

CHINA REVEALS BUNGLED NUCLEAR WASTE COVERUP

RTw 8/18/93 4:45 AM By Jeffrey Parker BEIJING, Aug 18 (Reuter) - Chinese scientists secretly and illegally dumped low-level nuclear waste down a copper mine near a village in northern Hebei province, an official confirmed on Wednesday. The official in the State Environmental Protection Bureau's Radiation Supervision Division acknowledged that 60 tonnes of waste had to be removed from near the village, as reported by a newspaper in Tianjin. But he said: "There is no threat of nuclear radiation in China." The guarded revelations about the Hebei waste dump coincided with the unveiling also on Wednesday of China's first public rules on nuclear accident management. The rules put the army in charge of emergency response and mandate prompt release of information to local people -- in sharp contrast to China's longstanding practice suppressing news of disasters. The Hebei incident dates back to 1978 but disclosed only on August 9 in the Evening News of Tianjin, a major city which, like Beijing, abuts Hebei. The newspaper said an unspecified Beijing atomic research institute in 1978 secretly buried 60 tonnes of atomic waste in a 200-metre (660-foot) well at a copper mine near a densely populated Hebei village identified only as "C." Officials were sworn to secrecy about the concrete-sealed waste dump, which the mine's Communist Party secretary arranged without state permission, the daily said. The secret got out in 1989, when prospectors stumbled on what was labeled simply Hole Number Three. "The people were in a panic," the newspaper said. "Some villagers reported symptoms of poisoning, such as feeling dizzy and suffering from anaemia." It took local officials two more years to locate the institute responsible. In October 1991, the State Environmental Protection Bureau issued an internal cleanup order, saying the dumpers had "violated the law." Without public notice, the waste was hauled to an approved hazardous-waste dump in Inner Mongolia. The Radiation Supervision official, identifying himself only as Mr Huang in a telephone interview, confirmed that the Hebei waste had been removed but minimised any risk it posed. Huang called the waste "slag" left over from thorium and uranium extraction. He said the radiation level was at least 2,000 times below international norms of "radioactive waste" and said some normal Chinese farