three years of determined negotiations, nearly 50 nations signed the International Convention on Nuclear Safety - a concerted global effort to forestall future Chernobyls. For the first time, most of those countries either using or considering the use of nuclear energy solemnly agreed to an array of binding obligations to maximize safety. Accidents at Three Mile Island and Chernobyl had underscored the need for a more systematic, worldwide approach to nuclear safety. Since the end of the Cold War and the collapse of the Iron Curtain, increased access to nuclear facilities in the former Soviet Union and Eastern Europe has heightened our awareness of the gross disparity of attention given to safety in such places, as compared with what is minimally acceptable in the West. But while some technological band-aids have been put into place since then, there remain certain systemic problems that could, unless corrected, blight all corners of the earth every bit as much as did the fallout from Chernobyl eight years ago. The problems are not confined to the former Soviet Union, nor simply to older model Soviet-designed nuclear reactors. And solutions are far easier to describe than to implement. Chernobyl was the byproduct of three underlying faults: basic design inadequacies in the Soviet RBMK graphite-moderated reactor; substandard operational safety procedures and management oversight; and the absence of tough, independent regulation of state utilities whose



production goals were often pressed at the expense of safety considerations. Despite several years of Western assistance, we still lack full confidence in the ability of Russia and Ukraine to manage their nuclear power systems with the same rigorous focus on safety that we take for granted in Western Europe, North America and Japan. And in the case of China, whose pent-up demand for energy has spurred plans for nearly a score of new nuclear power plants over the next several years, the lack of advanced nuclear energy technology, as well as of associated engineering experience and an ingrained safety culture, cause some disquiet. Nuclear safety is like a three-legged stool. If all three legs hold up, it will remain stable, but if one buckles, the stool may topple, with potentially catastrophic results. The first leg is technical excellence and operational safety, which are the prime responsibility of the operators but must be enforced by tough-minded, independent regulators. The second leg is a sound economic climate over the long pull. A nuclear program must be sufficiently profitable to underwrite first-rate training programs and sustained investment in maintenance and equipment. The third leg is solid organization and management, which includes high-quality staffing, rigorous training, a strong safety culture, realistic goals and responsible leadership. Technical safety in Russia and Ukraine is of concern but is not, in my judgment, the most serious issue. Nor does the problem lie in the competence of nuclear scientists and engineers, who, on the whole, are rather good. The core of the problem has more to do with a lack of sound, long-range management planning, the absence of a regulatory agency with clout and the awesome difficulties in making the transition to market economies needed to provide the resources for a healthy program. For example, Ukraine lacks sufficient resources to operate the remaining reactors at Chernobyl safely. Yet the government is reluctant to shut down the world's most dangerous reactor site when it badly needs all the electricity it can generate to keep its economy afloat. It is necessary to transform patterns of thought and conduct from the old Soviet emphasis on greater production at any cost to a long-term sustainable system where safety and profitability have much higher priority. This will not happen overnight. The requisite social, institutional and economic transformation will take years to develop and take root. Nuclear safety cannot be a temporary undertaking dependent on financial and technological quick fixes from outsiders. A nuclear power plant coming on line today should, if properly managed, operate for at least 40 years. Each nation choosing the benefits of nuclear energy must be prepared to pay the price required to protect public health and safety over its full life cycle. As the world's population and prosperity expand, so too does its appetite for energy. China, for example, with one of the fastest-growing economies, sees a big role for nuclear power in meeting this demand. But its indigenously designed reactors are not quite up to advanced standards, it lacks sufficient trained manpower for the planned seven-fold nuclear expansion from the three power plants it has today, and its regulatory agency lacks the resources and authority to properly guard against unsafe practices. Nuclear energy, properly managed, continues to offer an attractive option for many countries to satisfy mounting demand. But the responsibility to ensure proper management is not confined to national borders for, in the event of another accident, fallout knows no boundaries. Some constructive actions are underway. The G-7 group of nations is offering significant help to encourage early closure of Chernobyl. A number of Western nations are proffering financial and technical assistance to upgrade safety of older reactors in the former Soviet Union and Eastern Europe. But, while the West must continue its supportive efforts, for safety to be sustained over the long haul requires a sea-change in governmental attitudes and practices in countries that long stood on the other side of the Cold War divide. The writer is chairman of the Nuclear Regulatory Commission. Copyright 1994 The Washington Post

### **SHOREHAM, L.I., NUKE PLANT DISMANTLED**

UPn 10/12/94 11:58 AM GARDEN CITY, N.Y., Oct. 12 (UPI) -- Long Island's Shoreham Nuclear Power Plant has been dismantled, and the Long Island Power Authority is seeking to have its license terminated and the site converted for other uses, officials said Wednesday. Long Island Power Authority Chairman Richard Kessel, announcing the physical decommissioning of the plant at a news conference, said this is the first time a nuclear facility licensed by the Nuclear Regulatory Commission has been taken apart. The Power Authority, which took control of Shoreham and its license in February 1992, Wednesday submitted a 25,000-page report on its progress to the commission. "All measurements clearly show that residual radiation is far below the NRC requirements for free release of the Shoreham site," Kessel said. He said the dismantling is expected to cost several million dollars less than the \$186 million budgeted and is several months ahead of schedule. It involved shipping 353 truckloads of low-level radioactive waste to South Carolina and Tennessee and the transfer of 560 irradiated fuel assemblies to Philadelphia by barge and rail. The Long Island Lighting Co. began construction on Shoreham in the mid-1970s and it was completed in early 1984. Low-power testing, the equivalent of two days at full operating capacity, was conducted in the summer of 1985. But in 1987 -- amid public opposition to nuclear power in general and Long Island's lack of a viable escape plan in case of a nuclear emergency -- the plant was shut down. The utility agreed to sell the giant facility to the state in exchange for approximately 10 years of annual electricity rate increases of 5 percent. And the last fuel rod was removed a year later. It is now up to the power authority to decide what the plant will be used for. However, officials could not be reached for immediate comment. Copyright 1994 The United Press International

## **IAEA MEETING ON NUCLEAR SAFETY OPENS IN VIENNA**

RTw 11/2/94 6:16 AM By Jan Krcmar VIENNA, Nov 2 (Reuter) - Experts on nuclear safety from 35 countries began a two-day meeting in Vienna on Wednesday to discuss ways of tightening protection of nuclear materials and to prevent their illegal trafficking. The meeting, organised by the International Atomic Energy Agency (IAEA), is aimed at producing a set of recommendations on which role the U.N. agency can play to help halt the tide of nuclear smuggling, an IAEA spokesman said. "The subjects under discussion are ways of strengthening international conventions on the protection of nuclear materials, helping with the training of people responsible for their protection, increase the role of the IAEA in battling the problem and the incorporation of the IAEA laboratory in the analysis of confiscated materials," IAEA spokesman David Kyd told Reuters. NATO and the European Union have called for urgent action to halt smuggling with nuclear materials and the subject was discussed at the summit of the G7 leading industrialised nations in July. The IAEA meeting follows a resolution from the Agency's General Conference of last September. "The General Conference recognised that this is a problem and that the Agency should come up with suggestions as to what role it should play to stop nuclear smuggling," Kyd said. Conventions on the protection of nuclear materials already exist, but the main problem is training people and ensuring safety at ground level. "It is not that the texts are not there, but it is the ability to monitor their actual implementation," Kyd said. "That means to make sure nobody's slipping a few grammes into his lunch box." The IAEA is already helping train those responsible for the protection of nuclear materials at national level in some republics of the former Soviet Union, and is willing to widen that support to others, Kyd said. Police across Europe have this year intercepted scores of smugglers with gramme or kg loads of nuclear material in a trade that is alarming Western governments and intelligence services, in particular in the United States and Germany. None of the uranium and plutonium seized was the type that could easily be turned into a bomb. But the materials can be lethal. A tiny amount of plutonium can cause lung cancer if inhaled. Nuclear materials can be easily transported. Uranium can come in the form of small pellets and plutonium as oxide powder or liquid. Both can be carried in a glass jar or a metal can. Nuclear trafficking took off when the Soviet empire crumbled in 1991 and western diplomats said most of the materials appeared to be coming from Russia, mainly from waste dumps and laboratories, rather than from military sites. The experts in Vienna are also discussing ways to expand the IAEA's clearing house function on data on smuggling. "We have a data base in which we log the cases that come to our attention, but we don't systematically follow them up with national police forces," Kyd said. "If that is to be done we would need the authorisation of our membership." If the experts agree, a set of recommendations will be presented for further action to the meeting of the IAEA board of governors scheduled for the beginning of December. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

## **GAC URGES UKRAINE TO SIGN NON-NUCLEAR TREATY**

RTec 10/31/94 1:52 PM LUXEMBOURG, Oct 31 (Reuter) - The European Union said on Monday it would renew efforts to persuade Ukraine to ditch its nuclear history and abide by non-nuclear agreements. The General Affairs Council agreed a series of steps to be taken to strengthen relations with Kiev ranging from offering advice on a new constitution to improving trade ties. But it also indicated concern about Ukraine's failure, so far, to ratify the nuclear Non-Proliferation Treaty (NPT). It said it would renew efforts to "impress upon the Ukrainian government and parliament the need...to accede to the NPT as a non-nuclear weapons state at the earliest possible time." The ministers also said it wanted full implementation by Ukraine of the START I and START II agreements on nuclear weapons reduction. Some members of the Ukrainian parliament have called on the assembly not approve the NPT without security guarantees from western countries. On Monday, however, President Leonid Kuchma urged them ratify the pact. Ukraine was left with more than 1,600 strategic nuclear warheads it inherited from the Soviet Union. In a related matter, the EU ministers were unhappy with a legal text for a common position regarding Ukraine and handed it back to COREPER (Committee of Permanent Representatives). They said they expected a revised common position to be presented to the November 28 GAC. The referral was not unexpected. Diplomats said last week there was no problem with the substance of the matter at hand (measures to promote economic aid, troika contacts, closure of Chernobyl nuclear power stations etc), but procedural disagreements existed among member states. One senior diplomat said it was "thin" and needed another month's work. The last General Affairs Council in Luxembourg on October 4 asked for a common position in conformity with article J.2 of the Maastricht treaty. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

## **PLAN TO BURY NUCLEAR WASTE DRAWS FIRE**

RTw 10/31/94 12:01 PM By Anthony Boadle OTTAWA, Oct 31 (Reuter) - Canada's nuclear power industry has told the government that the safest way to store spent radioactive fuel permanently is deep underground in the granite rock that extends over almost half the country. Environmental groups are up in arms over the proposal, which they see opening the door for other countries, particularly the United States, to use the so-called Canadian Shield as a nuclear wastebasket. The Canadian Shield is exposed rock of the Earth's crust that extends over almost half of Canada's territory, from Hudson Bay to Labrador and as far south as the Adirondack Mountains in upstate New York. Scientists say most of the basaltic granite structure has been unaffected by earthquakes and mountain-building activity. After studying rock movement and water migration for 15 years, the state-run Atomic Energy of Canada Ltd, or AECL, concluded in a report issued last week that the Canadian Shield was the best place to put away used uranium and forget about it. "It's one of the most solid, stable rock formations in the entire Earth," said AECL spokesman Larry Shewchuk. "There are parts that have not moved for literally billions of years. "Based on all the scientific data gathered over 15 years, we have come to the conclusion that there is no doubt whatsoever that this is a perfectly safe technology, with no risk to human health or the environment." If the plan for an underground repository is approved, bundles of uranium fuel rods from Canada's 22 nuclear reactors will be placed in titanium casks and sealed with clay inside granite caverns bored two-thirds of a mile (one km) deep into the rock. Canada's power utilities, like their U.S. counterparts, need a permanent place to dump their spent fuel, which is being temporarily stored underwater in pools at reactor sites. U.S. utilities are financing a \$10 billion project that is being bored into the top of Yucca Mountain, in Nevada, 100 miles (160 km) northwest of Las Vegas. The site is due to open in 2010 if it proves to be safe and politically viable. Environmental groups in Manitoba, where the AECL has tunneled deep into the Canadian Shield for research purposes, succeeded in passing a law in 1987 that bans nuclear waste disposal in that province. But the AECL's Whiteshell facility is on federal land and the law's jurisdiction is debatable. Now the groups fear that if Canada builds a repository free trade agreements will oblige Ottawa to accept radioactive material from the United States, where public opinion has opposed plans for disposal sites in a number of states. "They have tons of nuclear waste in the United States, both in solid and liquid form, and they haven't got a permanent solution to deal with it," said Anne Lindsey of Concerned Citizens of Manitoba, an environmental group. "There is a very real danger of Canada opening the door for nuclear waste from the United States and other countries to be stored here." The U.S. nuclear energy industry expects Yucca Mountain to deal with waste for some time. But used fuel is accumulating fast in the United States, where nuclear power is the second source of energy after coal and generates 20 percent of the country's electricity. "If it proves to be acceptable, Yucca Mountain could be the site for a while," said Scott Peters, spokesman for the industry's Nuclear Energy Institute. Yucca Mountain is projected to hold 77,000 tonnes of high-level nuclear waste. By the time it is expected to open in 2010, the United States will have an estimated 60,100 tonnes waiting for a permanent storage site. "If we open a repository here in Canada, there is clearly going to be a lot of pressure to let waste in from the United States," said Lindsey. "And if we do that, why don't we take it from the rest of the world?" Copyright 1994 Reuters America Inc. All rights reserved.

### **TEARING DOWN REMNANTS OF COLD WAR LEAVES AMARILLO ...**

WP 10/28/94 11:00 PM Tearing Down Remnants of Cold War Leaves Amarillo Holding the Pits By Thomas W. Lippman Washington Post Staff Writer AMARILLO, Tex. - Think of William A. Weinreich as the warden of a maximum security federal institution: miles of razor wire, electronic sensors, fortified watchtowers, heavy steel doors, guards with automatic weapons. The occupants are dangerous and potentially explosive. But this is not a prison, and Weinreich's charges are not people. As the general manager of the Energy Department's Pantex plant northwest of Amarillo, Weinreich is the custodian of more than 6,000 bowling ball-size "pits" of highly toxic plutonium retrieved from dismantled nuclear weapons. Removed from bombs and missiles and separated from casings of high explosive, these pits - each the former trigger of a nuclear weapon capable of incinerating hundreds of thousands of people - are stored in racks in earth-covered bunkers. There they will remain indefinitely because the U.S. government has not decided what to do with all that surplus plutonium. It's a sensitive issue, because as little as 15 pounds of plutonium can easily be fashioned into a crude bomb, a potential goal for terrorists. As the U.S. nuclear weapons stockpile shrinks rapidly in the post-Cold War era, Pantex is the only one of the Energy Department's network of nuclear weapons facilities that is getting busier. This is where the old weapons come to meet their end, and Pantex is to plutonium what Fort Knox is to gold. Not that big a deal, according to Weinreich, who, like many people who have spent their careers working with nuclear weapons, views them with respect but not fear. "We put people through a lot of training and we have a lot of security," he said. "We're fairly comfortable with our procedures" for preventing either of the two worst things that could happen here: a nuclear accident, or invasion and seizure of plutonium by terrorists or other rogue groups. Weinreich and other officials of Mason & Hanger-Silas Mason Co., the Energy Department's operating contractor here, point out that Pantex workers have been assembling nuclear weapons and taking them apart for more than 40 years without a major accident or breach of security. But for most of that time the plutonium was recycled into new weapons. Now the United States is not

building nuclear weapons, so the weapons-ready material has nowhere to go. As the U.S. stockpile of strategic nuclear warheads heads down from an estimated peak of 12,000 in 1987 to a target of 3,500 in 2003, about 1,400 weapons a year are being disassembled here and their plutonium pits are added to the surplus. The Energy Department promised in January to limit the number of pits in "interim" storage here to 12,000 "until further decisions are reached concerning long-term storage of plutonium." Some community activists and Texas state officials objected to the storage plan, but Pantex, with 3,300 workers, is one of the largest employers in the windswept Texas panhandle and has strong community support, according to local journalists. The Energy Department is coordinating a Clinton administration study of long-term disposition options for the plutonium, but in the meantime the administration has not yet officially made the most fundamental decision: whether the material is waste to be destroyed or a potential energy resource to be kept available if needed. Plutonium, a byproduct of the irradiation of uranium fuel in reactors, can be converted into power-plant fuel. President Clinton has sought to discourage using plutonium as an energy source by allied nations, especially Japan, and is unlikely to propose such a program for this country, but it has not officially been ruled out. Weapons removed from the active stockpile are hauled to Pantex in sealed, unmarked tractor-trailers owned by the Energy Department and escorted by armed guards in vans. Once here they are rolled on gurneys down long concrete corridors into reinforced, sealed rooms where they are placed on padded tables for disassembly. This sounds matter-of-fact, and according to workers and supervisors here it is. They described the task as demanding, but not mysterious. In fact, said training supervisor Dave Daves, "It feels great" to be doing this work. The weapons "did their job. We won the Cold War. Now it feels great to be part of history," said Daves, who was introduced to nuclear energy in the Boy Scouts atomic energy merit badge program. Each step of the process is carried out according to rigorous, inflexible procedures by workers trained for at least 1,000 hours, Mason & Hanger officials said. "We don't tolerate procedure nonadherence," facility manager Louie Lincoln said. Removing the guidance systems and nonnuclear components of each bomb or missile is the easy part of the job. The hard part comes next: removing the casing of nonnuclear, chemical high explosive that surrounds each pit. It is this explosive material, ignited by a detonator, that compresses the plutonium trigger and sets off the chain reaction of an atomic explosion. In modern weapons the high explosive is "insensitive," almost impossible to detonate by accident, specialists here said. But most of the weapons being retired are of older varieties that predated the development of insensitive explosives, so this part of the process is conducted in a sealed, earth-covered chamber known as a "Gravel Gertie." A Gravel Gertie literally is a padded cell - padded table, padded waste receptacles, padded containers, seamless urethane floor - designed to minimize the possibility of an accident. If the explosives did detonate, possibly spreading radioactive material, the roof is engineered to give way and bury the chamber and the workers inside immediately under 17 feet of earth and gravel. With the chemical explosive removed and packaged for incineration, what remains is a sphere of plutonium surrounded by steel that blocks gamma radiation emitted by the plutonium. A worker wearing a lead apron and latex gloves picks up the bowling-ball size sphere, bolts it into a frame that prevents it from moving, and inserts it into a padded steel container. The container is placed in a rack with others and hauled in a trailer to a storage bunker outside. Each rack of drums is removed from its trailer by an ordinary forklift - a new automated forklift is being tested - and installed in a bunker, which on the inside resembles a Quonset hut, a semicircle of corrugated steel. When the bunker is full with 252 drums, huge concrete slabs are placed in front of the entryway. Pantex lies in the approach path of Amarillo International Airfield, and officials acknowledged some concern about what might happen if a plane crashed into one of the storage bunkers and started a fire that would spread plutonium in the atmosphere. As for terrorists, security supervisor Dale F. Morgan smiled as he displayed the weapons carried by Pantex guards, including an M-60 light machine gun. It is theoretically possible for someone to parachute into Pantex or land a helicopter, he said, "but it wouldn't do 'em much good. They might get in, but they wouldn't get out." Copyright 1994 The Washington Post

### **CHERNOBYL CLEANUP GRINDS TO A HALT; BANKRUPT ...**

WP 10/28/94 11:00 PM Chernobyl Cleanup Grinds to a Halt; Bankrupt Government Cannot Move Villagers, Monitor Produce By Anna Reid Special to The Washington Post POLESSKOE, Ukraine - Stepan Lyashenko, a model of old-style officialdom with his stiff nylon tie and brown, pin-striped suit, pressed a metal funnel to his ample belly. Its electronic readout clicked up a few notches. "Big stomach, low concentration," he announced, giggling. "I'm quite safe to eat." Lyashenko is a middle-ranking member of Ukraine's sprawling Chernobyl bureaucracy. Created in the wake of the 1986 nuclear disaster, his department's job is to persuade the hundreds of collective farms within the two "exclusion zones" around the still-functioning nuclear power station to use relatively safe agricultural techniques, and to check their produce for radioactivity before it reaches the market. Other departments are responsible for finding new housing for people from the most contaminated areas and importing "clean" food for the remainder. To listen to Lyashenko, the program could not be running more smoothly. "If you tested every cow near Sellafield (a British nuclear power station) like we do here, you would find your milk is even worse than ours," he declared. But a trip into the countryside around Chernobyl tells a different story. Ukraine's Chernobyl program, like its economy, has collapsed. What the effects will be

on the health of the 700,000 people still living in the power station's shadow, as well as that of the larger group that eats the area's agricultural produce, nobody is even trying to estimate. On a sunny autumn day, it is tempting to take Lyashenko's assurances at face value. Through the greasy windows of a decrepit Lada sedan, the landscape looks peaceful. Goats nibble at the roadside grass; storks perch on old-fashioned haystacks; kerchiefed peasant women flick willow branches at their grazing cows. On the side of the road, a faded billboard exhorts Ukrainians to "look after the environment." Save for the road signs, there is no hint that the site of the world's worst nuclear accident lies just over the horizon. In fact, this apparent normality is a measure of the Chernobyl program's failure. Blanketed in radioactive dust when the station exploded, this 50-mile stretch of countryside is referred to in Chernobyl-speak as the "obligatory exclusion zone." According to government promises, the zone's entire population should have been evacuated years ago. But due to the bankrupt government's inability to build new housing, 30,000 remain. The larger "voluntary exclusion zone" holds another 660,000. Not just the government's rehousing program has ground to a halt. Under his arm, wrapped in newspaper, Lyashenko carries a bundle of booklets designed to persuade local farmers to stop growing beans, peas and buckwheat, sources of their beloved, porridge-like kasha. All these plants have shallow root systems, which absorb high proportions of the deadly strontium and cesium particles that lurk invisibly in the topsoil. But on this trip, at least, not many people are going to get the message. "I asked for 300 copies," Lyashenko said, "but there are problems with publishing, and I only got 100." His toughest task is controlling village livestock. The regulations say animals should only be grazed on fields that have been spread with lime. The lime soaks up radioactive particles, leaving fewer to be absorbed by plants, and therefore by humans. "The most difficult thing," Lyashenko acknowledged, "is stopping people from grazing their cows in the forest. It's cheap for them, but it's dangerous too." Stephen Muravitsky, a local radiologist, said his collective farm cannot afford to lime its fields. "Previously, we were able to treat the pastures. You could see the radiation levels going down," he said. "Now we haven't got the money, and the work has stopped." Government supplies of uncontaminated food have petered out too. "The first three or four years they brought milk in from Kiev, but not anymore," said Muravitsky. "They still bring in clean products to the schools and kindergartens, but if you go to the ordinary shops, you can't find anything." Farm worker Ivan Solopan, waiting outside the locked doors of the collective's single shop, said: "The top officials don't care about normal people. They live in Kiev and eat clean food. Here they used to send us stuff, but not anymore." Like most of the villagers, he has a cow but has never had its milk tested for radioactivity. Olga Gordienko, who wore slippers and a floral dress held together with safety pins, complained of recurrent illness. "It's really bad here - we get terrible headaches, leg pains. There's no medicine in the shops," she said. "We thought of moving out, but there's nowhere to go. And how can you worry about the food you're eating when you haven't had your salary for three months?" Anna Kolodnitsky, crossing a dirt road with a clutch of half-grown turkeys, pointed to her basket of eggs. "I've got chickens; I don't care about eating them - I don't feel anything. I just plant what I want - I'm 66 now." Though Kolodnitsky eats most of what she grows, she said her neighbors sell their extra fruit and vegetables in a nearby town. In theory, government radiologists are supposed to test all such food before it goes on sale. But since most food-trading now takes place at unofficial pavement and roadside markets, much of the Chernobyl zone's produce may be escaping the net. Asked about the likely radioactivity of Kolodnitsky's neighbors' potatoes, Lyashenko grumbled that his department cannot be expected to introduce "babushka controls." Back indoors, Lyashenko tried to lighten the atmosphere with a lavish spread of cold meats, sausage, cucumber salad and - naturally - vodka. "No excuses," he said, splashing some into a glass. "Remember, you're in the zone." Copyright 1994 The Washington Post

## **RUSSIA-NUCLEAR ACCIDENTS**

APn 10/26/94 11:32 AM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. MOSCOW (AP) -- Nuclear accidents plagued the Soviet Union's Pacific submarine fleet in the latter part of the Cold War, knocking one-tenth of the force permanently out of service, an environmental group said Wednesday. From the the late 1970s until 1986, there were six confirmed nuclear accidents, and reports of a seventh have not been confirmed, the report by Greenpeace International said. "Considering that during this period there were some 60-70 nuclear-powered submarines in the Pacific Fleet, almost 10 percent of the force was permanently removed from service," it said. The report, based on interviews with Russian navy officials and Western intelligence sources, included details of a previously unreported nuclear accident in 1986 aboard a submarine in Cam Ranh Bay, Vietnam. It said the submarine's crew used the wrong additive for the nuclear reactor's coolant system. "This caused the submarine's radiation detectors to jump, and the crew thought a meltdown was happening and raised the alarm," the report said. The submarine was towed back to the Soviet Union and removed from service. In an unconfirmed account reported in Russian newspapers in 1990 and 1993, a core meltdown occurred on another sub when the crew mishandled a leak of coolant water, Greenpeace said. The report said the Russian navy faces a nuclear waste crisis because of years of Soviet neglect. "Waste sites are almost full and in

poor shape," it said. "The mass decommissioning of older submarines and continued operation of newer vessels is adding to the piles of already existing waste."

### **UKRAINE WARNS WEST AGAINST CHERNOBYL PRESSURE**

RTw 10/25/94 4:24 PM TORONTO, Oct 25 (Reuter) - Ukrainian President Leonid Kuchma said on Tuesday he wanted to see the Chernobyl nuclear power station closed, but warned the West against applying political pressure to the former Soviet republic. "I have a 2 1/2-year-old grandson and I live near Chernobyl. And as a grandfather I want Chernobyl to be closed down," Kuchma told a news conference during a five-day visit to Canada. "But as president, I have to ask -- why is there pressure on Ukraine to close Chernobyl when in Russia there are many same-type reactors, and nobody says a word?" Kuchma said closing the Chernobyl station involved immense technical and economic resources. He compared mounting international lobbying to close the station to Western pressure for Ukraine to join the nuclear Non-Proliferation Treaty (NPT) as a condition for receiving aid. "This is similar to NPT, where they tell us we won't get help until we ratify it. Tomorrow, closing Chernobyl may be a condition for aid. And what about the day after?" he said. Ukrainian officials say closing the Chernobyl station -- site of the world's worst nuclear accident, in 1986 -- and revamping the country's outdated nuclear industry will cost Ukraine between \$4 billion and \$6 billion. Some European countries have made closing the station a "soft" condition for future financial assistance. Kuchma toured a Canadian atomic power station outside Toronto, where a C\$2.9 million (\$2.18 million US) government project was announced to help Ukraine build storage containers for spent nuclear fuel at two of its five stations -- including Chernobyl. "We have a real problem. All our spent fuel used to be shipped to Siberia before the Soviet Union broke up, but no longer. So now we need some new technology," Kuchma said after touring the storage facility at the Pickering nuclear power station, sporting a gleaming gold hard hat. Kuchma also called for nuclear energy experts around the world to help resolve the issue of shutting down the station and finding a permanent solution to the leaking "sarcophagus" covering the ruined fourth reactor. "We are aware that such nuclear reactors as found in Chernobyl should be shut down in the future. But when? Let's decide together," he said. Kuchma will visit Saskatoon and Edmonton in western Canada, and will cap his tour with a speech to an international aid conference for Ukraine in Winnipeg on Thursday. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

### **GREENPEACE: U.S. VIOLATED NUCLEAR LAW**

UPn 10/25/94 10:12 AM By HIROSHI SUZUKI TOKYO, Oct. 25 (UPI) -- The United States violated nuclear non-proliferation law by transferring sensitive nuclear technology and research data to Japan for operating a spent-nuclear fuel reprocessing plant, officials of Greenpeace charged Tuesday. "The transfer of the sensitive nuclear technology to Japan involved a violation of U.S. law and also a violation of an international treaty obligation," Damon Moglen, international coordinator for Greenpeace Plutonium Campaigns, told reporters in Tokyo. The technology, which the officials claimed was used in a test stage for operating the plutonium reprocessing facility, was originally developed in U.S. military-purpose nuclear facilities. Moglen said there was a ban on transferring sensitive nuclear technology outside the country under the Nuclear Non-Proliferation Act and also under a bilateral agreement between Japan and the United States advocating peaceful use of nuclear energy. The Japanese plant, called the Recycle Equipment Test Facility (RETF), is to be constructed in north of Tokyo in a project developed by Japan's Power Reactor and Nuclear Fuel Development Corp., a government-affiliated company. The Japanese quasi-government company cooperates with the U.S. Department of Energy to develop nuclear power technology, a spokesman for the company operating the facility told United Press International. He said the United States provided data and technology. Greenpeace alleged that technology was leaked from at least five U.S. facilities producing nuclear weapons, although it is still unclear when the transfer was conducted. "We are demanding the U.S. government make all the information clear on the issue of transferring (technology)," Moglen said. Construction of the facility is scheduled to begin in November in Tokai village in Ibaraki prefecture, north of Tokyo, and the plant is expected to be in operation in 2000. When completed, the plant will reprocess about 6 tons of spent nuclear fuel a year to reproduce about 250 kilograms of "supergrade" fissionable plutonium, which can be used for producing nuclear weapons. A spokesman for the Japanese nuclear power company said it assumed the technology was for peaceful use and was not sensitive, and currently there is no plan to investigate the transfer. "We assume the technology provided from the United States should be in line with a bilateral agreement between the two countries for peaceful use of nuclear energy," said the spokesman, who declined to give his name. Constructing the RETF is part of energy-scarce Japan's nuclear policy. With few natural resources, Japan depends largely on reprocessing spent nuclear fuel, including plutonium, to produce energy. Japan has been one of the countries pointing a finger at North Korea for its suspected nuclear development program to produce material that can be diverted to manufacture nuclear weapons.

Greenpeace criticized the Japanese policy. "very difficult to speak against other countries about plutonium reprocessing programs if your own country is developing the technology to separate superweapons-grade plutonium," said Moglen. Copyright 1994 The United Press International

### **HUNGARIAN SCIENTISTS PROBE RADIOACTIVE CONTAINER**

RTw 11/21/94 2:33 PM BUDAPEST, Nov 21 (Reuter) - Hungarian scientists are examining a mysterious container whose radioactive contents suggest it may hold contraband nuclear material, officials said on Monday. Gyorgy Koteles, a physician at Hungary's National Radiobiological Institute, told Reuters police had brought to his laboratory last week a 46 kg (101 lb) stainless steel container. Instruments detected slight amounts of gamma rays radiating from its surface, he said. "There must be uranium inside judging from the radiation," Koteles said, adding he had heard unsubstantiated speculation that the container may hold fuel elements from a nuclear submarine. "If it is a fuel element from a nuclear reactor it is probably unused because if it had been used it would emit more radiation," Koteles added. Police declined to provide any information on the case. The investigation comes amid international concern that nuclear material may be finding its way out of the former Soviet Union to help other countries or renegade groups develop weapons of mass destruction. But Russia's interior minister, Viktor Yerin, told a United Nations international conference on organized crime earlier on Monday the former Communist state had full control of its atomic weapons, dismissing other countries' fears that nuclear substances have been stolen out of Russia. In August, Hungarian police seized two kg (4.4 pounds) of uranium believed to have come from the former Soviet Union and arrested two Hungarians trying to sell the material in a Budapest hotel car park for \$40,000 per kg. Uranium used to fuel power plants cannot be used to make nuclear devices without enrichment, a complex and expensive process. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

### **UKRAINE FACES A WINTER OF DISCONTENT; ...**

WP 11/18/94 11:00 PM Ukraine Faces a Winter of Discontent; Impoverished Population Would Pay Price of Key Economic Reforms By James Rupert Washington Post Foreign Service KIEV, Ukraine - The snows have only begun, but life in Ukraine already has taken on a bitter, desperate edge. Three years after the breakup of the Soviet Union, Ukraine is painfully beginning an attempt to overhaul its collapsed, Soviet-style economy. As cold weather has settled over the country in the past three weeks, the government has been cutting subsidies and price controls on the basics of life. Ukrainians, most of whom already live in poverty, have glumly watched prices increase five- to tenfold for bus tickets, food and fuel. While Russia and other former Soviet republics have been aggressively converting their state-run economies to market systems, Ukraine has barely begun to change. Its long hesitation has made the reform process harder and riskier for Ukraine and the region, many Western diplomats and Ukrainian intellectuals have said. The coming months will be critical in determining whether this vast nation of 52 million people can evolve toward democracy, free markets and cooperation on international security, such analysts said. "This is Ukraine's chance to break out" of its post-Soviet political paralysis and economic collapse, a Western diplomat said. "If they fail on this try, they could slide back into the morass ... (and) become another Romania - poor, isolated and depressed." With that, "we would risk seeing Ukraine turn inward and possibly pull back from cooperation" on nuclear disarmament, nuclear safety and regional security, said the diplomat, who asked not to be identified. Reports in the West, including a CIA National Intelligence Estimate prepared last winter, have suggested that Ukraine's economic collapse, combined with ethnic and regional differences, could produce civil war. In a recent interview, President Leonid Kuchma - who will seek new U.S. aid for Ukraine in a state visit to Washington next week - suggested that Ukraine could break apart like Yugoslavia if it gets insufficient help from the West. But each of a half-dozen Western and Ukrainian analysts interviewed here in recent days suggested that warnings of Ukraine's breakup are exaggerated. They said that events in Ukraine and Washington have strengthened doubts over whether Kuchma can transform the country but that failure would not likely bring civil war. Four months after his election, Kuchma has pushed parliament to slash the budget as part of an agreement for \$730 million in loans from the International Monetary Fund. On Wednesday, Kuchma won a long battle for ratification of the nuclear Non-Proliferation Treaty. In such campaigns, Kuchma has held the political initiative over parliament, which is dominated by a fractious, conservative mix of Communists and nationalists. But Ukrainian intellectuals caution that he has no clear popular constituency for reform like the one Russian President Boris Yeltsin has relied on in his similar battle to build democratic, free-market systems. Indeed, Kuchma won office in July with a narrow majority. "In Ukraine, people are focused on survival," said Oleksander Sydorenko, a historian. "They are not paying attention to politics or the rhetoric ... about economic reforms." Ukraine remains effectively governed by its old Soviet bureaucracy, Ukrainian analysts said, with only a handful of aggressive reformists gathered around Kuchma. "The old nomenklatura does not want reforms and is in a position to block them," said Vladimir Polokhalo, editor of Political Thought, an independent scholarly journal. "I fear that the agreement" between Ukraine and the IMF "will not be realized." Kuchma has relied heavily on

convincing legislators and political activists that the United States and its Western allies will help pay the cost of reforms. "This is an article of faith for ordinary Ukrainians," said Henadiy Korzh, a political reporter for the Kiev newspaper Nezavisimost. "If the West does not deliver money to Ukraine, Kuchma will fail (in the reform effort) and the Communists will be in a position to retake power." But the shift of power in the U.S. Congress to Republicans pledged to cut foreign aid means Kuchma will have to struggle to avoid reductions in the \$700 million, multi-year package the Clinton administration promised Ukraine last March. U.S. officials have made clear that Washington will offer little new cash, planning instead what U.S. Ambassador William Miller called Wednesday "an intense working relationship" to seek answers for Ukraine's problems. "We can't pay costs (of reform in Ukraine) but we can stand by them," a State Department official said. The United States already has eased Ukraine's path by pressing its main energy suppliers, Russia and Turkmenistan, to continue oil and gas deliveries despite Ukraine's deep arrears in payment. Still, Ukrainians expect a winter of hardship and political conflict. According to Kuchma's agreement with the IMF, he must halve the state budget deficit, now 20 percent of gross domestic product, by Jan. 1. Ukrainians expect more price increases. Life in Kiev already is grim. Ukrainian officials and intellectuals estimate that 60 to 80 percent of Ukrainians live in deep poverty, with many state employees going unpaid. To survive, people stand for hours in long lines on weekends, selling personal belongings or goods obtained in petty commerce. In Kiev apartments, families grow vegetables in pots on windowsills and cram balconies and hallways with bags of potatoes or onions sent by relatives in the countryside. They say they fear that, with fuel prices rising, the heat will go off. When bread prices shot up in Kiev earlier this month, a plainly dressed woman at a bread shop asked aloud: "Now what? We have lived without meat. Shall we live without bread too?" People standing in the shop's long line did not respond. Market reforms here "will be worse than in Russia because people here are poorer to start with," said a Western diplomat, predicting strikes and renewed political battles. In appealing for aid in Washington next week, Kuchma is likely to stress the dangers to Ukraine's stability. In a news conference last week with U.S. reporters, he said: "I do not exclude the development of events on the Yugoslav model. If the world watches what is happening in Ukraine and does nothing, that is what it will be like." While such statements echo warnings in the West about the danger of civil war here, several Ukrainians and a Western diplomat dismissed them as overdrawn. "There is no mentality for war here," said Sydorenko, the historian. He and others described the majority of Ukrainians as exhausted by their poverty rather than mobilized over ethnic or regional issues. Rather than civil war, the danger is that the government could lose its nerve in the face of public opposition to the sacrifices, said the diplomat. "If the government does not stay the course and starts printing money again," as it did freely before this year, the reforms would collapse and to try again would be even more difficult politically. A failure of market reforms would leave Ukraine impoverished and a massive source of refugees for wealthier nations - especially in Europe but also the United States, the analysts here said. It also would weaken pro-Western Ukrainians and favor nationalists and Communists, who stress Slavic and historical ties to Russia and regard the West as a cultural and political foe. "There are only two routes for Ukraine," said Korzh, the reporter. "To get closer to the West or get closer to Russia... Both for our region and for the West, it is much safer and better if Ukraine moves toward the West." Copyright 1994 The Washington Post

## **ESTONIA-RADIATION**

APn 11/18/94 3:56 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By MICHAEL TARM Associated Press Writer TALLINN, Estonia (AP) -- A tiny sliver of highly radioactive metal poisoned the atmosphere in the kitchen of a village home, killing a man and a dog and sending four other people to hospitals. There was no clear explanation how the sliver found its way into the home. It was discovered after members of the family became sick. Authorities said the victims were exposed over a period of weeks to the lump of radioactive metal, cesium-137. Cesium is used in cancer research and radiation therapy. The latest victim was a 13-year-old boy hospitalized Thursday with severe radiation sickness. His dog died a few hours earlier, presumably of radiation poisoning. The boy's father died earlier this month, but authorities only suspected he had been killed by radiation when the son fell ill. The boy's grandmother and a pregnant woman were among the other three victims, who were all hospitalized. Radiation levels in the kitchen where the metal was found were 50 million times higher than normal background radiation, said Uno Maasikas, spokesman for the Estonian Rescue Department. "This is the most serious incident of its kind we have ever seen," he said. Without offering proof, Maasikas accused Russian troops of dumping radioactive waste before withdrawing from the country in August. Another rescue official, however, told Tallinn-based KUKU radio that the incident could be part of a more general storage problem in Estonia. "All this tells us that we have to keep better track of such materials," said the official, Kalev Timberg. Radioactive materials were found earlier this year in Estonia, thought to be a transit point for traders of illegal metals, drugs and guns from the former Soviet Union. In the past year, radioactive materials have been found in the harbor area and in a scrap metal yard near Tallinn. In August, police seized a stash of low-grade uranium buried under a private garage in a small southern Estonian town and charged a man with



smuggling. Authorities evacuated 60 people Friday from homes in Kiisa, a village of 350 people that is a popular summer getaway for city-dwellers. Villagers were being checked for radiation exposure. Children were told not to go home after school and non-residents were warned to avoid the region completely.

### **NUCLEAR POWER OPERATORS LOOK TO BRIGHTER FUTURE**

RTw 11/17/94 7:45 AM By Brian Williams TSURUGA, Japan, Nov 17 (Reuter) - World nuclear power operators, long scarred by the 1986 Chernobyl and 1979 Three Mile Island accidents, launched a campaign on Thursday to convince the public that atomic energy is safe. The call for a new acceptance of nuclear power was made at a conference of the World Association of Nuclear Operators (WANO) which represents nearly all world nuclear power plants. "It is time to separate out the negative points of nuclear energy from the positive," WANO president Ian McRae said. "We have a positive story to tell and it is time to tell it." The conference was marked by optimism that the tide might be turning back to nuclear power because of the end of the Cold War, new environmental worries and the urgent need of developing nations for cheap electricity to fuel growth. It was held in this northern Japanese city of Tsuruga, centre of the so-called "Nuclear Peninsula" -- the site of the world's largest concentration of 17 nuclear reactors. For the first time WANO allowed members of the public to one of its meetings, part of its new campaign to winning public acceptance. "Nuclear power is a friendly source of energy," McRae told 400 delegates who included representatives from the Ukraine, site of the Chernobyl disaster, and the Three Mile Island plant in the United States. Ukrainian delegate Tatyana Degtyar from the Zaporozhye power plant, soon to become Europe's largest, said over the past two years opposition to its operations had reduced. She said a survey this year of people in the plant's area showed more than half believed it should continue operations compared with only 36 per cent in 1992. "If we can convince the population of Ukraine of the safety of nuclear power after Chernobyl then the whole world will look at nuclear engineering with more sympathy," she said. But Carol Clawson from the Three Mile Island plant, while also citing statistics showing opposition dropping, said she still ran into local doctors who agreed when patients said their arthritis was caused by radiation from the plant. "The time has come to be more pro-active," said Clawson, a vice-president of GPU Nuclear Corporation. "We should invite Greenpeace to our meetings. We don't want to be combative, just get the true facts out." But in a sign of the depth of opposition from anti-nuclear activists, Japan's Greenpeace representatives denounced the conference as simply a ploy to allow building of more plants. "We must not join them because we would be abused. We would hear the same old story," said Emi Ueno of Greenpeace Japan. Clawson said tougher environmental standards for conventional coal and oil-fired power plants to combat global warming was likely to make nuclear power a more attractive economic option in the future. With "Nuclear Power Stations in the Community" as its theme, the conference was mainly devoted to ways to persuade the public of the safety of atomic energy. Delegates said ending the mystery about nuclear radiation and financial incentives like cheap electricity for communities near power plants were key ways to win public acceptance. Russian delegate Vladislav Petrov, chief of press services at the Ministry of Atomic Energy, said with the world no longer fixated on a nuclear holocaust because of the end of the Cold War, education about atomic issues was a priority. "One old man asked me why should he risk having nuclear power because he could see his television by the light of a candle," Petrov said. "This is what we must change." REUTER Copyright 1994 Reuters America Inc. All rights reserved.

### **RADIATION FROM CHINESE PLANT THREATENS BABIES**

RTna 11/17/94 7:45 AM BEIJING (Reuter) - Radioactivity from waste pits at a defunct military plane factory in northeast China is at dangerous levels and officials have banned young people from the area, fearing mutations in new babies. Attempts to clean up the radioactive waste and to store it in sealed containers have been unsuccessful due to a lack of funds, the Social Weekly newspaper said Thursday. More than 240 tons of radioactive waste containing radium have been dumped in pits over an area of 4,300 square foot at a former military plane plant near Harbin, capital of northeastern Heilongjiang province, it said. The plant, which produced special glow coatings for aircraft cockpit instrument panels in the 1960s, has been ordered to clear up the pit but says it does not have enough money, the newspaper said. The radium waste is radioactive for a distance of 100 meters, poses a danger to bone structure and can cause cancer, it said. The normal level of radiation is 25 microns per hour while waste from the plant is emitting 32,000 microns per hour, it said without explaining. "Normal people receiving this level of radiation will have their reproductive systems influenced ... and this could produce mutations in the first generation of babies," the paper said. Officials of the Heilongjiang bureau of environmental protection have issued orders banning unmarried young people from the area, it said. It did not say whether any babies had been born deformed as a result of the radiation. Bureau officials reached by telephone refused to comment. Environmental authorities have had trouble obtaining funds to dispose of the waste but have now raised \$140,000 to build a storage site for the waste, the newspaper said. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

### **BRF--UKRAINE-CHERNOBYL**

APn 11/16/94 9:55 AM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. KIEV, Ukraine (AP) -- Europe should reach deep into its pockets if it wants Ukraine to shut down two remaining working reactors at the Chernobyl nuclear plant, the foreign minister contends. The minister, Hennady Udovenko, said Tuesday that the cost of shutting down the plant where the world's worst nuclear accident occurred would be up to \$12 billion. His figure was three times higher than previous estimates. He offered no explanation and did not elaborate. A fire and subsequent explosion at the Chernobyl nuclear power plant in 1986 destroyed one of its four reactors, spewing a cloud of radioactive particles over several European nations. Environmental groups claim several thousand people have died from fallout from the blast. The United States and the European Union, concerned by recurring accidents and reports of growing fissures in the concrete sarcophagus encasing the destroyed reactor, have repeatedly urged Ukraine to close the plant. "The European Union demands we close down the plant as soon as possible, but this would cost between \$10 billion and 12 billion," Udovenko told reporters. Asked about potential European Union aid to Ukraine, Udovenko responded: "This would be the best investment." Cash-strapped Ukraine needs the electricity generated by the two still-functioning reactors, which produce about 7 percent of the nation's energy.

### **BRF--UKRAINE-CHERNOBYL**

APn 11/16/94 6:28 AM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. KIEV, Ukraine (AP) -- Ukrainian officials say it will now cost up to \$12 billion to close the Chernobyl nuclear power plant, site of the world's worst nuclear accident. The spiraling cost, quoted Tuesday by the new foreign minister, is three times higher than previous estimates. The minister, Hennadi Udovenko, offered no explanation and did not elaborate. A fire and subsequent explosion at the Chernobyl nuclear power plant in 1986 destroyed one of its four reactors, spewing a cloud of radioactive particles over several European nations. Environmental groups claim several thousand people have died from fallout from the blast. The United States and the European Union, concerned by recurring accidents and reports of growing fissures in the concrete sarcophagus feeding the destroyed reactor, have repeatedly urged Ukraine to close the plant. "The European Union demands we close down the plant as soon as possible, but this would cost between \$10 billion and 12 billion," Udovenko told reporters. Asked about potential European Union aid to Ukraine, Udovenko responded: "This would be the best investment." Cash-strapped Ukraine needs the electricity generated by the two still-functioning reactors, which produce about 7 percent of the nation's energy.

### **LITHUANIA-NUCLEAR**

APn 11/15/94 4:48 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By MICHAEL TARM Associated Press Writer TALLINN, Estonia (AP) -- Both nuclear reactors at Lithuania's largest power station sat idle while security experts searched the plant Tuesday following bomb threats. The Swedish security team began its work on Monday, when the Ignalia plant's reactors were shut down. No bombs were found, said Vilius Kavaliauskas, the Lithuanian government's chief spokesman. The inspection should be completed by Wednesday, and the reactors will resume operation, he said. "The likelihood of a subversive act is very low," Povilas Vainys, head of the State Nuclear Safety Inspection Committee, told the Interfax news agency. The shutdown at the plant, 100 miles from Vilnius, was expected to cost Lithuania hundreds of thousands of dollars. Ignalina usually supplies 80 percent of Lithuania's energy needs. Russia, Belarus and Estonia stepped in to help make up for the electricity deficit. Even before the threat, Ignalina had concerned neighboring countries. Experts say the Soviet-built plant, whose reactors are larger than Chernobyl's, doesn't meet Western safety standards. The latest bomb threat came Friday, after a Vilnius court sentenced crime boss Boris Dekanidze to death. Dekanidze's gang issued the bomb threat, the Baltic News Service reported. The mob boss' father denied his son had anything to do with it. In Stockholm, Sweden, a Lithuanian man accused of threatening to blow up the plant last week claimed on Tuesday that a "mafia" group forced him to make the threat. Kestutis Mazuika, 52, was arrested after walking into the Swedish prime minister's office and threatening to destroy the plant unless he was paid \$8 million. "He was forced to do this," defense lawyer Gunner Berg told Swedish television. "Somebody wanted to sabotage the nuclear plant where he lives." The prime minister's office is open to the public under laws guaranteeing free access to most government buildings. Authorities were ready to arrest Mazuika because he had sent a letter announcing his intention to pick up the money.

### **RADIATION EXPERIMENTS**

APn 11/14/94 11:34 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By H. JOSEF HEBERT Associated Press Writer WASHINGTON (AP) -- The government sponsored at least eight Cold War

experiments in which cancer patients were bombarded with total-body radiation to learn more about radiation's effects, researchers say. Documents uncovered by the Advisory Committee on Human Radiation Experiments show that in many of the cases the radiation treatment had little or no therapeutic value because the patients suffered from radiation-resistant diseases, according to a committee staff report. Gary Stern, a senior researcher for the committee, said in presenting the staff findings Monday that in many cases it is unclear whether the cancer patients had been adequately advised of the risks involved. The experiments -- all on civilian patients -- were carried out from the 1940s to the early 1970s. The existence of such experiments, especially those at the University of Cincinnati in the 1960s, has been generally known. But the staff report is the broadest documentation so far of the extent of the total-body radiation experiments and the Defense Department's involvement. The advisory panel was created by President Clinton last December to look into the extent of experimentation on humans during the Cold War. One aspect of the panel's review is to determine whether sick patients were subjected to radiation doses for purposes other than treating their illnesses. The staff report said 20 experiments were documented as occurring in the 1940s through 1974, but it said the review is not yet complete and others are likely to be found. The report focused on 10 experiments in which the therapeutic value of the radiation appeared to be minimal or there was sponsorship by either the Defense Department or the 1940s Manhattan Project. The 10 experiments involved as many as 1,000 cancer patients, including several hundred that suffered from radiation-resistant types of cancer making the whole-body exposure questionable on medical grounds alone, the staff report suggested. Eight of those experiments had government sponsorship. While some of the patients were extremely ill, others appeared to be in relatively good health given their medical condition and lived for months, even a year or more, after treatment, according to uncovered documents. The military's interest in total-body radiation stemmed from a need in the 1940s and 1950s to learn more about the impact of radiation exposure to military personnel in nuclear war. One set of experiments involving 263 cancer patients from 1951 through 1956 at M.D. Anderson Hospital in Houston caught intense Defense Department interest because officials hoped it would help the Air Force learn more about how radiation might affect pilots of a proposed nuclear-powered airplane. "A number of patients were given a series of psycho-motor tests to perform before and after receiving specified doses" in the M.D. Anderson experiments, the staff report said. Federal funding for many of the experiments occurred despite an agreement by high-ranking defense officials in the late 1940s against using human subjects in whole-body radiation experiments, said Daniel Guttman, the advisory panel's executive director. In the case of the M.D. Anderson experiments, an Air Force document cited a "pressing" need to learn more about radiation and the human body and it said civilian cancer patients are "considered potentially valuable ... (because) this is currently the sole source of human data," according to the staff findings. Other cases cited by in the advisory committee report involved experiments conducted at: The Memorial Hospital, New York in the 1940s; the University of California Hospital in San Francisco, 1942-46; the Chicago Tumor Clinic, 1943-44; Baylor University, 1954-1963; Sloan-Kettering Institute for Cancer Research, New York, 1954-1961; the Naval Medical Research Institute, 1959-1960; City of Hope Medical Center, Duarte, Calif., 1960-64; Oak Ridge Institute of Nuclear Studies, Oak Ridge, Tenn., 1958-1974; and the University of Cincinnati, 1960-1971.

## **LITHUANIA-NUCLEAR**

APn 11/14/94 3:51 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By MICHAEL TARM Associated Press Writer TALLINN, Estonia (AP) -- A reactor at a Chernobyl-type nuclear power plant in Lithuania has been shut down following terrorist threats against it, a government official said Monday. One of the two 1,500-megawatt reactors at the Ignalina plant was turned off late Sunday so a team of Swedish experts could check for signs of sabotage, said the head of nuclear power safety inspections, Povilas Vainis. The number of troops guarding the plant, about 100 miles from the capital of Vilnius, has tripled in response to two terrorist threats. "Threats against nuclear power stations must always be taken seriously," said Vilius Kavalyauskas, press spokesman for the Lithuanian government. No signs of sabotage were found Monday, but inspections were to continue and the reactor will remain out of commission for at least a week, plant director Viktor Shevaldin told the Baltic News Service. The second reactor was operating Monday at an output of 1,300 megawatts pending a decision on whether it should also be shut down. The most recent terrorist threat occurred Friday after a Vilnius court handed down a death sentence to crime boss Boris Dekanidze, who was convicted of masterminding the murder of a Lithuanian journalist. Prosecutors said Dekanidze ordered Vitas Lingys shot because of his articles exposing extortion rackets run by the "Vilnius Brigade," the gang Dekanidze heads. The gang threatened to target Ignalina in reprisal for the death sentence, the Baltic News Service reported. In an earlier incident, Kestutis Mazuika was arrested in Stockholm, Sweden, after he walked into the prime minister's office and threatened to blow up Ignalina unless he was paid \$8 million. Even before the threats, Ignalina had been a concern to countries in the region. Experts say the Soviet-era plant, whose two 1,500-megawatt reactors are larger than those at Chernobyl, still doesn't meet Western safety standards. Since Lithuania won independence, nearby Sweden has pumped millions of dollars into minimizing the chances of a nuclear accident.

## **LEAK OF NUCLEAR MATERIAL REPORTED AT GERMAN PLANT**

RTw 11/12/94 12:32 PM WIESBADEN, Germany, Nov 12 (Reuter) - Radioactive waste leaked from a barrel at a Siemens AG uranium processing plant in Hanau, Germany but the area was quickly decontaminated, the Hesse state environment ministry said on Saturday. It said the incident, which was classified at the medium level of a three-point scale in terms of seriousness, occurred on Friday while the barrel was being moved from one part of the plant to another in a special vehicle. "Waste sludge containing uranium leaked out of a barrel and dripped onto the ground," the ministry said in a statement. The barrel contained an estimated five grammes of uranium and measurements at the spot where the leak occurred showed radiation at more than 10 times permitted levels. "Siemens has informed us that the plant area and the vehicle have already been decontaminated," the statement said. The ministry added that the public had never been at risk but it had ordered that use of the vehicle, the only one of its kind, should be suspended until the cause of the incident had been established. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

## **RUSSIA PARLIAMENT BLOCKS NUCLEAR IMPORTS**

UPn 11/11/94 7:08 AM MOSCOW, Nov. 11 (UPI) -- The Russian parliament blocked passage Friday of a controversial bill that would allow the import of spent nuclear fuel into the cash-starved nation for either burial or reprocessing into plutonium. The State Duma, or lower house of parliament, voted overwhelmingly to send a draft law on radioactive waste back to legislative committees for changes, at least temporarily delaying a decision to legalize the lucrative shipments. Lawmakers passed the bill in its first reading last summer, but Duma ecology committee member Tamara Zlotnikova urged them not to approve it in the key second reading, saying the article banning spent nuclear fuel imports had been dropped from the draft law since then. Russian Environment Minister Viktor Danilov-Danilyan has also urged blockage of the bill, and 11 Greenpeace activists were arrested Thursday after they staged a protest outside parliament headquarters, hanging a huge bilingual sign reading "Stop Nuclear Production" from balconies on the stately Moskva hotel near the Kremlin. In a press-release issued to accompany the protest, Greenpeace said the bill, which would reverse a 1991 Russian law prohibiting the import of nuclear waste, would turn the nation into "a nuclear garbage dump." The organization said imports would also serve to sharpen nuclear proliferation dangers by increasing amounts of nuclear material at Russian facilities, where reported thefts earlier this year indicate that security may be inadequate. "Russia already has a tremendous problem keeping track of its fissile materials," the statement said. "Importing foreign nuclear waste for reprocessing will create more problems here, and when the plutonium is shipped back, it will create proliferation concerns abroad." In favor of the bill is Russia's Ministry of Atomic Energy, or Minatom, which views the import and reprocessing of spent nuclear fuel as a source of hard currency profits in lean times. Minatom, which would store and reprocess the fuel at its facilities, has said import earnings would go to completing construction of a reprocessing plant near an existing storage facility at the formerly closed nuclear city of Krasnoyarsk-26, in southern Siberia. Greenpeace says that in the long run, reprocessing costs will exceed profits and force Russia to foot the reprocessing bill. Greenpeace and other environmentalists say some spent nuclear fuel is making its way across the border and into Russian reprocessing facilities in violation of the 1991 law, which was meant to put an end to shipments of waste from Russian-built power plants in the former Warsaw Pact nations. The organization also says Minatom has recently been preparing for the bill's passage, negotiating with a handful of European and Asian states to about importing 1,075 tons of nuclear fuel. The State Duma could still pass the law in its third and final reading, but Friday's 257-3 vote to make changes in the bill indicates lawmakers will not legalize future shipments of spent nuclear fuel. Copyright 1994 The United Press International

## **ZHIRINOVSKY SAYS CHERNOBYL ACCIDENT WAS SABOTAGE**

RTw 11/10/94 4:03 PM NEW YORK, Nov 10 (Reuter) - Russian nationalist politician Vladimir Zhirinovsky said on Thursday that he believed the 1986 accident at the Chernobyl nuclear power plant was a result of sabotage by anti-government forces. Zhirinovsky told reporters that it was one of many actions taken to undermine the former Soviet Union and to make its technology look inferior. "It was a subversive action. Russian scientists who were aware of the act and were about to expose it were extinguished," he said through a translator at the Overseas Press Club in New York. In April 1986, a fire at the number four nuclear reactor at Chernobyl near Kiev in Ukraine, killed or injured hundreds of people and leaked radiation into parts of the Soviet Union and Eastern Europe. While he did not specify what group was behind the alleged sabotage at Chernobyl, Zhirinovsky said that the KGB was behind a campaign to undermine the nation. Zhirinovsky, travelling in the United States to improve his image, also said that a 1988 conflict between Armenians and Azerbaijanis was also artificially created by subversive acts. Zhirinovsky, who has a reputation for being anti-Semitic, began his U.S. trip in San Francisco on Sunday. He goes to Washington next but admitted he has yet to arrange any meetings with key Clinton administration or Congressional officials. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

## **BULGARIA DISCOVERS RADIOACTIVE SITE**

UPn 11/9/94 9:11 AM By VLADIMIR ZHELYAZKOV SOFIA, Nov. 9 (UPI) -- Several hundred acres of land close to Bulgaria's capital Sofia have been contaminated with radium, a highly radioactive material, local news reports said Wednesday. The toxic effect of the material, discovered buried under 300 acres of agricultural land, is equal to that of the fallout that reached Bulgaria after the Chernobyl nuclear plant disaster in 1986, the daily Kontinent reported. Bulgaria's environment minister, Valentin Bosevsky, confirmed in an interview for Bulgarian state-run radio, that he was aware of the problem and that urgent measures were being discussed with authorities. Ivan Uzunov, one of the country's top experts on radioactive materials, told United Press International the contamination was from radioactive waste thrown into two rivers from the plant for extraction of uranium in the town of Buhovo, some 16 miles (25 km) northeast of Sofia. Uzunov said that from 1947 until 1966 the plant at Buhovo was the only facility in Bulgaria for the processing of uranium ore, with the extracted uranium being sold to the former Soviet Union. According to Uzunov and Elisaveta Karamihailova, another prominent expert in the field, for twenty years the waste materials remaining after the extraction of high quality uranium had been released into the Yanistitsa and Lesnovska rivers, flowing next to the factory. They said the discovered radium was some 600 times more toxic than the cesium that fell over Bulgaria after the Chernobyl accident. According to the scientists, the full extent of the contamination had become known only recently, after intensive research, which had not been possible under the former communist regime. "The fact that this problem was kept secret by the communists is a great crime toward the people of Bulgaria. Those responsible should answer for it," said Karamihailova. (edited by Natela Cutter in Belgrade) Copyright 1994 The United Press International

## **JAPAN SAYS FINNISH REINDEER MEAT TOO RADIOACTIVE**

RTw 11/8/94 6:44 AM TOKYO, Nov 8 (Reuter) - Japan's Health Ministry told an importer on Tuesday to return reindeer meat to Finland because it contained high levels of radioactivity. "We ordered the importer to send it back to Finland today," a ministry spokesman said. The ministry detected "higher than acceptable" levels of radioactivity in the 42 kg (90 lb) of meat imported from Finland, he said. The ministry believed the radiation stemmed from fallout from the 1986 Chernobyl nuclear disaster in the then Soviet Union, he said. REUTER REUTER  
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## **EXP--REACTOR COSTS**

APn 11/6/94 11:00 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By JEFF DONN Associated Press Writer ROWE, Mass. (AP) -- The managers of the Yankee Rowe nuclear plant, the oldest operating commercial reactor in the country when it was shut down in 1992, have raised by half their original estimate for dismantling it. Utility officials also acknowledged for the first time that they expect eventually to raise electric rates around New England to help pay the cost of laying to rest the Yankee Rowe plant. They blamed the higher costs on overly optimistic past estimates, as well as delays by state and federal officials in finding permanent dump sites for nuclear waste. About half of the increase in the decommissioning cost can be attributed to the additional cost of keeping the stored waste fuel secure, one official said. "It's really the political process that is resulting in the increases," said Rich Gallagher, a spokesman for Northeast Utilities, the largest owner of Yankee Rowe with a 38.5 percent share. In testimony Oct. 26 before the Nuclear Regulatory Commission in Rockville, Md., utility officials disclosed that it would now cost \$370 million to dismantle Nuclear Rowe, or almost 10 times its construction cost of \$39 million in 1960. In 1992, when the utility closed the plant, it estimated that it would cost \$247 million to dismantle it. No commercial nuclear plant has ever been fully decommissioned in the still-young industry, so utilities and critics of nuclear power are carefully watching progress at Yankee Rowe. Gallagher, the spokesman for Northeast Utilities, said he could not estimate how much his company would increase rates to cover its share of the higher decommissioning costs. William McGee, spokesman for Yankee Atomic Electric Co. which ran the plant, said the rate increases would probably amount to "pennies per month" on individual bills when spread out over several years among the 10 utilities that own Yankee Rowe. The new decommissioning estimate prompted anti-nuclear groups to renew their contention that hidden costs make nuclear energy a bad buy. "It's clear that generations to succeed ... will be left with the burden of covering the cost, which is a frightening prospect," said Paul Gunter, a staffer at the Nuclear Information and Resource Center in Washington. Michael Daley, a trustee of the New England Coalition on Nuclear Pollution, said the higher estimate suggests that decommissioning costs at other nuclear plants will also be much higher than now anticipated. "The fear would be that ... they'll take a dirtier and cheaper way of decommissioning than most people would probably desire," he added. Yankee Atomic closed the plant in February 1992 because of financial and safety concerns surrounding its aging reactor vessel. At the time, the nuclear plant in Rowe, located in the state's northwestern corner, was not only the oldest but also the smallest commercial reactor in the country. Yankee Rowe managers, in their testimony before the NRC, converted their initial decommissioning estimate to 1994 dollars and quoted a cost of \$276 million. But in 1992, when they first estimated the

cost of closing the plant, they set the figure at \$247 million. That figure is \$123 million lower than the \$370 million figure released Oct. 31, an increase of nearly 50 percent. The higher cost of dismantling the plant thus wipes out all or most of the \$116 million in savings that the utilities hoped to gain by closing the reactor down before its federal operating license expired. They had estimated that it would have cost at least \$23 million to address safety concerns to keep the plant running. In addition, they said, the market for power was slack. The plant was closed with eight years remaining on its original 40-year operating license. Plant operators had hoped to make it a national model for the federal renewal of nuclear plant licenses. Now, they say they will make it a model for decommissioning plants. McGee, the Yankee Atomic spokesman, said the state government, which initially hoped to establish a dump site for low-level radioactive waste by 1996, was now aiming for around the year 2000. The federal government, which initially wanted to set up a permanent site for spent nuclear fuel and begin taking Yankee Rowe's fuel by 1998, has now delayed that target date to 2010, he said. Operators estimate that it will cost an additional \$4 million next century for every year the federal government delays in hauling away Yankee Rowe's 125 tons of spent nuclear fuel. The fuel is now stored in a pool at the site. The cost of keeping that fuel secure accounts for about half of the increased cost of decommissioning Yankee Rowe, according to plant spokesman McGee. Ben McKelway, a public liaison for the state's Low-Level Radioactive Waste Management Board, said, "The board is being as careful as it can be. They are going at a slow and deliberate pace. They are trying to learn from the false starts and mistakes that other states have made." Rick Oborn, a spokesman for the U.S. Department of Energy, acknowledged that the process of finding a site for spent fuel, which his agency is supervising, "has not moved as fast as all parties would like." He declined to elaborate on whether the delays stem from technical, political or other obstacles. He said progress depends not just on his agency, but also Congress and the utilities. End Advance for Monday, Nov. 7, and Thereafter

### **RUSSIAN DOCUMENTS CITE ATOM DANGER - BRITISH PAPER**

RTna 11/5/94 7:12 PM LONDON (Reuter) - Crisis in the former Soviet Union's nuclear industry is increasing a threat to Europe of environmental catastrophe, according to leaked documents, Britain's Observer newspaper said Sunday. The paper said it had handed the Russian government internal documents over to the International Atomic Energy Agency (IAEA) in Vienna, which said they confirmed its worst fears. The agency warned chaos, brought about by lack of cash or central authority following the breakup of the Soviet Union, could trigger another accident like the 1986 Chernobyl disaster which sent radiation spewing across the continent. "But the documents ... describe a desperate situation in which a worse accident -- a reactor meltdown or catastrophic airborne release of radioactivity -- is an increasing risk," the Observer said. One report, dated July 6, 1994, and signed by Russian Prime Minister Viktor Chernomyrdin, detailed urgent works needed to make the industry safe. "It confirms World Bank estimates that the former Soviet Union urgently requires at least \$20 billion. So far the West has earmarked \$1.6 billion," the paper said. Another document from May, the annual report of the atomic industry regulator Gosatomnadzor, said Russia did not know how much nuclear material it had or where it was, and that the country could not cope with the radioactive waste it produced. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

### **ENVIRO-EDUCATION**

APn 11/3/94 11:11 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By RANDOLPH E. SCHMID Associated Press Writer WASHINGTON (AP) -- Scientists are launching a children's environmental crusade, enlisting youngsters around the world to measure and learn about the planet they live on. "Science and education have to team ... we want students to learn and to have fun" and at the same time provide useful information to scientists, said Barrett Rock, assistant director for science of the Global Learning and Observations to Benefit the Environment program, or GLOBE. GLOBE director Thomas N. Pyke Jr. said Thursday that 81 countries have shown interest in the effort. He said students will study their local environments and report findings back to a central science team through the global computer network known as the Internet. To make sure the data is accurate, professional scientists will train teachers to supervise the students. The hope, Pyke said, is to organize elementary and high school students into a program that will teach them how to do real scientific investigations while providing useful data for researchers, particularly in countries where little environmental information now is collected. Pyke said launch is planned for next April, the 25th anniversary of Earth Day. About \$2.5 million in grants are being issued to organize the effort. The money is from the three sponsoring agencies -- the National Science Foundation, the National Oceanic and Atmospheric Administration and the National Aeronautics and Space Administration. Once the program is operating, each country will be expected to support the activities of its students. GLOBE research will focus on three primary areas: earth, air and water. The earth studies will include such things as presence and health of animal life, vegetation, soil types and conditions and biology. Climate and weather will be included in the air section, including measurements of temperature, humidity, pressure, wind, rain or snowfall, clouds, solar radiation and trace gases in the atmosphere. The

water studies will look at temperature, acidity, water chemistry, coastal conditions and water storage in lakes or underground. Pyke said countries that have indicated an interest in joining the United States in the program include one in North America, 27 in Europe, 17 in Africa, 17 in Asia and the Pacific, nine in Central and South America and nine in the Middle East.

### **ROMANIA FACES WAVE OF SMUGGLED NUCLEAR MATERIAL**

RTw 11/2/94 10:56 AM By Karin Popescu BUCHAREST, Nov 2 (Reuter) - Romanian police have seized 10.45 kilos (22 pounds) of radioactive material smuggled into the country this year and arrested 21 people involved in the illegal traffic, police said on Wednesday. Police officials said the radioactive uranium and strontium came from the ex-Soviet republic of Moldova, Russia and Ukraine. "All 10.45 kilos of radioactive material captured so far definitely came from abroad, but experts have yet to establish the origin of each shipment," Lieutenant Colonel Lucian Fuica, head of the organised crime squad, told Reuters. He was speaking as experts on nuclear safety from 35 countries began a two-day meeting in Vienna to discuss ways of tightening protection of nuclear materials and to prevent their illegal trafficking. Fuica said his squad had arrested 21 people, including two Jordanians, a former Red Army officer from Moldova and two Romanian army officers, in four interceptions of smuggled radioactive material this year. In addition police had uncovered the theft of some 230 kgs (493 pounds) of low-grade uranium from one of Romania's own nuclear plants in 1992, and had arrested some 30 people, all of whom had since been released. He said Romania's penal code provides for only mild jail terms, from six months to five years, for trafficking in radioactive material, and argued for stiffer terms. The nuclear programme of Romania, which has signed the international Nuclear Non-Proliferation Treaty, is limited to two research reactors and a power station being built at Cernavoda on the River Danube, supplied by two fuel plants north of the capital. However the country has a virtually open border with the former Soviet Union. Western nuclear experts who fear stolen uranium may find its way to guerrillas or non-nuclear powers have warned Romania could be used as a transfer point for radioactive contraband. In June police in Pitesti, 113 km (71 miles) northwest of Bucharest, arrested three Romanians trying to sell three kilos (7 pounds) of uranium tablets. Their origin has yet to be established, but police had reason to believe it came from abroad, Fuica said. In July police in Timisoara, near the border with Serbia, arrested five Romanians trying to sell 2.6 kilos (6 pounds) of Russian uranium. In the last two months police intercepted another two consignments of illegal uranium and arrested 12 people, including two Jordanians, three Moldovans and three Romanians. The uranium, smuggled by a Red Army veteran from Moldova, was offered to the Jordanians by Romanian intermediaries. The offer also involved some highly radioactive strontium. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

### **FRENCH NUCLEAR REACTOR RESTARTED AFTER SHUT-DOWN**

RTw 12/7/94 5:30 AM GRENOBLE, France, Dec 7 (Reuter) - France's incident-plagued Superphenix fast-breeder nuclear reactor restarted on Wednesday after a steam leak from one of its four generators forced a shut-down last month, the plant's management said. The reactor would gradually build up to 30 percent of its 1,200-megawatt capacity, the limit set for the plant since it resumed operations in August following a four-year shutdown. Many ecologists want the controversial 18-year-old plant at Creys-Malville, near the Alpine town of Grenoble, closed for good. Plagued by expensive faults, Superphenix has functioned normally for only six months since it was built in 1976. Under the latest plan, the centre-right government wants Superphenix to be a research unit for recycling nuclear waste, well short of its original design as a fast-breeder producing more plutonium than it burns when generating electricity. The steam leak on November 16 led to an automatic shutdown of the generator which was operating at the time. Apart from the leak, a hydrogen detector broke down in August and argon gas pressure fell in September. Copyright 1994 Reuters America Inc. All rights reserved.

### **RUSSIA-ATOMIC LEGACY**

APn 12/6/94 11:14 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By DOUG MELLGREN Associated Press Writer MURMANSK, Russia (AP) -- Aboard his nuclear-powered icebreaker, Capt. Anatoly Gorchevsky raised his vodka in a toast "to the friendly atom." It's a friendship that many fear is turning ugly. Murmansk and the surrounding Kola Peninsula is one of the most nuclear-intensive places on the planet. The harbor is home to nuclear-powered warships, submarines and icebreakers; the waters are marked by nuclear-powered lighthouses; on land there's a nuclear power plant and a nuclear test site; nuclear warheads are in profusion both at sea and on land. Much of it is in poor repair. Radioactive waste is stored ships so rickety they can't be moved from their moorings near downtown Murmansk, the Arctic's largest city with about a half million residents. The power plant is

regarded by many as one of the most unsafe in the world. "There is a problem and it is acute. We just hope the central government recognizes this," said Yuri Titoyov, a Murmansk resident. "We can't just let all these ships stay in our harbors with all this waste aboard." During the Cold War, the Soviet Union built up a staggering arsenal on the Kola, which borders NATO-member Norway and neutral Finland. The peninsula, about the size of Kentucky, is the base of Russia's North Fleet, with 155 nuclear submarines, including 71 derelict vessels, according to a report by the Norwegian environmental group Bellona. Westerners estimate the Kola has up to 2,000 nuclear warheads, plus the civilian "Atomflot" fleet of eight icebreakers. And Murmansk environmental officials generally go along with those estimates because they can't get such information from their own government. So the Cold War may be over, but nearby countries still feel a chill when they think about the potential environmental problems just across the border. Norway has installed radiation detectors in its northern provinces and on Russian territory to give early warning of a disaster. "We are close to an area that has a lot of radiation," said Per Einar Fiskebaek, of Norway's Finnmark county, which borders the Kola. "It is clear that they have a huge number of boats out of service and problems storing the waste." Bellona's report said most of the 71 condemned submarines still have their nuclear fuel on board because there is no place to put it. "It is a big problem with both solid and liquid nuclear waste. It is a difficult problem that is of interest to the whole world," admitted Andrey I. Tumparov, director of "Atomflot." Murmansk governor Yeveny B. Komorov -- keen on discussing Western aid for such projects as a tunnel under the Kola Bay and modernizing shipyards -- dismissed the danger. "There won't be any atomic catastrophes in this area. In connection with all the changes in our country, the ships aren't going out of our waters as often," he said. Instead, he said with a Cold War twist, the danger is from the United States. Russia claims that a U.S. nuclear submarine intruded on Kola waters this month. "Why are American submarines with atomic reactors and weapons up here? A collision up here can result in a catastrophe," he said. "It's not us who are going to Florida. They are coming to us here." The Kola Nuclear Power Station nearly suffered a meltdown in February 1993, when back-up power to its cooling systems failed, said Ragnar Vaga Pedersen, of the Norwegian government monitoring station on the Russia border. "It is considered one of the four or five most dangerous plants in the world," Pedersen said. The plant provides 60 percent of the Kola's power and closing it would be a disaster for the region. Bellona claimed that atomic warships and weapons are poorly maintained by underpaid, demoralized soldiers, and that security at nuclear storage facilities is lax. About two-thirds of the nuclear waste ever dumped in the world's oceans lies off the Kola, according to Bellona's report. The waste includes 17 nuclear reactors and at least one submarine, although joint Norwegian-Russia expeditions have found little radioactive contamination. The Soviet submarine Komsomolets, which sank in 1989, is rusting at the bottom of the Norwegian Sea. It still has nuclear weapons and fuel on board that some fear could threaten rich arctic fishing grounds. Even when Russia stopped offshore dumping and slowed transport to a reprocessing center in the Urals, waste accumulated on land and on ships. "Some of the storage facilities are overfilled," said Ludmila Amozowa, of the Murmansk County environment committee. The icebreaker Soviet Union shares a wharf with five old ships, each laden with atomic waste and highly radioactive nuclear fuel rods. "They are storing waste on ships that are so rusted that they cannot be moved," claimed Pedersen of Norway. Others said the ships were in good shape. Environmentalists fear that a fire or sinking of a storage ship could trigger a major nuclear accident on the Kola. Local officials want to build a permanent nuclear waste dump in the permafrost of Novaya Zemlya islands, a primary atomic weapons test site for the Soviet Union in the 1950s and 60s. "The test site is so polluted that we would never use it for anything else anyway," said Amozowa.

## **RADIATION EXPERIMENTS**

APn 12/5/94 10:41 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By AVIVA L. BRANDT Associated Press Writer RICHLAND, Wash. (AP) -- Money was the motive for many Oregon state prison inmates who asked to participate in federal experiments that involved bombarding their testicles with X-rays. Their handwritten requests are among 4,034 pages of documents the Energy Department made public Monday concerning radiation experiments on 60 inmates at Washington state prison in Walla Walla and 67 prisoners in Salem, Ore., between 1963 and 1973. The Washington prisoners' requests were not among the documents. "I have an interest in the program as well as needing a little spending money," wrote an inmate identified only as No. 40. His name was blacked out on the document, dated June 25, 1964. "Have no idea how long I will be here. I need the money real bad. Have no other means of getting more funds," prisoner No. 3 wrote in August 1971, requesting the remaining \$50 he had been promised. They didn't get much. Inmates received \$5 each month for submitting to X-ray radiation exposure of the scrotum and testes, and for providing samples of urine, semen and blood. The inmates, ages 25 to 52, also were paid \$10 for each periodic biopsy of the testicles. Those who completed the experiment and had a vasectomy received a \$100 payment. The surgical sterilization was intended to prevent birth defects due to the radiation. The Oregon experiments cost \$1.12 million while those in Washington cost \$505,000. They were paid for by the Energy Department's predecessor, the



Atomic Energy Commission. Prisoners' testicles were exposed to varying doses of radiation from an X-ray device so researchers could learn about the potential biological effects of radiation on Hanford nuclear reservation workers and on NASA astronauts. The program was popular among inmates. Some inmates who were released and later returned to prison asked to be accepted back into the experiments. Prisoner No. 28 worried that he would not be able to finish the experiment because he was due to be granted parole. "Personally I am interested in this program because of how it can help mankind," he wrote.

## **NUCLEAR CONFESSIONS**

APn 12/3/94 10:46 AM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By ROBERT BURNS Associated Press Writer CAMBRIDGE, Mass. (AP) -- Even while it was warning of an aggressive Soviet nuclear buildup during the Cold War, the CIA secretly lamented the seemingly endless U.S.-Soviet arms race, according to newly declassified government records. Intelligence analysts who puzzled over Soviet military intentions saw clearly that the nuclear arms competition had gone beyond anything that could reasonably be explained by the legitimate security needs of either Moscow or Washington. "The weapons competition nowadays is largely a technological race," U.S. analysts wrote in a top secret report dated Nov. 24, 1970. "Each side is impelled to press forward ... lest it be left behind," regardless of military needs. The U.S. and Soviet arms production programs had attained "a momentum of their own," pushed relentlessly ahead by an "immense apparatus" of government and military organizations, installations, employees and "vested interests." This expression of doubt is unsurprising today, in the aftermath of the Cold War. But at the time it ran counter to the prevailing U.S. government view that the arms race was a necessary -- indeed, the only -- way to contain Soviet communism. In a Sept. 10, 1973, report, the analysts sought to explain the ongoing Soviet nuclear buildup by citing "the natural desire of missile designers to improve their product" and the unstoppable march of technological advances by both superpowers. Those reports are among 80 newly declassified National Intelligence Estimates that were released at a Harvard University conference this weekend as part of a 2-year-old CIA effort to make public its reports on the Soviet Union. In a speech to the conference Friday, Stansfield Turner, who was CIA director during the Carter administration, was even blunter in asserting that both Moscow and Washington had foolishly squandered resources by overbuilding their nuclear arsenals. "We were conned by the Department of Defense," Turner said. Turner said he himself was caught up in the nuclear hysteria. He noted that he approved a National Intelligence Estimate in December 1980 that should have alerted him and others to the irrational state of the superpower arms competition. That report said the three segments of the U.S. nuclear strike force -- bombers, land-based missiles and sea-launched missiles -- could each destroy 70 percent of the Soviet economy, even after absorbing a Soviet first strike. The newly declassified CIA reports show that the intelligence analysts held consistently to a belief that whatever the size of the Soviet nuclear force, it was not intended for a deliberate attack on the United States. Instead it was for deterrence -- the same rationale that U.S. leaders used to justify the American buildup. The National Intelligence Estimates, which were classified top secret at the time, contain what the CIA considers some of the most sensitive intelligence information ever released to the public. The reports, covering the period 1954 to 1983, were prepared under CIA supervision but with the participation of all the major U.S. spy agencies, including military intelligence. Robert Gates, who initiated the declassification effort while he was CIA director in the Bush administration, told a Harvard dinner Friday that whatever errors the intelligence analysts may have made, the release of the reports on Soviet nuclear forces shows that their judgments were "mostly right." "We may not have fully understood Soviet doctrine and intentions, but we knew what they had" in the way of specific numbers of nuclear missiles and bombers, Gates said. Noting that large amounts of technical detail in the 80 declassified reports had been blacked out by government censors, Gates said the CIA was not to blame. "It is due to the unwillingness of the Department of Defense and the Department of Energy to get real," Gates said. The Energy Department administers the laboratories and plants that develop, test and make nuclear weapons. The CIA reports played an important role in forming American strategic nuclear policy during the Cold War. But the Harvard conference made clear that in at least one crucial episode, the CIA's analysts were left out in the cold. Willard Mattias, a longtime CIA officer, said in an interview that agency analysts were not asked in 1961 to estimate how the Cuban population would react if a CIA-inspired insurrection were launched against their new leader, Fidel Castro. If the analysts had been asked, Mattias said, they would have predicted no mass uprising against Castro. He said it was clear that no analytical report was requested because those in charge of the ill-fated Bay of Pigs operation knew the analysts believed Castro was too popular to be overthrown by his people. Mattias at the time was chief of staff of the CIA's Board of National Estimates. Other CIA officers who served at the time of the Bay of Pigs confirmed Mattias' account.

## **PANEL STUDIES REASONS FOR U.S. NUCLEAR TEST SECRECY**

RTw 12/1/94 1:00 PM By Vicki Allen WASHINGTON, Dec 1 (Reuter) - A panel studying Cold War-era radiation tests has documents indicating the U.S. government classified information on some of the experiments out of concern for legal liability or bad publicity, not for national security, the panel's chairman said on Thursday. Ruth Faden, head of a presidential committee studying radiation tests on humans, said documents "suggest quite strongly that for some of the experiments the motivation for maintaining secrecy was at least in part and perhaps in whole linked to considerations either over legal liability on the part of government or concerns about public relations." Faden testified before the Senate Governmental Affairs Committee. Steve Klaidman, spokesman for the committee that President Bill Clinton appointed last winter to study the scope and ethics of decades of government-sponsored radiation medical tests, said these are the first documents the committee has seen showing that national security was not the only reason for concealing some experiments. "You've seen hints of this before, but the earlier hints are being supported by real data," Klaidman said after the hearing. The documents are from experiments conducted before the 1960s, he said, but he declined to offer specifics. The documents, among the thousands the committee has reviewed after the Clinton administration moved to declassify many Cold War-era records, will be released at the committee's next meeting later this month, Klaidman said. Faden also said the committee intends to release its final report next spring on experiments and whether some subjects deserve compensation for health effects or because they were unwilling or uninformed participants. Most experiments appeared to be for legitimate medical research, Faden said. But there have been many cases cited where subjects did not appear to give informed or willing consent, or where medical ethics were dubious. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

### **GREENPEACE WARNS WEST OVER RUSSIAN URANIUM MINE**

RTw 11/30/94 8:20 AM MOSCOW, Nov 30 (Reuter) - Greenpeace on Wednesday said a huge Siberian uranium mine was a health hazard and a potential environmental disaster and urged the West to discourage uranium production worldwide. The international environmentalist group said workers at the Priargunsky Mountain Chemical Combine, in the Krasnokamensk region close to Russia's border with China and Mongolia, were in particular danger because of alleged low safety standards. Greenpeace, after making a secret visit to the plant posing as a television crew earlier this month, said radioactivity was high in some areas, rates of cancer and children's diseases were alarming and the nearby village of Oktyabrsky was "soaked in radiation." "Greenpeace believes that the situation in the area of Krasnokamensk and at the Priargunsky Combine is a clear illustration of the environmental and health dangers inherent in the nuclear chain," Greenpeace said in a report. "We call on the Western community to stop supporting uranium production throughout the world and to begin aid programmes aimed at helping re-profile the existing uranium works towards providing environmentally benign services," it said. At the mine, which Greenpeace called the biggest uranium mining and milling complex in the world, workers handled materials without gloves and often did not wear special protective clothing, the report said. Piles of radioactive earth stood just outside the village, contaminated water flowed through it, winds carried uranium dust over it and the average uranium content in the soil was 20 times higher than background levels, it said. But health officials in Krasnokamensk told Greenpeace the state of health was fully satisfactory and uranium caused no health problems. Officials at Russia's Atomic Energy Ministry were not immediately available for comment. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

### **IN DUMP'S BACK YARD, NUCLEAR WASTE IS WEARING OUT ...**

WP 11/28/94 11:00 PM In Dump's Back Yard, Nuclear Waste Is Wearing Out Its Welcome By Gary Lee Washington Post Staff Writer AIKEN, S.C. - By the account of Dannion Brinkley, the self-styled voice of the people in this sleepy corner of the South, the people are growing mighty weary of nuclear waste. For more than 30 years, South Carolina has hosted the nation's third-largest repository of spent fuel from nuclear reactors. For most of that time, the majority of state residents apparently felt that the jobs and income that flowed into their state along with the radioactive fuel rods made the bargain worthwhile. But if Brinkley, a local writer, and other Aiken residents are any indication, all that is starting to change. At every public meeting on the issue, Brinkley appears, shouting questions from the floor. Whenever a hint of trouble surfaces at the Department of Energy's nearby Savannah River Plant (SRP), the nuclear waste-processing facility where the fuel is stored, he reaches for his thick book on the facility's safety standards. "We've reached the point where we have about enough of the stuff stored here," Brinkley, 44, said in a conversation on the front porch of his lemon-colored house in downtown Aiken. "We've now got to give thought to better ways to manage it." Across this town ringed by horse farms and quaint antebellum mansions, other residents are reacting to the waste issue with a similar skepticism. John Henry Thomas, a local taxi driver, wonders whether residue from the Savannah River Plant will end up in soil that nurtures the area's famous peach crop. Julie Owens, a secretary, asks why it all has to happen so close to her back yard. "Why can't they dispose of the stuff somewhere else?" she said. "People have watched for years as South

Carolina was used as a dump for every kind of refuse, most of it from out of state," said Brian Costner, director of the Energy Research Foundation, a Columbia, S.C.-based environmental watchdog group. "Now they're fed up." Since 1963, authorities have stockpiled an estimated 200 metric tons of high-level radioactive waste - mostly from domestic research reactors - at the SRP. The current controversy dramatizes the lack of a long-range plan for nuclear waste disposal in the United States. For federal officials, the SRP is the last resort for storing high-level radioactive waste. A facility at Hanford, Wash., closed temporarily this year, and a 1993 court ruling barred an Idaho repository from accepting waste from outside the state. Energy Department officials said a planned nuclear waste disposal site at Nevada's Yucca Mountain is unlikely to open until 2010, at the earliest. In Aiken and the surrounding area, where every third resident is an SRP employee, there is still considerable support for the use of the repository. "We accepted the stuff without a fight and with good reason," explained Brinkley. "There was a cold war on and there was a lot of waste from weapons production. We viewed taking it as our patriotic duty. Most folks around here are not against accepting the waste. But we realize the dangers it can pose. And with that realization has come some resistance." Earlier this fall, that resistance led to a showdown between Energy Secretary Hazel R. O'Leary and South Carolina Gov. Carroll A. Campbell Jr. (R). When O'Leary ordered 409 spent fuel rods from foreign reactors to be stored at the SRP, Campbell balked. With the first shipment of 153 rods already en route by sea from Europe, Campbell sued O'Leary, alleging that she had failed to consider the environmental hazards of transporting spent nuclear fuel across South Carolina. U.S. District Judge Matthew J. Perry Jr. agreed, leaving the shipment floating off the coast near Charleston for two days. The 4th U.S. Circuit Court of Appeals overruled the decision, however, and the rods were shipped to the SRP earlier this month. In a Nov. 1 court hearing in Columbia, lawyers for the two sides faced off over the fate of the remaining 256 rods, due to be shipped from Europe by next March. During the session, federal officials described the plan to import the spent fuel as a cornerstone of the Clinton administration's nonproliferation policy. Originally sent to European countries by the United States under President Dwight D. Eisenhower's "Atoms for Peace" program, the fuel was used in research reactors. A program for reimporting it began in the 1960s, but was terminated in 1988. O'Leary resumed it last year. If the United States does not accept the fuel, Energy Department spokesman Jim Giusti said, it will wind up in other countries, where there is a chance it could be reprocessed and used to make nuclear weapons. Once fuel is exhausted in nuclear reactors, it can be either stored indefinitely in basins or reprocessed. Reprocessing was common at SRP during the 1970s and 1980s, when the plant was actively involved in nuclear weapons production. A proposal to stop the reprocessing, launched by President Jimmy Carter in the 1970s, was finally put into effect in 1991. The Clinton administration's position is that the United States does not need to reprocess spent nuclear fuel now that the U.S. government is no longer manufacturing new nuclear weapons. A spokesman for Campbell said that the governor favors reprocessing over storage, because reprocessing reduces the volume of radioactive waste and makes long-term storage easier. A decision in the legal dispute over the remaining fuel rods is due in early December. The court battle has raised questions about the dangers of radiation from spent fuel rods. Energy Department officials are adamant that the shipments pose no health risk. "We would not undertake such a plan if we thought it posed any environmental problems," said Thomas P. Grumbly, assistant energy secretary for environmental management. In the area where the fuel will be transported and stored, however, local residents remain unconvinced. A coalition of environmental groups opposing the shipments has charged that they pose a severe health hazard. Under the Energy Department's plan, the shipments are to be unloaded at Sunny Point, N.C., and shipped by rail through parts of both Carolinas before arriving at the SRP. "That route seemed designed to expose as many people to radioactive waste as possible," said Janet Hoyle, a spokeswoman for the North Carolina-based Blue Ridge Environmental Defense League (EDL), one of three conservation groups seeking to block the shipments. By the EDL's calculation, the first shipment of the fuel elements passed within 40 yards of residents along the rail route, exposing them to some radiation and placing them at high risk in the event of an accident. Department officials said the shipment of fuel rods by train exposed people living along the tracks to no more than 180 microrem, a small percentage of the radiation exposure during a single diagnostic X-ray. Independent analysts concurred with that assessment. "The exposure rates are inconsequential," said Thomas Cochran, a nuclear waste expert with the Washington-based Natural Resources Defense Council. "You would have to hug one of these things to get any reaction." One of the Energy Department's largest facilities, the SRP is a vast area of office buildings, idle nuclear reactors and chemical plants, spread over 310 square miles in the midst of a South Carolina pine forest. The facility employs about 20,000 people, only about 100 of whom oversee fuel storage. When spent fuel elements arrive at the SRP, they are brought to a specially secured area accessible only to a handful of authorized employees and contractors. The elements, contained in rectangular containers or three-foot rods, are placed in an underwater unloading basin resembling a large swimming pool. Still underwater, they are ferried by overhead monorail through canals to work basins and eventually to storage basins. Eight to 10 feet of water covers the tops of the stored fuel elements. Energy Department spokesman Giusti said a minuscule amount of radiation may be emitted from the elements, but it would be fully absorbed by the water, which is chemically treated to enhance the absorption process. The pools were designed as a temporary facility, where fuel elements would remain for a maximum of five years before being reprocessed. But because the plant's reprocessing program has stopped, the spent fuel elements continue to pile up in the basins. Some have been there longer than 25 years. The controversy over the

fuel rods reflects heightened sensitivity about environmental issues elsewhere in the state. In Hilton Head, Pat Tousignant is waging a campaign against a plan to funnel water from the Savannah River into the local water supply. "With all that's been dumped at that facility over the years, we don't know how much contamination could appear in our drinking water," she said. Another example of the change in attitude was the closing last summer of a low-level radioactive waste site in nearby Barnwell, S.C., to material from anywhere outside of eight southern states. After 1996, under orders by the South Carolina legislature, the Barnwell plant is due to be shut down. For the last two decades, that facility has been the principal dumping ground for two-thirds of all low-level waste generated in the United States, including medical waste from research facilities in many eastern states. As a result of the new restrictions, facilities which used the plant for dumping, including hospitals in the Washington-Baltimore area, now must store low-level radioactive waste on site. "We took way more than our share of the country's waste," said Daisy Hollis, head of the Columbia-based environmental group CLEAN. "Enough was enough." Copyright 1994 The Washington Post

### **LEAKING URANIUM COULD HAVE SET OFF REACTION**

RTna 11/25/94 11:49 PM WASHINGTON (Reuter) - Uranium that seeped from a defunct nuclear reactor at the Oak Ridge National Laboratory in Tennessee and accumulated in a pipe could have touched off an uncontrolled nuclear chain reaction, the Washington Post quoted Energy Department officials saying Friday. The report said six pounds of bomb-grade uranium were discovered in a filter pipe earlier this year after laboratory officials detected elevated radiation levels in the area. A cleanup crew has begun the process of circumventing a chain reaction, including removing water in the area that could have provided the element needed for the reaction. Clayton Gist, branch chief for decontamination at Oak Ridge, said the levels of radiation detected were not high enough to endanger the health of Oak Ridge workers. But Gist said the amount of uranium found was enough to start a nuclear chain reaction, which can be impossible to control. Removing the uranium requires using remote-control technology and may take two years, energy department officials said. The facility where the uranium was discovered, the Molten Salt Reactor, was used by the Atomic Energy Commission during the 1960s but it was shut down in 1969 and no long-term plan exists for destroying or storing the facility, the Post said. Copyright 1994 Reuters America Inc. All rights reserved.

### **BRF--BULGARIA-NUCLEAR**

APn 11/24/94 11:44 AM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. SOFIA, Bulgaria (AP) -- An electrical malfunction forced a shutdown of Bulgaria's troubled Kozlodui nuclear plant on Thursday, leaving most of the country without power for hours. Yanko Yanev, chairman of the government Committee for Peaceful Uses of Atomic Energy, said there was no risk of a radiation leak. Five of six Soviet-designed reactor units had to be shut down after a switch at the plant malfunctioned, cutting power to the units' water cooling system, the Power Engineering Committee said in a statement. One unit had been shut down earlier for maintenance. The Kozlodui nuclear plant, 125 miles north of Sofia, has four 440-megawatt reactors and two 1,000-megawatt reactors. The plant normally generates 40 percent of Bulgaria's power needs, but malfunctions often force technicians to shut down reactors and curtail electricity supplies.

### **BULGARIAN NUCLEAR PLANT DOWN, NO RADIATION LEAKS**

RTw 11/24/94 4:44 AM SOFIA, Nov 24 (Reuter) - Bulgaria was forced to shut down its Kozloduy nuclear power plant on Thursday, creating nationwide power shortages but no radiation danger, energy officials said. "One of the switches connected to the plant's electric supply system blocked, causing the water pump station providing the reactors' cooling system to go off," said Srebri Valchev, spokesman for the National Electricity Company (NEC). Kozloduy workers switched off the five reactors which were working at the time of the pre-dawn incident. The plant's sixth reactor was closed for scheduled renovation. The Soviet-designed Kozloduy plant provides up to 40 percent of Bulgaria's energy needs and Energy Committee spokeswoman Radost Pateva said there would be power cuts throughout the country until the plant was switched back on. She said the pump station's electricity supply had been restored and work was being done to turn on the reactors. Full power was expected to be restored later on Thursday. NEC deputy chairman Trifon Tsvetkov said the incident was not related to recent thefts of electric cables from Kozloduy. NEC said on Tuesday hundreds of metres (yards) of cables used for emergency power supply to the plant had been stolen to be sold for scrap in recent weeks, endangering the safety of the plant. The Kozloduy plant has been fraught with problems over the past few years, but officials say extensive repairs and upgrading have improved safety. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

## **KAZAKHSTAN SITE HAD LAX SECURITY; U.S. AIDES ...**

WP 11/23/94 11:00 PM Kazakhstan Site Had Lax Security; U.S. Aides Detail Story Of Uranium Removal By R. Jeffrey Smith Washington Post Staff Writer When 27 U.S. nuclear technicians landed six weeks ago in Ust-Kamenogorsk, Kazakhstan, they saw that a large cache of bomb-grade uranium there had been stored without any of the high-tech safeguards commonplace at American facilities, according to U.S. officials. A long warehouse containing enough uranium to be used in 20 to 25 nuclear weapons was located in the middle of a sprawling nuclear and metallurgical factory employing more than 14,000 people. But no chemical assays or radiation sensors were used to account for or safeguard the material. Instead, its presence or absence was simply noted by hand in record books. "The whole system was run by paper," said Alex Riedy, a nuclear engineer with Martin Marietta Energy Systems, a contractor to the Department of Energy. Riedy helped direct a successful U.S. effort to repackage the uranium over the past six weeks so it could be shipped out of Kazakhstan to thwart its potential theft by nuclear terrorists or other nations. Defense Secretary William J. Perry yesterday hailed the previously secret operation as "a success story in counter-proliferation." A total of 600 kilograms of highly enriched uranium originally produced in the Soviet Union was shipped from Kazakhstan to Dover Air Force Base in Delaware in two C-5 military cargo planes last weekend and then trucked to Oak Ridge National Laboratory in Tennessee. Perry said at a news conference, timed to begin minutes after all of the material had arrived at Oak Ridge, that the United States had "put this bomb-grade nuclear material forever out of the reach of potential black-marketeers, terrorists or new nuclear regimes." Perry and other officials did not say which nations Washington had feared would obtain the material, which was only mildly radioactive and had been stored by Kazakhstan nuclear authorities in about a thousand readily transportable canisters. But a senior defense official said the suspect countries are located near Kazakhstan and that "there are people really shopping for this kind of material." To help repackage the nuclear material into 1,400 shipping containers the size of oil drums, Riedy said he and his colleagues had to set up their own chemical assay laboratory in a large, unheated room at the Ulba Metallurgical Plant that was considered unusually secure because it had double-locked doors and a motion sensor. The room had been used to store Kazakhstan coins minted elsewhere at the factory. They also had to bring in their own electrical power supply, satellite communications, maintenance depot and an ample supply of equipment suited to cold-weather operations at the snowy, windswept site near Ust-Kamenogorsk. But Kazakhstan officials "bent over backwards to help us," Riedy said. Because the facility had been heavily contaminated by an industrial explosion in 1990 involving beryllium, a highly toxic and carcinogenic metal, U.S. technicians took pains to assess the health risks during a scouting trip in August. They also brought along special respirators to conduct their laboratory work, which offered more protection than the chemically treated cotton masks worn by plant employees. Officials involved in the operation said it went more smoothly inside Kazakhstan than it did outside the country. They said, for example, that the Pentagon had difficulty winning overflight rights from various countries for the C-5s, which had been declared to be carrying hazardous cargoes. Tennessee authorities also initially opposed the idea of storing it at Oak Ridge, and Energy Secretary Hazel R. O'Leary yesterday sought to ease public concern in Tennessee by pointing out that the material is not nuclear waste, but "non-irradiated material." O'Leary said the shipment amounted to only a fraction of the uranium Oak Ridge now has or is capable of storing safely. During their sole day off each week during the operation, the technicians toured the area around the Ulba plant and discovered that two nearby orphanages and a home for pensioners desperately needed food and winter clothing. Supposedly without disclosing exactly what they were up to, they solicited \$1,800 in donations from friends and family around Oak Ridge, and also persuaded the Pentagon to ship in almost 40,000 pounds of aid on one of the C-5s. Copyright 1994 The Washington Post

## **RUSSIANS ASSESSING PROBLEMS OF LIQUID RADIOACTIVE ...**

WP 11/23/94 11:00 PM Russians Assessing Problems Of Liquid Radioactive Waste; Scientists Fear Seepage of Material Injected Underground By Margaret Shapiro and Curt Suplee Washington Post Staff Writers For decades, nuclear plants in Russia secretly disposed of liquid radioactive waste by pumping it into the ground at three sites near major rivers, Russian scientists now confirm. Billions of gallons of the material were injected at depths ranging from a few hundred to several thousand feet, and could pose a dire threat to public health and the environment if the waste seeps into ground or surface water. The high-pressure injections, begun in the 1960s, were conducted at weapons production and reprocessing sites in Tomsk on the Ob River, Krasnoyarsk on the Yenisei and Dimitrovgrad on the Volga. Russian authorities traditionally have refused to release information about the program, some of which has been known to the world nuclear community for years. Many Russian scientists say the practice is continuing, and a delegation of them met with U.S. experts in May at the Department of Energy's Lawrence Berkeley Laboratory to discuss the scope of the problem. No one knows how great the risks are. "At the very least," said Thomas Grumbly, DOE assistant secretary for

environmental restoration and waste management, "there will be some degree of significant hazard for at least the next 300 years. They've bought themselves a long-term problem there." At a minimum, "this is a dangerous practice," Lydia Popova, a nuclear physicist with Russia's Socio-Ecological Union, the nation's major environmental organization, said in an interview in Moscow. The Russian government, she said, should end all reprocessing and injections and "should monitor and hope and maybe develop some technology for treating this waste if it starts to come to the surface." The liquid waste, a byproduct of the standard chemical-separation method used to reprocess spent nuclear material to recover uranium and plutonium, contains numerous highly radioactive substances - notably including strontium 90 and cesium 137. Both have half-lives of about 30 years; that is, it takes that long for half of the radioactive material to decay into less dangerous forms. The liquid also contains strong nitric acid, as well as cyanide and numerous toxic solvents. In the United States, such waste is stored in above-ground tanks, much of it at the DOE's Hanford, Wash., repository. According to U.S. policy and general international consensus, that material must eventually be sealed in containers and buried at a site that will be safe for 10,000 years. The former Soviet Union also has used the above-ground system. But it began looking for an alternative in the 1950s, following a catastrophic tank explosion that released large amounts of radioactivity into the atmosphere. Popova said the Moscow-based Institute of Industrial Technology determined that liquid nuclear waste would be safe forever once it was pumped underground into naturally formed capsules of sandy material surrounded above and below by two layers of clay that would act as a permanent barrier. The injection sites are considered entirely free of the risk of earthquakes that could crack or damage the clay layers. But "the real question," said Thomas Cochran, a senior scientist with the Natural Resources Defense Council (NRDC) here, "is how well do they know what the faulting looks like around the sites? I would be surprised if they had a good handle on that." Popova, coauthor of the recently published book, "Plutonium in Russia: Ecology, Economics, Politics," said that at Tomsk 400 million cubic meters of liquid radioactive waste have been injected, amounting to about 1.5 billion curies of radioactivity. (One curie is the amount of radiation given off by one gram of pure radium. By comparison, the total volume of nuclear waste produced in the United States since the advent of nuclear power amounts to about 27 billion curies, according to DOE estimates.) At Krasnoyarsk, Popova said, 4 million cubic meters have been injected with a total radiation of 700 million curies. The injection program was first brought to wide public attention by a report in Monday's New York Times. It involves inserting huge pipes encased in cement into the ground and injecting liquid wastes through them under such high pressure, Popova said, that scientists recently reported that the area around some sites rose by about half an inch. Popova said the scientists were concerned that this intense pressure may have cracked the cement casings. In addition, she said, a geological examination of the Krasnoyarsk facility conducted in 1993 by concerned scientists found that crevices had appeared in the injection site, penetrating through the supposedly leakproof clay layers. Scientists had found evidence that the nuclear waste had begun to seep into these crevices and inch toward the Yenisei river and the surface. Investigations in Tomsk found similar problems, she said, and in some areas cesium 137 has been found in the drinking water and is thought to have gotten there through leakage. Both the Ob and Yenisei rivers flow into the Arctic Ocean. "I don't think there is an immediate threat to the Arctic," Popova said. "It has to be watched, but who knows what will happen in 100 years?" Cochran of the NRDC agrees. "The real worry is local," he said, "immediately downstream a few tens of kilometers." Many developed nations have used the same or very similar chemical-separation methods to reprocess nuclear material to recover uranium and plutonium. In the United States, the practice was limited to treating military material to obtain plutonium for weapons, and was stopped in 1988. In the Soviet Union, however, both civilian and military material was reprocessed and the products were also used to fuel nuclear power plants. As a result, the Russian facilities built up large amounts of waste. The United States tested injection into the ground as a disposal method for nuclear waste at least twice - at Hanford decades ago and at Oak Ridge, Tenn., as recently as 1984 - but halted both programs because of environmental concerns. Thereafter, all liquid waste was stored above ground, a practice that has its own hazards. In effect, said Grumbly, "we traded risks with the Russians. We decided we were going to go the tank-storage route. So now we have the problem of explosive risk and leaks. The Russians went the other way and injected it. On balance, from a total environmental perspective, we made the better choice. True, we have some tanks that, particularly at Hanford, are among the highest risks in America. But at least we can see what we're dealing with. Once the stuff gets below the ground, it's a lot more difficult to keep track of." Popova said that although many Russian experts agree that something has to be done, "nobody knows what to do. On top of that there is no money to solve the problem." Moreover, she said, the people who operate the plants "are just used to producing. They don't have any motivation to clean up. They say, 'We don't want to be sweepers.'" Shapiro reported from Moscow, Suplee from Washington. Copyright 1994 The Washington Post

## **U.S., KAZAKHSTAN IN ``HISTORIC'' NUCLEAR SAFETY MOVE**

RTna 11/23/94 7:44 PM (Eds: updates with Perry comment on PBS) By Jim Adams WASHINGTON (Reuter) - The United States and Kazakhstan announced Wednesday they had secretly moved over half a ton of enriched uranium,

enough for more than 20 nuclear weapons, from a Kazakh warehouse to safe U.S. storage. President Clinton told reporters at the White House the transfer "means that one more threat of nuclear terrorism and proliferation has been removed from the world." Defense Secretary William Perry said: "We have put this bomb-grade nuclear material forever out of the reach of potential black marketeers, terrorists or new nuclear regimes ... Now it is secure." "This is defense by other means, and in a big way," Perry said at a Pentagon news conference, calling it a historic example of post-Cold War cooperation to reduce the nuclear warfare menace. Perry said more than 1,300 pounds of highly-enriched weapons-grade uranium was flown by U.S. military aircraft from Kazakhstan to the United States for safe storage at the Oak Ridge, Tennessee, nuclear complex. The transfer was completed last weekend. "We have just placed in safe hands enough nuclear material from the former Soviet arsenal to make more than 20 nuclear devices," Perry said. "In fact, some of this material was in the form that could be used directly to make nuclear weapons." Another U.S. official said a skilled bomb-maker could have produced up to 36 nuclear devices with the uranium. But Russia, which said it was aware of a U.S.-Kazakh deal, said the uranium involved could not be used to make nuclear weapons in its present form. "Although it is ... 90-percent enriched uranium, it is not suitable for making nuclear ammunition nor for nuclear-powered reactors," a Russian official told Reuters in Moscow. The mission, code-named "Project Sapphire, was so secret that U.S. officials appealed to NBC News not to broadcast a report of it early Tuesday night because the uranium had not arrived safely at Oak Ridge. Perry said it did not arrive there until Wednesday morning just hours before the announcement. He said U.S. officials had no information that terrorists or potential nuclear regimes such as Iran or Iraq had targeted the specific Kazakh warehouse involved for a raid. But another U.S. official told reporters there was information that countries near former Soviet republics have been trying to find sources of uranium in the republics. "It is a real problem," the official said. Perry praised the Kazakhstan government for its "wisdom" and said Kazakhstan in return would get "some money" and U.S. assistance in further reducing and cleaning up nuclear stockpiles and test-sites left over from the Soviet era. "It is now owned by the United States and we will in time process it and what we can sell, we will sell," Perry told PBS' MacNeil/Lehrer News Hour. Neither he nor other U.S. officials who conducted the briefing mentioned any sum for the U.S. assistance except a \$3 million cost of transferring the materials to U.S. storage. But Democratic Senator Sam Nunn, chairman of the Armed Services Committee, said he understood the United States had paid market value for the uranium and would eventually recoup its costs by reselling downgraded versions of the material. "My understanding at this point is that we are basically buying the highly enriched uranium ... and we're paying approximately market prices," Nunn told CNN. "We'll be able to turn around and sell that and get our money back, but we'll first take the highly enriched weapons grade plutonium and uranium and move it down so it can be used in reactors." The deal was first confirmed in Alma-Ata, the Kazakh capital, by Deputy Foreign Minister Bulat Nurgaliev, who told Reuters more than half a ton of weapons-grade uranium had been airlifted to the United States for safe storage or disposal. The White House said the Kazakhstan government approached Washington early in 1994 about the uranium. "Kazakhstan was concerned about the security of the material and asked for U.S. help in removing it to safe storage," the statement said. It said Kazakhstan wanted the material removed before nuclear safeguards were put in place there in December as part of measures to implement the nuclear Non-Proliferation Treaty. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

## **RUSSIA-NUCLEAR LEGACY**

APn 11/23/94 2:30 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By JULIA RUBIN Associated Press Writer MOSCOW (AP) -- It may be the most frightening legacy of the Soviet breakup. The splintering of the Soviet Union's huge nuclear complex left brand new countries with stockpiles of lethal nuclear materials while making it harder to pay for their security, upkeep or cleanup. "The storage conditions for nuclear materials in Russia is very poor, and in the other former Soviet republics it's even worse," said Dmitri Tolmatsky, anti-nuclear campaigner for Greenpeace Russia. The latest example is a cache of bomb-grade uranium that Kazakhstan is turning over to the United States for safekeeping. U.S. officials say the enriched uranium -- enough for 24 nuclear bombs -- was poorly protected at the nuclear-fuel plant at Ust-Kamenogorsk. Cases of lax security or safety abound across the former Soviet Union's vast nuclear archipelago, which includes missiles, submarines, power plants, defense facilities and research institutes. One fear is that non-nuclear countries or terrorists could steal the materials, or buy them on the black market from nuclear industry workers -- who often have not been paid for months. In the past month, Lithuania's Ignalina power plant was shut for several days because terrorist threats and Russia intercepted 160 metric tons of unrefined uranium being smuggled out of Tajikistan. Another fear is that poor funding could lead to accidents and environmental disaster. "Previously, all the control and monitoring bodies were centered in Russia," said Tolmatsky. "Now, the former republics are left with new agencies that suffer from lack of money, and of professional and experienced staff." Officials in Russia and other former Soviet republics insist their own security is adequate and that

there have been no serious breaches. But many admit to oversight and funding problems, especially for lower-grade materials. "Small quantities of radioactive materials can be stolen because the existing security systems fail to guarantee precision within grams," Anatoly Chernyshov of Ukraine's Nuclear Safety Oversight Committee told The Associated Press this summer. His comments came after plutonium shipments, apparently being smuggled out of the former Soviet Union, were intercepted in sting operations in Germany. Four former Soviet republics -- Russia, Kazakhstan, Ukraine and Belarus -- inherited nuclear weapons, and little is known about security at military facilities. Government inspectors were not being given access to many military plants, Yuri Vishnevsky, chairman of Russia's Atomic Industry Inspectorate, complained at a news conference earlier this year. He cited instances in 1993 of military personnel stealing fissionable materials. He also painted a grim picture of Russia's nuclear industry as a whole, citing 20,000 safety violations during 1993 inspections and 78 shutdowns for safety reasons. Mechanical failures frequently close nuclear power plants, and workers go on strike for back pay. Even Russia's missile control center recently had its power cut off temporarily for not paying its bills. Ukraine, site of the 1986 Chernobyl nuclear explosion, continues to operate the Chernobyl plant, which experts say is unsafe. Ukraine's four other nuclear plants also have had periodic safety problems. Kiev is asking the West for up to \$12 billion to help close Chernobyl. It also is asking for money to help dismantle its nuclear weapons. Russia's civilian nuclear complex has shown no sign of shrinking. In late 1992, Moscow announced a renewed commitment to nuclear energy. Russia has an estimated 14,500 groups and individuals licensed to work with radioactive substances, and has an estimated 1,200 metric tons of bomb-grade uranium.

### **U.S., UKRAINE FORGE STRONGER TIES**

UPn 11/22/94 8:07 PM By HELEN THOMAS UPI White House Reporter WASHINGTON, Nov. 22 (UPI) -- President Clinton and Ukrainian President Leonid Kuchma concluded formal talks Tuesday, capped with a series of agreements leading to closer cooperation on issues of economic reform, denuclearization and aerospace. Clinton told a nationally televised news conference that he very much enjoyed "getting to know" the Ukrainian leader and praised his leadership in winning support from Ukraine's Parliament to join the Nuclear Non-Proliferation Treaty and to dismantle its nuclear arsenal. Clinton pledged some \$900 million in aid for the former Soviet-dominated republic over a two-year period. He said Ukraine's decision will permit the United States, Russia and the United Kingdom to extend formal security assurances to Ukraine when Clinton attends the Conference on Security and Cooperation in Europe in Budapest on Dec. 5. Clinton also praised Ukraine's decision to join the Partnership for Peace, an arm of NATO, and promised to help defray some of Ukraine's costs of joint military training. The economic reforms Kuchma initiated "put Ukraine on the right path toward a future of increasing prosperity and economic integration with the Western market economies," Clinton said. "At this moment in our history we have an extraordinary opportunity to improve the lives of all of our people by working more closely together and trading together more," he declared. "Since his election just five months ago, President Kuchma has bravely and squarely confronted the two greatest challenges facing Ukraine -- economic reform and the nuclear question," Clinton said. "He has taken hard, practical steps required to secure a more peaceful and prosperous future for his people." In welcoming ceremonies on the south lawn, Clinton told the Ukrainian leader, "We congratulate you and all Ukrainians for your remarkable achievement in regaining your freedom. America will stand with you to support your territorial independence and your reforms." After enduring "dictators and famine" to create an independent nation, Clinton said, Ukraine "has reclaimed its independence and its place as a pivotal state in Europe. The opportunities for both our countries will multiply." Clinton noted at the news conference the IMF and the World Bank are also working hard to ensure the reforms take hold and thrive. "I'll continue to press our G-7 partners, especially the European Union and Japan, to do more to contribute to this effort," he said. Clinton and Kuchma also discussed nuclear power complex at Chernobyl, and Clinton cited a common interest among the G-7 nations and Ukraine to come up with a plan to improve safety and efficiency in Ukraine's energy sector and to close down the Chernobyl plants. In 1986, one of the four reactors at the Soviet-built plant exploded and spread nuclear contamination across much of Europe. That reactor has since been sealed in concrete, cracking has occurred as the structure ages. The other three reactors have remained operational, although shutdowns have occurred frequently to make repairs. In the evening, Clinton and his wife Hillary hosted a state dinner in honor of Kuchma and his wife. The guest list was studded with members of the cabinet, Congress and Americans of Ukrainian heritage. They dined on risotto with truffles and grilled turbot and were entertained by cabaret singer Nancy LaNott in the East Room.

By HELEN THOMAS UPI White House Reporter WASHINGTON, Nov. 22 (UPI) -- President Clinton and Ukrainian President Leonid Kuchma concluded formal talks Tuesday, capped with a series of agreements leading to closer cooperation on issues of economic reform, denuclearization and aerospace. Clinton told a nationally televised news conference that he very much enjoyed "getting to know" the Ukrainian leader and praised his leadership in winning support from Ukraine's Parliament to join the Nuclear Non-Proliferation Treaty and to dismantle its nuclear arsenal.



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### **GREENPEACE SLAMS BRAZIL'S NUCLEAR ENERGY PLANS**

RTw 11/22/94 4:39 PM RIO DE JANEIRO, Nov 22 (Reuters) - Greenpeace activists broke into Brazil's only nuclear power station on Tuesday to protest plans to reactivate a reactor that has been shut down for 18 months due to technical problems, the environmental group said. The activists were also protesting against plans to build a second, \$12 billion reactor at the site at Angra, Rio de Janeiro state, the organisation said in a statement. "An efficient energy consumption programme and a revision of the hydroelectric projects already started are sufficient to satisfy energy demand," Greenpeace coordinator Ruy de Goes said. The existing power station has been shut down 20 times due to technical problems but authorities still have not devised an evacuation plan for residents in the nearby town of Angra in the case of an emergency, de Goes said. After the protest, the activists returned to MV Greenpeace, a boat owned by the organisation, which is currently travelling south down the Brazilian coast after a month-long protest against environmental damage to the Amazon River. No one was immediately available for comment at Furnas, the state energy company responsible for Angra. The power station was shut down in March 1993 after radiation levels in the reactor rose to 80 percent above normal levels. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

### **RADIATION EXPERIMENTS**

APn 11/22/94 4:09 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. SPOKANE, Wash. (AP) -- In a story Monday about hearings into a 1965 federally funded radiation experiment, The Associated Press reported erroneously that former prison inmate Harold Bibeau had his testicles removed. Bibeau's testicles were bombarded with radiation and a small portion was cut out for a biopsy, but they were not surgically removed. A few of the more than 60 other Oregon inmate volunteers subsequently did have to be castrated because of damage from the experiment.

## NUCLEAR LAND

APn 12/21/94 3:49 PM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By H. JOSEF HEBERT Associated Press Writer WASHINGTON (AP) -- The Energy Department hopes to sell hundreds of acres of federal land, including vast stretches that once were used to shield the most secret nuclear activities of the Cold War. The department gave an indication of its land disposal plans Wednesday when it announced the sale of a closed nuclear weapons manufacturing facility in Florida and plans to turn part of its Nevada nuclear bomb test site over for the private production of solar-generated electricity. Energy Secretary Hazel O'Leary acknowledged that parts of the 2.4 million acres, as well as many of the buildings owned by her department in more than a dozen states, will be contaminated by radiation and toxic waste for decades and that some of the land may never get cleaned, becoming permanent legacies of the Cold War. But with nuclear bomb production at an end and security less demanding in the aftermath of the Cold War, "we can now open some of these resources to their rightful owners, the American public, for economic reuse, energy development and environmental protection," she said. Much of the department's land over the years has served as vast buffer zones for highly secret reactors and nuclear weapons production plants. And while some facilities are the most toxic and radioactive on earth, much of the land remains untouched by contamination, says Dan Reicher, a senior Energy Department official. O'Leary said a review was under way to determine precisely how much of the land and what buildings within the government nuclear weapons complex might be turned over to private hands, or in some cases to other government agencies, such as the Interior Department. A nuclear facility that already has gone on the auction block is the Pinnella weapons manufacturing plant, which is located in an industrial area near Clearwater, Fla. The department announced Wednesday that the plant, which once manufactured components that went into nuclear warheads, is being sold to the St. Petersburg-Clearwater Economic Development Council for about \$2.6 million. While the government will lease back part of the facility to continue cleanup of contaminated areas, other parts of the 733,000 square foot complex are ready for civilian uses, officials said. The department also announced it will sell a small part in the vast Nevada Test Site, where most of the nation's nuclear bombs had been exploded for testing since the 1940s, to private concerns that will build solar energy facilities. The Clinton administration has ordered an end to nuclear bomb testing. The project is expected to produce 1,000 megawatts of electricity by 2010 and will give a boost to the solar energy industry, said Scott Sklar, executive director of the Solar Energy Industries Association. The solar project is expected to provide as much electricity as is generated by two commercial nuclear power reactors, he said. The department is faced with a massive cleanup of many of its weapons sites, particularly at the Rocky Flats facility near Denver and at the Hanford reservation in south-central Washington state, where the nation for decades produced the plutonium used in nuclear warheads. At the same time, O'Leary said, vast stretches of these government acres and many of the weapons complex buildings can be put to private, commercial uses. Among the programs already under way, she cited: --The leasing of building space to a variety of businesses at the former Mound weapons facility near Miamisburg, Ohio. --Leases on 280 acres at the Rocky Flats weapons facility in Colorado for developing wind energy technology, including testing wind turbines. --Use of an idle nuclear research reactor at the Idaho National Engineering Laboratory to treat certain types of brain cancer. Discussions also are under way on how to dispose of vast areas of the 480 square miles of land that comprise the once highly secret Hanford nuclear weapons reservation along the Columbia River in Washington state. About 280 square miles are believed free of any contamination and both the Yakima Indian tribe and the Interior Department's Bureau of Land Management have expressed interest in it. O'Leary has said on many occasions she would prefer the land be returned to the original Native American owners.

## STUDY REASSURING ON RADIATION, CANCER RISK

RTw 12/21/94 2:31 AM Release at 2300 GMT WASHINGTON, Dec 20 (Reuter) - A study that could be reassuring for people who work at nuclear plants found that the children of patients injected with a radioactive dye as part of a medical test do not seem to be at greater risk for cancer, scientists said on Tuesday. The research also may soothe worries about increased risks for children of people who were near the Chernobyl nuclear plant accident in the former Soviet Union, the lead scientist, Dr Michael Andersson of the Danish Cancer Society, said in Copenhagen. "It is ... of vital interest in relation to Chernobyl radiation victims, going against doomsday predictions about increased leukaemia risks for survivors and their descendents," Andersson said. The study, being published in the December 21 edition of the Journal of the National Cancer Institute, does not support conclusions of British research on nuclear plant workers that found an association between parental exposure and a greater incidence of childhood leukaemia and non-Hodgkin's lymphoma. The study examined people whose parents were exposed before the child was conceived, and looked at their risks during childhood and into adulthood. The study did not examine risks to a foetus if the mother was already pregnant. "Our research shows once again that radiation is dangerous, but the significance of our findings is that it is not dangerous in the quantities found in the patients' children in our study," Andersson said. "This new angle is

important as an antidote to the powerful radiation phobia raging, in the United States in particular," he said. Andersson's research team studied the children of 260 women and 320 men who had brain tests involving Thorotrast (thorium dioxide), a substance used widely from the 1930s through the 1950s. It is no longer in use. Thorotrast emitted particle radiation that remained in the patient's organs, including ovaries or testes, for life. The study followed children of those patients until at least the age of 25. It found the rate of cancer was not higher than in the population at large. People born to mothers exposed to Thorotrast had four cases of cancer versus 2.9 in the general population. The children of exposed fathers has six cases of cancer compared to 4.5 in the general population. Those differences are not statistically significant, the scientists said. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

### **JAPAN CALLS FOR 'SAFETY CULTURE' IN NUCLEAR PLANTS**

RTw 12/20/94 4:19 AM TOKYO, Dec 20 (Reuter) - Japan called on Tuesday for safety to be given top priority in nuclear facilities around the world, especially in former Soviet-bloc nations where safeguards were still lacking. In a white paper on nuclear safety, Japan's technology ministry, the Science and Technology Agency, said the 1986 Chernobyl disaster had been caused by putting efficiency and cost-saving before safety. Even now, it said, safety precautions were still insufficient and in more than 20 old-style Soviet reactors dangers remained in design and from inadequate training of operators. The report did not give specific proposals for action, but said it was necessary to breed a "safety culture" wherever there were nuclear facilities. It called upon the International Atomic Energy Agency, as well as individual countries with good safety systems, such as Japan, the United States and western Europe, to help countries with inferior safeguards improve their facilities. Japan is anxious that nuclear power have as safe an image as possible. The country is trying to escape from its reliance on Middle East oil by supplying most of its energy needs from nuclear reactors. At present, it has 47 reactors providing about 30 percent of the nation's electricity and is building a further five. Japan is also pursuing a controversial programme to generate power in fast-breeder reactors, which produce more radioactive plutonium than they consume. Last month, Tokyo disclosed the size of its burgeoning plutonium stockpile for the first time to ease fears that its growing stocks could be diverted to make nuclear weapons. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

### **NUCLEAR REPAIRS**

APn 12/19/94 11:52 AM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By H. JOSEF HEBERT Associated Press Writer WASHINGTON (AP) -- Repairs at aging nuclear waste tanks at a federal weapons facility in Washington state are far behind schedule, with backlogs on 1,500 projects, federal auditors said Monday. The General Accounting Office said that the Energy Department, which operates the Hanford Nuclear Reservation through a private contractor, has cut the number of backlog items by one-fourth, but is lagging in hundreds of basic repairs from servicing pumps to repairing faulty gauges. The facility near Richland, Wash., which once produced plutonium for nuclear weapons, is managed by the Westinghouse Electric Corp. under government contract. The backlog in maintenance occurred despite an annual budget for the nuclear tank farm of \$600 million, the GAO said, adding that about \$2 billion has been spent since 1991 on maintaining the 177 tanks. The Hanford facility's tank farm is widely considered one of the most dangerous and complex problems facing the Energy Department as it works to clean up the legacy of radioactive wastes left over from decades of nuclear weapons production during the Cold War. The buried tanks, some of which are leaking, contain a variety of nuclear wastes from past plutonium processing there. The exact contents of some tanks is not known and several have been subject to heat buildup, requiring a complicated venting of flammable gases. The auditors found it was taking an average of 326 days to complete a maintenance project, although, on average, only 21 days were needed to do the actual work. The rest of the time was for planning, scheduling and getting approval from managers. That is not acceptable "given the potentially catastrophic consequences which could result from a major tank failure," Sen. John Glenn, D-Ohio, outgoing Governmental Affairs Committee chairman, said in a statement. The GAO report, released by the committee, said auditors found 1,517 uncompleted maintenance projects at the tank farm. The number of unfinished projects should not exceed three months of work at any time, or about 300 projects, the auditors said. The problems found by the GAO included: --Automated instruments used for detecting and reporting leaks in 18 tanks were not working, with six out of service for more than a year. --More than one-third of the liquid level gauges in the tanks have failed. --A ventilation gasket found to be defective three years ago has not yet been repaired. Workers had covered the leak with tape as a temporary fix to keep gases containing a small amount of radiation from leaking.

## **CHINA REMOVES RADIOACTIVE WASTE TO DUMP**

RTna 12/18/94 11:15 PM BEIJING (Reuter) - Chinese soldiers have removed 230 tons of radioactive waste, which was buried in the center of a northeastern city for 20 years by a military factory producing luminous coatings, the China Daily said Monday. The waste, Radium 226, had been dumped in the center of Harbin in Heilongjiang province by a factory producing special coatings for aircraft cockpit instruments in the 1960s. It has been dug up and transferred to a special bank for radioactive waste in the province, Wang Gongpeng, vice-director of the General Environment Surveillance Station of the People's Liberation Army, told the China Daily. The removal of the waste began in September and took one month. No details were given of where it was placed. "Experts believe the danger has been completely removed and say the project has been carried out under the strict safety measures of the state," the newspaper said. Local health inspections had found no one suffering from radiation-linked illnesses among residents or staff involved in the removal, Wang said. The removal had been delayed by lack of funds but the military had scraped together \$105,000 to help to finance the operation, the newspaper said. In a report last month, the Social Weekly said local officials had banned young people from the area, fearing mutations in infants as a result of radioactivity. It said the radium waste was reported to be radioactive for a distance of 100 yards and could cause cancer or damage bone structure.

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## **PANEL NARROWS OPTIONS FOR PLUTONIUM DISPOSAL; ...**

WP 12/18/94 11:00 PM Panel Narrows Options For Plutonium Disposal; Burning or Burying Seen as Best Alternatives By Thomas W. Lippman Washington Post Staff Writer As the nation's stockpile of toxic bomb-grade surplus plutonium continues to grow, a Clinton administration team searching for a way to dispose of the material has effectively eliminated most proposals as economically or politically unacceptable, leaving only two or three realistic options - none of them cheap or easy. All of the exotic disposition methods proposed in the past, such as sending the plutonium into space to be incinerated by the sun or burying it in the seabed, have been screened out, according to team members. Still on the table are variants of two basic choices: burning the plutonium as fuel in nuclear reactors, or burying it deep in the earth. The timetable calls for a decision in 13 months on a disposition method that will have to meet challenging criteria: It must be safe, environmentally and politically feasible, secure from terrorists, acceptable to Russia and affordable, and it must not contradict U.S. policy on nuclear nonproliferation. "At this time, the U.S. government has just begun to consider all of these possibilities and their potential implications," Frank vonHippel, assistant director of the White House science office and co-chairman of the interagency group, told a public forum on the disposition program last week. As the Cold War fades into the past, the United States is disassembling about 1,400 nuclear warheads a year. In the past, plutonium from retired warheads was reused in new weapons. But now the government is not manufacturing new weapons, so the plutonium is piling up, mostly in temporary storage facilities at an Energy Department site near Amarillo, Tex. Prized for 40 years as the keystone of nuclear deterrence, plutonium now is mostly a dangerous nuisance. It is highly toxic, flammable in some forms and radioactive. About 15 pounds can be fashioned into a nuclear explosive device with relative ease. Although the exact amount of the stockpile surplus remains classified, it widely is reported to be about 100 metric tons. A report by the National Academy of Sciences last summer termed the surplus bomb material "a clear and present danger to national security." Technically, according to many officials in the Energy and Defense departments, the material could be stored indefinitely in its present form, but doing that would require extensive, expensive security arrangements and might discourage Russia from proceeding with the disposition of its own plutonium surplus. "The administration is committed to moving forward as fast as it possibly can," the interagency Working Group on Plutonium Disposition said in an interim report dated Dec. 12. "The basis for a decision should be available by early 1996, and implementation would commence soon thereafter. The intention is to dispose of all excess plutonium in a manner that would make it impracticable for sub-national groups to recover and difficult to ever reuse it for weapons." Easier said than done, according to government officials and independent specialists who attended a two-day meeting on the disposition program last week. VonHippel and other members of the interagency group said no final decisions have been made, but that is not exactly true, according to presentations made at the meeting. Several disposition options on the original list have been "disqualified" because they would violate treaties, cost too much or conflict with other administration policies. Among these was "underground nuclear detonation." The leading options still under active consideration: Placement of plutonium in sealed canisters in "boreholes" drilled at least two miles beneath Earth's surface. Conversion into borosilicate glass by mixing the plutonium with sand and other materials and heating it in "vitrification" ovens, with the glass logs then placed in an underground repository. Blending the plutonium into a mixed oxide fuel (MOX) that would then be consumed in commercial nuclear power plants. All these options "look quite feasible technically," vonHippel said, but each also presents immense difficulties. Deep borehole storage, for example, would require finding a site. Given the intensity of public and congressional opposition to any kind of nuclear waste

storage facility, any site proposed is certain to set off a political storm. In addition, this option would mean leaving the plutonium in weapons-usable form in temporary storage for all the years required to develop the boreholes. That delay would undercut the administration's desire to make the material unusable by "sub-national groups" as soon as possible and to demonstrate an irreversible commitment to nuclear disarmament. Vitrification would convert the plutonium to a form much more difficult to recapture for use, either by the government or by terrorists. But the United States does not have an operating vitrification plant - an Energy Department facility at Savannah River, S.C., never has operated successfully - and in any case the government has no repository site for the radioactive glass logs that vitrification would produce. If the vitrified material were mixed with other radioactive products such as cesium, scientists said, it would qualify as "high-level radioactive waste" eligible for emplacement in a proposed repository inside Yucca Mountain, Nev., but the earliest date that facility could be ready is 2010, according to the Energy Department. That leaves conversion to MOX for use as power plant fuel, most likely in existing U.S. or Canadian reactors. The problem with this is that it conflicts with President Clinton's effort to discourage nations such as Russia and Japan from using plutonium as a commercial fuel. "We do not want our plutonium disposition strategy to inadvertently encourage additional plutonium separation" in other countries, vonHippel said. Copyright 1994 The Washington Post

### **PANEL CRITICISES U.S. HUMAN RADIATION TESTS**

RTw 12/15/94 3:59 PM By Vicki Allen WASHINGTON, Dec 15 (Reuter) - Government officials kept many Cold War era human radiation experiments secret, not for national security reasons, but because they knew they could generate bad publicity and lawsuits, documents released on Thursday showed. The Advisory Committee on Human Radiation Experiments released papers showing officials of the former Atomic Energy Commission worried about potential lawsuits from subjects of the tests and from nuclear weapons plant workers. President Bill Clinton appointed the panel of doctors, ethicists and other experts last winter to study the experiments and whether some subjects deserve compensation. The panel, sifting through thousands of recently declassified documents, has found the total number of government-backed medical radiation tests was hundreds of times higher than had previously been suspected. Ruth Faden, the panel's chairwoman, told a Senate subcommittee earlier this month that the panel had documents showing that in some experiments "the motivation for maintaining secrecy was at least in part and perhaps in whole linked to considerations over legal liability on the part of the government or concerns about public relations." Among documents the panel released was a 1947 memo from a colonel serving with the Atomic Energy Commission's Corps of Engineers. "It is desired that no document be released which refers to experiments with humans and might have adverse effect on public opinion or result in legal suits. Documents covering such work (field) should be classified 'secret,'" it said. The AEC was the forerunner of the Energy Department. Another 1947 memo from Oak Ridge National Laboratory to the AEC's Insurance Branch said, "...there are a large number of papers which do not violate security, but do cause considerable concern to the Atomic Energy Commission Insurance Branch and may well compromise the public prestige and best interests of the Commission." The memo said "papers referring to levels of soil and water contamination surrounding Atomic Energy Commission installations, idle speculation on the future genetic effects of radiation and papers dealing with potential process hazards to employees are definitely prejudicial to the best interests of the government." Some 1940s documents were declassified over the next 20 years, but others were not released until Energy Secretary Hazel O'Leary moved last year to disclose them. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

### **NUCLEAR SECRECY**

APn 12/15/94 12:29 AM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By H. JOSEF HEBERT Associated Press Writer WASHINGTON (AP) -- The government feared a public relations disaster and an avalanche of lawsuits if details of human radiation testing were made public in the early days of the Cold War, newly disclosed documents show. The exchanges between scientists and officials of the Atomic Energy Commission in the late 1940s made virtually no mention of national security in the sense of vital nuclear information falling into the hands of the Soviet Union. But the AEC classification and public relations officers were very worried that disclosures about human experimentation would have "a poor effect on the general public," expose the government to "devastating" lawsuits or "jeopardize public relations." Copies of the documents, many of them only recently declassified, were obtained by The Associated Press on Wednesday, along with a presidential panel staff memo summarizing the findings. The documents were found by investigators from the presidential Advisory Committee on Human Radiation Experiments among hundreds of boxes of papers in a warehouse at the Energy Department's Oak Ridge, Tenn., facility. Members of the committee, created by President Clinton to examine the ethical ramifications of Cold War nuclear experiments involving humans, were to be briefed on the papers by staff members at a hearing today. These letters and memos, many

of them nearly a half century old, showed that scientists involved in a variety of nuclear tests on humans wanted to publish their findings and expand information among their peers. But the documents also "confirm, as previously hypothesized, that in the immediate postwar period information on human experimentation, including plutonium experiments, was kept secret in anticipation of public relations and legal problems," the advisory panel's staff memo concludes. Many inquiries about releasing research information were routinely forwarded to an "Insurance Branch" within the AEC to evaluate the potential for lawsuits, staff investigators said. Some of the exchanges involved efforts by scientists to publish findings on several early experiments in which plutonium was injected into unsuspecting patients to learn more about its effect on the body. Details of those studies only recently have been learned and most of the information about the experiments were not declassified until the 1970s. But the newly discovered paper trail showed that in late 1946, papers relating to several of the plutonium experiments for some reason were declassified, although the word "plutonium" could not be used. Within two months, however, the papers again were put under the veil of government secrecy. When a researcher inquired about the reclassification, he was told by a government classification officer that the plutonium research file was "most dangerous since it describes experiments on humans." "The coldly scientific manner in which the results are tabulated and discussed would have a very poor effect on the general public," the officer, identified only as C.L. Marshall, wrote in a Feb. 26, 1947, letter to a researcher involved in the project. While never mentioning national security, Marshall wrote that disclosure could result in the government being "laid open to a devastating lawsuit." Later that year, as the plutonium experiments involving at least 18 patients were just concluding and some researchers were eager to publish their findings, Col. O.G. Haywood Jr. of the Atomic Energy Commission reiterated the agency's concerns about lawsuits. The release of documents involving experiments on humans "might have adverse effect on public opinion or result in legal suits" and should remain secret, Haywood wrote in a letter to a scientist at the Oak Ridge nuclear research facility where some of the human testing was conducted. Six months later, the manager of Oak Ridge wrote a superior at the AEC, expressing concern that while the release of research information may not always violate security, it "may well compromise the public prestige (of the AEC and) ... invite or tend to encourage claims" against the government or its contractors. Among the research papers that concerned the manager were findings on the contamination of soil and water near the Oak Ridge facility and other AEC installations, "idle speculation on the future genetic effects of radiation" and papers examining health hazards to employees. Another worry about AEC officials was the potential for unrest and morale problems among nuclear facility workers if they were to learn too much about radiation exposure. A 1948 study found that the allowable exposure of workers to chronic radiation at the Los Alamos weapons facility was too high. But the AEC's Insurance Branch didn't want it made known.

### **GREENPEACE SAYS NUCLEAR CARGO FOR JAPAN UNSAFE**

RTna 12/14/94 11:12 AM PARIS (Reuter) - Environmental group Greenpeace Wednesday criticized planned safety measures for a cargo of nuclear waste to be shipped from France to Japan in 1995, saying radiation could leak in case of a fire. French nuclear fuel firm Cogema, planning the shipment from its nuclear reprocessing plant at La Hague in northwestern France, rejected the charges as unfounded. A report for Greenpeace by American physicist Edwin Lyman of Princeton University said nuclear waste could seep out of special containers if fire broke out at sea and temperatures exceeded 2,000 degrees Fahrenheit. Lyman told a news conference a fire aboard a ship could burn for days and reach such temperatures. His report said it was "extremely doubtful" whether international norms for transport of such waste were strict enough. But Jean-Louis Ricaud, director of reprocessing at Cogema, said that Greenpeace's report contradicted findings of surveys both in France and other countries used in fixing safety standards. Last year, a Japanese vessel carried to Japan 1.7 metric tons of plutonium refined in France from nuclear waste produced by Japanese power plants. While in transit, many nations on its route barred it from their territorial waters. The waste to be shipped next year, which includes Caesium 137, is a byproduct of the refinement process that is now being returned to Japan. The first shipment consists of 28 barrels. To be shipped, the waste is encased in glass and then placed in half-ton stainless steel barrels. In the next 15 years, about 3,000 barrels of such waste are to be shipped to Japan from plants at La Hague in Normandy and Sellafield in England. Copyright 1994 Reuters America Inc. All rights reserved.

### **KAZAKHSTAN WANTS CHINESE NUCLEAR BLASTS STOPPED**

RTna 12/11/94 8:46 AM By Nigel Stephenson ALMA-ATA, Kazakhstan (Reuter) - Kazakhstan, site of hundreds of nuclear blasts in the Soviet era, is seeking international support to persuade Beijing to stop testing atomic bombs near its territory. Activists and officials in the former Soviet republic say explosions at the nuclear test site at Lop Nor in northwestern China send dangerous fallout across the frontier and they want them stopped. "Carrying out tests without the agreement of your neighbors ... It is just impossible. It is inhuman," said Viktor Slavgorodsky, head of the radiation department at the ecology and biological resources ministry in an interview. "The Kazakh government and Kazakhstan

as a whole believe it is necessary to stop the tests urgently." Even in the late Soviet period, Kazakhstan was the scene of protests against nuclear explosions at the former Soviet test site at Semipalatinsk in northeast Kazakhstan. The Nevada-Semipalatinsk group, named after the U.S. and Soviet testing sites and founded in 1989 by poet and politician Olzhas Suleimenov, mobilized tens of thousands of people in the republic that year to call for a ban on the tests. Last April, the group staged a protest about the Lop Nor tests when Chinese Prime Minister Li Peng visited Kazakhstan. Reflecting concern over disarmament, the Kazakh government said last month it had handed over 1,320 pounds of weapons-grade uranium to the United States for safekeeping. Scientists in Kazakhstan, which gained its independence in 1991 with the collapse of the Soviet Union, have been monitoring tests in Lop Nor in China's Xingjiang region, some 750 miles from the border, since the first blast in 1964. Slavgorodsky said the level of short-lived radionuclides rose briefly after each test and the level of longer-term pollution also went up. He said Kazakhstan, sandwiched between nuclear powers Russia and China, would welcome international cooperation in researching the effect of the fallout on health. "We do not know how this will show up but there is no doubt it is harmful. Time will tell." Kazakhstan denounced the last Chinese test, in early October, as a threat to health and the environment. The Foreign Ministry said the blast, the second in four months, undermined the process of non-proliferation of nuclear weapons. Three days after the explosion, Itar-Tass news agency quoted President Nursultan Nazarbayev as saying that preventing nuclear proliferation and banning nuclear tests were among Kazakhstan's top diplomatic priorities. "Kazakhstan intends in future to do its utmost to prevent nuclear proliferation in the world, to bridle the pernicious might of nuclear arms and to cut nuclear potential," he told a conference in the capital, Alma-Ata. Suleimenov said his group sent a protest. "But we understand that such a form of struggle is ineffective and we suppose that the basic word on this has to come from governments of the nuclear club," he said. The other four members of the nuclear-armed club -- Britain, France, Russia and the United States -- have suspended nuclear tests and the Chinese explosions have brought international protest. Talks began this year on a Comprehensive Nuclear Test Ban Treaty. China has said it will stop tests once the treaty comes into force and that it hopes this will be no later than 1996. China also says its testing program is tiny compared to those of other nuclear powers. Semipalatinsk was one of two Soviet nuclear test sites. Between 1949 and 1989, 470 test explosions were carried out. But in August 1991, Nazarbayev banned them. Kazakhstan was left with 104 SS-18 ballistic missiles on its territory when the Soviet Union collapsed. But it signed the Nuclear Non-Proliferation Treaty late last year and said in March that its nuclear arms were being destroyed according to plan. "We are the fiercest supporters of full nuclear disarmament. We have an interest in neither China nor Russia nor America nor anyone else having nuclear warheads," Suleimenov said. With memories still painful of the 1986 Chernobyl nuclear disaster, Slavgorodsky said there was great concern at the possibility of an accident at Lop Nor. "Nobody can guarantee that there will not be an extraordinary situation and something would be thrown in our direction. A thousand kilometres (620 miles) is not very much," he said. Suleimeinov said he believed China could be persuaded to end tests a year early, in 1995. "There is a chance as 1995 is the 50th anniversary of the explosion of the bombs over Hiroshima and Nagasaki," he said. "This will give the anti-nuclear movement a boost. The whole world should mark this sad anniversary with a treaty on non-proliferation of nuclear weapons and a treaty on the complete closure of nuclear test sites." REUTER Copyright 1994 Reuters America Inc. All rights reserved.

### **CHERNOBYL ZONE YIELDS DRUGS**

UPn 12/8/94 6:10 AM By KIRILL KOKTYSH MINSK, Dec. 8 (UPI) -- The restricted radiation zone around the Chernobyl nuclear power plant has proved to be fertile ground for growing drugs, the Belarus Interior Ministry said Thursday. Chernobyl, in northern Ukraine just across the border from Belarus, was the site of the world's worst nuclear accident in April 1986, suffering a near meltdown after a fire and explosion that spewed radiation over a wide area of Europe and left the land around the power plant poisoned and sealed off in a restricted zone. Marijuana growers sneaked into the zone and cultivated a crop which they apparently thought was safely away from the watchful eye of the authorities who manned checkpoints leading to the Chernobyl zone. "The Belarus side of the Chernobyl zone is strictly guarded only on the roads," acknowledged Minister of Internal Affairs Sergei Pivanov. "We can't keep many people at the place. That's really dangerous for health. We are not able to block all the way from the forest." And so people looking for empty fields and abandoned garden plots to sow their illicit crop managed to slip into the zone and reap a harvest of hot hashish, poisoned poppy plants and marijuana made in the shadow of Chernobyl. The Interior Ministry said it conducted a four-month surveillance operation followed by a crackdown that netted hundreds of suspects and whole fields of drugs growing in a zone declared off limits for health and safety reasons. Poppies and their opium product and marijuana were confiscated, and large areas of planted fields were destroyed, Pivanov said in revealing details of what the Interior Ministry called Operation Poppy and Operation Doping, conducted in a 19-mile (30 km) zone around Chernobyl and concluded last month. The drugs are presumed to be high in radiation since they were grown so close to Chernobyl in an area deemed unsafe, abandoned by its residents and sealed off as a danger zone. The drugs were believed to be destined for European markets, according to the Interior Ministry. The Chernobyl drug field cases have contributed

to a four-fold jump in criminal cases in Belarus this year, Pivanov said. He noted that of the 1,900 drug trafficking cases filed nationwide this year, 1,365 are in court in Gomel, a city in southeastern Belarus whose district includes the Chernobyl zone to the south. He said prosecutors were still working on the cases and he could not say how many people would be charged criminally in connection with the Chernobyl drug fields. Although Belarus authorities suggested that some of the drug farmers may have slipped into the off-limits zone from the Ukraine side, Ukrainian drug enforcement officials said they were unaware of the Belarus operation and that their regular flyovers revealed no such similar activity on Ukrainian lands around Chernobyl. Unrelated to the Chernobyl drug connection, Belarus said there is a growing problem of drugs crossing its borders from the east as Central Asia residents pass through allegedly bringing drugs grown in their home countries to Europe, using Russia, Belarus, Ukraine or the Baltics as transit points, though the former Soviet republics are starting to reinforce their international borders. And some former residents of the region, mainly the elderly, have been trickling back to homes in the off-limits zone, homes abandoned in the aftermath of the Chernobyl accident, returning to live and grow vegetables in their garden plots. Copyright 1994 The United Press International

## **PLUTONIUM**

APn 12/8/94 12:30 AM Copyright 1994 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. WASHINGTON (AP) -- Despite concern about leaking plutonium containers at a number of federal weapons plants, the Energy Department says a task force found little or no evidence of unsafe conditions at 22 sites. The 22 sites were among 35 weapons plants and laboratories that were the subject of a critical internal report on plutonium maintenance released by the department earlier in the week. Only small amounts of plutonium were found at the 22 sites. The report cited cases at a number of plants where plutonium was found in leaking containers posing health and safety risks to workers, and potentially to the public. But Mark Williams, associate deputy assistant secretary for nuclear safety, said Wednesday that at the 22 sites most of the plutonium was found to be in sealed metal containers. Williams said no leaking containers were found, although there have been cases in the past where such sealed containers have leaked. He said the department has advised the 22 facilities to maintain close inspection of the plutonium containers. The 22 sites account for less than 1.7 kilograms of plutonium out of more than 26 metric tons reviewed. The sites "have small quantities of plutonium with a low potential for (health and safety) vulnerabilities," the task force report said. The amounts of plutonium at these location ranged from 1 milligram at the North Atlas facility in Nevada to 0.78 kilograms at the Idaho National Engineering Laboratory. By comparison, there is an estimated 12.8 metric tons of plutonium at the Rocky Flats facility in Colorado where the task force found the most serious storage problems. The report said Energy Department investigators found that 90 percent of the plutonium stored at the 22 sites is kept in properly sealed containers. The rest, about 205 grams, is in powder, metal or liquid form. The 22 facilities cited in the report as having small amounts of plutonium with low health and safety risks are: Sandia National Laboratories, Calif.; Inhalation Toxicology Research Institute, N.M.; Pinellas Plant, Fla.; Kansas City Plant, Mo.; Fermi National Accelerator Laboratory, Ill.; Ames Laboratory, Iowa.; Princeton Laboratory, N.J.; Brookhaven National Laboratory, N.Y.; Oak Ridge Institute for Science and Education, Tenn.; Portsmouth Gaseous Diffusion Plant, Ohio.; K-25 Site, Tenn.; Idaho National Engineering Laboratory, Idaho.; West Valley Demonstration Project, N.Y.; Stanford Linear Accelerator, Calif.; Energy Technology Engineering Center, Calif.; Nevada Test Site, Nev.; North Atlas Facility, Nev.; Santa Barbara Facility, Calif.; Bettis Laboratory, Pa.; Bettis Naval Reactors Facility, Idaho; Knolls Atomic Power Laboratories Kesselring Site, N.Y.; Knolls Atomic Power Laboratories Knolls Site, N.Y.

## **KIDS WERE PLAYING ON RADIOACTIVE CANNON -PAPER**

RTw 12/7/94 4:05 AM MOSCOW, Dec 7 (Reuter) - An artillery piece used as a children's climbing frame in a Moscow park was beaming out dangerous levels of radiation, Komsomolskaya Pravda newspaper said on Tuesday. The paper said experts examining the naval cannon, in Moscow's Victory Park, discovered a night-vision device which was emitting radiation well above any permissible level. The device was hurriedly removed, the paper said. Victory Park was inaugurated last summer and displays one of the biggest collections of military armour and weaponry in Russia. Children are allowed to scramble on the equipment and the newspaper said the cannon had been a particular favourite. REUTER Copyright 1994 Reuters America Inc. All rights reserved.

## **LONG AFTER CHERNOBYL, UKRAINE'S NUCLEAR PLANTS ...**

WP 12/26/94 11:00 PM Long After Chernobyl, Ukraine's Nuclear Plants Still Risky, Inadequate By James Rupert Washington Post Foreign Service KIEV, Ukraine -- Eight years after one of its Chernobyl reactors spewed radioactive



debris over much of Europe in the world's worst nuclear power accident, Ukraine and the major Western powers remain at odds over when and how to shut down the accident-prone plant. Western nuclear specialists and diplomats here said this month that efforts to improve the safety of Ukraine's 14 nuclear reactors are being hampered by the country's economic crisis -- and possibly by bureaucratic disputes in Kiev. Western diplomats are monitoring a bureaucratic reshuffle that they said could risk weakening Ukraine's nuclear regulatory agency -- and a Ukrainian proposal to reopen a damaged nuclear generator at Chernobyl. Diplomats said a round of talks this month between Ukraine and the Group of Seven (G-7) industrialized nations made some progress, but development of a plan to improve nuclear safety here remains slow. The G-7 nations -- the United States and six key allies -- regard Ukraine's Soviet-built reactors as a safety risk not only to Ukraine but to Europe and, ultimately, the global environment. But this winter, Ukraine, whose economy has continued to collapse since the fall of the Soviet Union, is struggling with its deepest hardship since World War II. The country cannot afford more than a fraction of the oil and gas it needs, and it enters the winter with substantially lower fuel reserves than it had a year ago, when it suffered nationwide brownouts. Thus, Ukraine has found itself pinched between Western pressure to shut down Chernobyl, 60 miles north of Kiev, and its reliance on nuclear power to help maintain minimal light and heat. Kiev is a cold, dark city. Only a fraction of street lights are turned on -- and then only in late evening, hours after darkness has fallen. Many apartment buildings get only enough heat to take the bitter edge off the winter chill or provide lukewarm tap water. Last Friday, Deputy Prime Minister Anatoly Dyuba announced new nationwide cuts in street lighting, hot water and TV broadcasting, saying, "This is an emergency situation." Amid the economic and energy crisis, there is little money here to spend on nuclear safety. Ukraine's nuclear regulatory agency, the State Committee for Radiation Safety, has a tiny staff and budget -- and faces immense nuclear safety problems. First, "the condition of the plants is horrific," said a Western diplomat who specializes in nuclear affairs. "Pipes leak. Welds, concrete -- it's all poorly made. Perhaps none of their parts would be considered nuclear-qualified in the West." "Western nuclear plants look like a hospital," another specialist said. "Plants here look like a corner gas station." Also, Ukraine is hemorrhaging skilled nuclear plant operators. Ukrainian officials say the country has lost more than 1,000 since the beginning of 1993. "Morale is terrible. Real wages for the same work were eight to 10 times higher in Russia as of early 1994," a diplomat said. Many of the operators, ethnic Russians trained in Moscow, are going back to Russia. Ukrainian plants used to get spare parts and supplies easily from Russia under the Soviet Union. Now they must import them at high cost. And now that Ukraine and Russia are separate countries, Russia is refusing to accept Ukrainian nuclear waste. Ukraine has no long-term storage facility, and radioactive spent fuel is piling up at reactor sites. Some years ago, Ukraine decided on its own to shut down Chernobyl -- a popular decision, given public memories of the chaos from the 1986 accident. But last year, as Ukraine's desperation for energy deepened, the parliament reversed the decision only about 10 weeks before the plug was to be pulled. This year, President Leonid Kuchma agreed in principle to close Chernobyl and to build a strong nuclear regulatory agency and take other steps to assure safety. But negotiations this year to agree on anything beyond principles have been difficult, diplomats said. In the talks, Ukraine is hinting that it needs perhaps \$3 billion to \$5 billion in foreign aid over the coming years to fulfill an "action plan" proposed by the G-7 that includes closing Chernobyl, diplomats from three G-7 nations said. The G-7 has offered less than one-tenth that amount. "There is a cultural gap," said a diplomat familiar with the talks. "We Westerners think very technically. We want to add up ways to save kilowatts here and there -- and when we have enough [to make up for Chernobyl's output] we want to just close Chernobyl down." But the Ukrainian position is defined by former Soviet bureaucrats who "feel a responsibility to account for everything that happens -- including all the social costs," the diplomat said. Ukrainian officials suggest that the West should help bear those broad costs of closing Chernobyl, including relocating and reemploying tens of thousands of its workers and their families, diplomats said. Economics Minister Roman Shpek said Friday that Ukraine is willing to close Chernobyl but will need \$1.4 billion in financing to take that step alone, Interfax news agency reported. Diplomats of G-7 nations here had varied responses to the Ukrainian stance. One European described it as a cynical ratcheting up of demands, using Chernobyl to try to pry more aid from the West. He compared it to Ukrainian demands for aid in recent years before agreeing to give up the nuclear missiles it inherited from the Soviet Union. Another envoy said the G-7 should be prepared at least to discuss ways to reduce the social costs for Ukraine of closing Chernobyl. Despite the wide gap between Ukraine and the West, in the December round of talks Ukrainian officials "made it clear they want to work with us," one Western negotiator said. The negotiator declined to give details on the talks but described them as "better than we expected." Several diplomats and nuclear specialists expressed unease over a Dec. 15 decree by Kuchma that Ukraine's small State Committee for Nuclear Radiation Safety be folded into a new environmental protection ministry. Kuchma's decree portrayed the move as bureaucratic streamlining. The G-7 nations have pressed Ukraine to build a strong regulatory agency -- and the United States in particular has favored an independent body like the U.S. Nuclear Regulatory Commission (NRC). The NRC has even helped draft legislation that is now before Ukraine's parliament in an effort to better empower the existing State Committee to shut down unsafe plants. But Igor Golicheff, director of a joint French-German nuclear safety office in Kiev, said: "Whether the agency is within a ministry or outside is not the issue. It must be independent in its operation and have resources." Several Western diplomats said their governments will be interested in how the bureaucratic restructuring ordered by Kuchma

affects the State Committee chairman, Mykola Steinberg. Steinberg has developed a reputation as a tough advocate for safety in the face of bureaucratic and economic pressures. "Ukraine's credibility as a nuclear regulator has been built largely thanks to Steinberg," a Western diplomat said. "If this [reshuffle] marginalizes him, that will be very bad news." In an interview, Steinberg said he did not expect early news on what his new post would be and did not "expect anything good to come out" of the current reshuffle. The West's nuclear-safety worries have focused on Chernobyl, where a steam explosion wrecked Reactor No. 4 in April 1986. The disaster killed at least 31 people, caused disputed numbers of later deaths through radiation-induced illness -- and spread nuclear contamination across much of Europe. Last month in Washington, Kuchma repeated to President Clinton that Ukraine is ready to close Chernobyl as soon as alternative sources of energy can be developed. But diplomats and nuclear safety specialists say there is resistance in the middle ranks of Ukraine's nuclear bureaucracy to vigorously implementing that pledge. The agency that runs the nuclear power plants here has helped push forward a proposal to reopen Chernobyl's Reactor No. 2, which was shut down in 1991 after a fire damaged one of the two sets of turbines it drives. The proposal, now before the Ukrainian cabinet, would run the reactor at half-power to drive the remaining turbines. Western governments have stressed to Ukraine that restarting No. 2 would suggest bad faith in the effort to promote reactor safety and seriously damage working relations on the issue, diplomats said. Ukraine's nuclear bureaucracy was forged originally by the Soviet Union's Nuclear Power Ministry. Its members "are deeply conservative," said an American nuclear specialist who has worked on safety issues here. "We Westerners come in and tell them their designs and plants are unsafe, and they feel insulted as incompetent. They have invested their whole careers in these plants," he said. "But in fact, their whole culture doesn't stress safety," he said. He told of visiting one plant where Ukrainian employees inspected a radioactive piece of equipment without protective equipment. "As they [opened] it up, I calculated in my head what the exposure would be and ran to the [radiation-shielded] control room," he said. "But they had this macho approach, that, 'Oh, it's not serious. We can take it.'" Copyright 1995 The Washington Post

## **No U.S. Slowdown On Nuclear Spending**

WP 12/26/94 11:00 PM I write to correct a serious error and misperception in The Post's editorial "Kazakhstan's Uranium" [Dec. 3]. Commenting on the recent purchase by the United States of some 600 kilograms of highly enriched uranium from Kazakhstan, the editorial asked whether the price (not disclosed by either government but rumored to be about \$30 million) was too high. Answering its own question, the editorial went on, "Until 1991, the United States spent tens of billions of dollars every year to defend itself against the threat of Soviet attack," leaving the distinct but erroneous impression that spending on nuclear weapons since 1991 has been negligible. In fact, despite the end of the Cold War, expenditures for the U.S. nuclear weapons program have not significantly declined. The budget for fiscal year 1995 includes more than \$21 billion for new and continuing programs, including: \$2.1 billion to upgrade bombers, submarines and land-based missiles; \$1 billion for research on defending the United States against ballistic missile attack; \$1.2 billion for weapons research, development and testing; \$1.1 billion to preserve the production capabilities of Department of Energy weapons facilities; \$5.2 billion for associated Department of Defense personnel, operations and support costs; \$1.8 billion to maintain production reactors and securely store nuclear weapons materials such as plutonium and uranium; \$3.9 billion for nuclear waste management; \$2 billion for environmental remediation; and \$1 billion for dismantling U.S. and former Soviet weapons and verifying arms control agreements. Not included in the total are the billions of dollars spent annually on intelligence collection and analysis related to nuclear weapons. STEPHEN I. SCHWARTZ Arlington Copyright 1995 The Washington Post

## **BRF--URANIUM SETTLEMENT**

APn 12/23/94 5:10 AM Copyright 1995 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. CINCINNATI (AP) -- Former employees of a federal uranium processing plant have won a \$20 million health-care settlement that will provide them with medical monitoring for the rest of their lives. A federal judge approved the settlement Thursday for about 4,500 employees and contractors at the U.S. Department of Energy's Fernald plant, about 20 miles northwest of Cincinnati. In addition to the medical monitoring, the settlement created a separate \$15 million fund to compensate the workers for emotional distress and attorney fees. The deal settles a lawsuit filed against the National Lead of Ohio Inc., which operated the plant under a government contract from 1951 through 1985. The workers claimed that National Lead deliberately kept secret the health hazards of continued radiation exposure at the plant. The company denied those allegations in the settlement. Fernald stopped uranium production for nuclear weapons in 1989. The government then began a cleanup of radioactive wastes that could take 25 years. The suit was the second

against National Lead. An earlier class-action suit was settled for \$78 million, primarily benefiting residents who contended that property values were diminished by fears of radiation contamination.

## **RADIATION WEAPONS**

APn 12/22/94 11:40 PM Copyright 1995 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By ROBERT BURNS Associated Press Writer WASHINGTON (AP) -- Shortly before the Pentagon began testing radiation bombs in Utah in 1949, the Army turned back an attempt by its chief safety adviser to reduce the health risks to people in the area, newly declassified records show. The government in the late 1940s was working to develop weapons, mainly in the form of air-delivered bombs, that would spread highly radioactive pellets or sprays in order to kill or force the evacuation of civilians at enemy industrial sites. They were seen as a supplement to the then-small atomic bomb arsenal, although no radiation bombs apparently were ever put in the active arsenal. Concerns about health risks associated with the testing were raised by Dr. Joseph G. Hamilton, whom an Army official described at the time as "one of the original proponents of the use of" radiological warfare and "one of the best informed" on the subject. Hamilton was director of the Crocker Radiation Laboratory at the University of California, Berkeley, while also advising the Army on safety aspects of the highly secret radiation bomb test program. His objections were kept secret until now. The Army, which had responsibility for building the radiation-filled bombs, apparently was so alarmed by Hamilton's objections that it believed the entire program would be stopped unless his concerns were quickly set aside. The existence of this program has come to light over the past year. The newly declassified government documents provide new details not only about the intent and scope of the effort but also about some of the radiation bomb tests. Several hundred pages of previously secret documents in the files of the Armed Forces Special Weapons Project were declassified by the National Archives at the request of The Associated Press. Many files remain closed to public inspection. It is not apparent from the available record whether the radiation bomb testing at Dugway Proving Ground, about 70 miles west of Salt Lake City, actually harmed anyone. It also is not clear whether people in the area were told of the tests or whether Dugway workers were warned of the potential hazards. The tests were an essential step toward determining the feasibility of radiation weaponry. The documents reveal that the government was aware of potential health hazards but the Army persuaded a test safety panel that the work at Dugway should go ahead in October 1949 using a highly radioactive metal called tantalum-182. Hamilton was chairman of the safety panel, which began its work around June 1949. The next month, Hamilton wrote a secret memo to the Army Chemical Corps urging that gold be used in the tests instead of the much more radioactive tantalum-182 because "such contaminated material could readily escape" the immediate test area and there would be "significant radiation hazard" inside Dugway. "We know ... that radioactive aerosols made of insoluble particles of matter can be retained in the lungs for quite long periods of time," Hamilton wrote. The Army insisted on using tantalum-182, though, and Hamilton's panel gave in on Aug. 2. Three days later, C.B. Marquand of the Army Chemical Corps wrote in a secret memo that until Hamilton's panel backed down, "it was felt that the Chemical Corps program for the development of munitions was in jeopardy, if not completely blocked," and that after great effort and expense, "the much needed RW program" might be abandoned. The first test, apparently on Oct. 22, 1949, dropped bombs of radioactive tantalum-182 at a strength of 300 curies. By way of comparison, the radiation that escaped in the Three Mile Island nuclear accident in Pennsylvania in 1979 was only 15 curies. In a Dec. 31, 1946, report to the chief of the Armed Forces Special Weapons Project, Hamilton estimated that inhaling one one-hundredth of a curie of a substance like tantalum would kill the average adult human. The tantalum used in the Dugway bomb tests apparently was produced in nuclear reactors at Hanford, Wash. Later Dugway tests were to use much higher levels of radioactivity. A February 1952 Army document said the test schedule included a September 1953 test, described as a "final operational test" using from 1 million to 10 million curies. There is no mention in the available record whether these later tests were conducted.

## **OUTFRONT-RADIATION WEAPONS**

APn 12/22/94 12:07 PM Copyright 1995 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By ROBERT BURNS Associated Press Writer WASHINGTON (AP) -- At the outset of the Cold War, the U.S. government pursued the development of radiation weapons not only for the stated purpose of defense but also for offensive use on a vast scale, newly declassified records show. Although use against enemy troops was considered, the weapons' biggest promise, according to the documents, was their ability to terrorize and paralyze industrial cities, including residential sections, by contaminating them. Although still incomplete, the picture provided by the records is the fullest so far of a "radiological warfare" program set up in the late 1940s and early '50s. The documents were declassified by the National Archives at the request of The Associated Press. In the late 1940s, as the United States was beginning to expand its new

atomic bomb-building capability, the military saw potential in a related class of weaponry: radioactive poisons that could silently spread deadly contamination. The idea, which dates at least to 1941, was to release highly radioactive substances by dropping them in bombs. Upon impact, the radiation, in the form of pellets, aerosol or dust, would escape and spread. No radiation weapon is known to have been used in war, and the United States apparently never put radiation weapons into its active arsenal. Some were tested in the United States, but the records aren't clear how many were built for that purpose. The government had maintained publicly that its interest in radiation weapons was defensive -- that it needed to understand their potential to prepare for the possibility that an enemy would use such weapons on America. There were fears that Germany, in World War II, and later the Soviet Union might be capable of such attacks. Some of the U.S. work on radiation weapons was indeed defense-oriented. But the records clearly demonstrate that the main thrust of the program was offensive. They also reveal the vast destructive potential of the weapons; the goal, risking no more than five U.S. bombers per mission, was to contaminate 10 to 25 square miles to a level of 3 million curies of radiation per square mile. This level was deemed powerful enough to prevent human habitation for at least four months. Some of the contemplated offensive uses included: --Killing or forcing the evacuation of workers living in or near large industrial cities in the Soviet Union. A secret report by a government panel noted on Nov. 20, 1950, that unlike the atomic bomb, a radiation weapon could not physically destroy key targets such as industrial plants. It could, however, deny the enemy use of such plants "by the destruction of its skilled workers." "The main target of RW will therefore be the working population in the city," it said, adding that casualties could be limited "if evacuation were prompt." --Contaminating areas in Soviet-controlled "satellite countries" in Eastern Europe, where for political or economic reasons the United States did not want to use atomic weapons. Similarly, radiation weapons could be used to paralyze industries in Western Europe in the event of a Soviet occupation. --Making germ warfare more deadly. A Nov. 13, 1947, memo from an Army research and development office described a "possible large-scale sabotage use" in which radioactive gases or aerosols would be injected with germ sprays into natural gas mains. The radioactivity would lower the resistance of people breathing the air in buildings using natural gas, "thus making the individual more susceptible" to infection from the germs. --Combining radioactive materials, such as byproducts of plutonium production, with chemical weapons. The 1947 memo said a radioactive material used in combination with existing Army Chemical Corps chemical agents "could be of overwhelming effectiveness against the enemy." --Terrorizing the enemy. The mere threat of using radiation weapons against an unprepared enemy civilian population might have "telling effect," the 1950 memo said. It said this use alone was not important enough to justify a full-scale program to build radiation weapons. The program even estimated the costs of contaminating enemy territory: \$2.2 million to \$3.3 million per square mile. The documents are in the files of the Armed Forces Special Weapons Project, established in 1947 as the military successor organization to the Manhattan Project, which developed the first atomic bombs. Most of the project's records are still classified. These include many records of a special panel, created jointly by the Atomic Energy Commission and the Defense Department in March 1948, to study the feasibility of radiological warfare and to steer development work. The panel disbanded in November 1950 after issuing a final, 31-page report. Its central conclusion was that while it couldn't confidently judge the value of radiation as a weapon until such a device was used in war, the potential was great enough to justify "preparations directed toward enabling its use." The panel also saw limitations for radiation weapons. The main one was a shortage of appropriate radioactive materials; without building expensive new nuclear reactors to produce more materials, the only choice was to slow the atomic bomb production lines. The panel concluded that the atomic bomb program should be given top priority. Tests of radiation weapons went ahead, however, starting in October 1949. As the General Accounting Office disclosed in December 1993, a number of radiation bombs were dropped on Dugway Proving Ground in Utah from 1949 into 1950. Bigger-scale field tests were scheduled through 1953.

## **NUCLEAR LAND**

APn 12/22/94 12:48 AM Copyright 1995 The Associated Press. All rights reserved. The information contained in this news report may not be republished or redistributed without the prior written authority of The Associated Press. By H. JOSEF HEBERT Associated Press Writer WASHINGTON (AP) -- For Sale: Spacious acreage with good view. Some buildings need work. Hot property. Oh, yes, the original owner made nuclear bombs. The Energy Department said Wednesday it is eager to find buyers for scores of buildings and hundreds of acres of land it owns, including vast areas that for decades have shielded some of the country's most secret nuclear activities of the Cold War. It already has a buyer for one property in Florida -- a plant formerly used to manufacture nuclear weapons components -- and has firm plans for some desert land nestled within the Nevada Test Site, the vast region where the nation for nearly half a century tested its nuclear bombs. "We can now open some of these resources to their rightful owners, the American public, for economic reuse, energy development and environmental protection," Energy Secretary Hazel O'Leary told reporters Wednesday. The department holds nearly 2.4 million acres of land, an area larger than Delaware and Rhode Island combined. It also has 120 million square feet of buildings and 30,000 miles of roadway. Most of these assets are in some way related to the

government nuclear weapons complex -- the manufacturing plants, nuclear reactors, research labs and test facilities where the nation's produced its nuclear arsenal, dating to the 1940s. Mrs. O'Leary acknowledged that many of the buildings and land will be contaminated by radiation and toxic waste for decades and that some of the land may never get cleaned, becoming permanent legacies of the Cold War. But she said vast stretches, including large buffer zones that once kept the curious away from top-secret nuclear weapons facilities, are free of contamination and should no longer be owned by the government. The Energy Department hopes to sell hundreds of acres and numerous buildings in the coming years -- all, of course, after verification that it is clean. It has produced a glitzy, multicolored brochure complete with pictures of various facilities and a list of contact numbers in case a buyer is interested. "I hope this booklet provides some insights into our new direction for our land and facilities," Mrs. O'Leary writes in an introduction. One DOE plant is already sold. The Department announced Wednesday that it had found a buyer for the Pinnella weapons plant in Florida that once produced nuclear warhead components. The 733,000 square foot complex, located in an industrial area, was bought for \$2.6 million by the St. Petersburg-Clearwater Economic Development Council. The government is leasing back part of the facility to continue cleanup of contaminated areas, officials said. The department also announced it is selling a section of the Nevada Test Site, where most of the nation's nuclear bombs had been exploded for testing, to private groups planning a solar energy project. They hope to produce 1,000 megawatts of electricity by 2010 -- about what is produced by two nuclear power reactors. The Clinton administration has ordered an end to nuclear bomb testing. But even if testing were to resume, the Nevada site is so vast that it would not affect the project "except some solar panels would rattle," says Scott Sklar, executive director of the Solar Energy Industries Association. Even some sites where there are massive and complex cleanup tasks ahead are being peddled. At the Rocky Flats weapons facility near Denver, a 280-acre section already has been put aside for private companies developing wind energy technology, including testing wind turbines. Another section of Rocky Flats is being used by a company that makes containers for radioactive and toxic wastes. At the Hanford reservation in south-central Washington state, where the nation for decades produced the plutonium used in nuclear warheads, discussions are under way to turn more than 160,000 acres of land over to the Yakama Indian Nation and a separate stretch along the Columbia River is being considered for wilderness designation. Among other programs already under way, officials cited: --Use of an idle nuclear research reactor at the Idaho National Engineering Laboratory to treat certain types of brain cancer. --Using Hanford water treatment pools as salmon hatcheries. The pools once held water from the Columbia River so solids could settle before the water went through plutonium-producing reactors for cooling. With plutonium production over the pools "now are surplus to DOE needs," said a fact sheet.

#### **CHINA'S NUCLEAR-ACCIDENT GROUP HAS FIRST MEETING**

RTw 12/22/94 12:22 AM BEIJING, Dec 22 (Reuter) - China's nuclear-accident medical emergency support group held its first meeting in Beijing with a call to be prepared in case of accidents as China expands its nuclear-power system, the Health News said on Thursday. "To properly carry out the emergency preparations for a nuclear accident is intended to guarantee the safe and healthy development of our nuclear power," Health Minister Chen Minzheng told the meeting on Tuesday, the newspaper said. The 1986 accident at Chernobyl in the former Soviet Union had served as a lesson to China and resulted in requests from China's leaders for a review of nuclear safety and plans in case of accidents, Chen was quoted as saying. Chen called for a high level of vigilance and urged medical authorities to learn from the experience of other countries to ensure an adequate response in case of an accident. Since the group was set up at the end of last year, it has held several training sessions, calling accident alerts without advance notice, the newspaper said. Officials say China's fledgling nuclear-power industry has never reported an accident or polluted the environment. China has two nuclear power plants, a home-designed 300-megawatt station at Qinshan in Zhejiang province in the south that is currently being expanded with the addition of two 600 megawatt reactors and Daya Bay near Hong Kong, which has two 900-megawatt French-designed reactors. Beijing has announced plans to complete a third nuclear plant, with two 900-megawatt generators, at Ling'ao near Daya Bay in 2002, and a fourth is planned in Liaoning province in the northeast, with two Russian-built generators each with a capacity of 1,000 megawatts. Nuclear-power generation in 1994 is estimated at between eight million and 10 million megawatts, up from 2.49 million last year. China has completed a draft law to cover safety in the nuclear-power industry and expects the legislation to be ratified soon by its parliament, the National People's Congress. Copyright 1995 Reuters America Inc. All rights reserved.

#### **REMOTE SOUTH KOREA ISLAND TO BE NUCLEAR-WASTE SITE**

RTna 12/22/94 12:10 AM SEOUL, South Korea (Reuter) - South Korea's Science and Technology Ministry said Thursday it had selected a remote island off the western coast as the nation's first site for nuclear-waste disposal. Ministry officials said Kurop-do, an almost uninhabited islet 30 miles off the western port city of Inchon, was selected

after intense feasibility studies of 10 candidate sites. They said only 10 inhabitants in six households were living in the islet of 0.66 square miles. "The island provided the most ideal conditions for disposal of nuclear waste, such as its solid granite foundation," an official said. "Conditions are relatively favorable for transporting the waste from the nation's nine nuclear plants," he said. He said developing the island into a nuclear-energy center by 2001 would cost \$1.52 billion. The ministry would adopt the Swedish method of burning canisters containing radioactive spent fuel in an underwater depot. REUTER Copyright 1995 Reuters America Inc. All rights reserved.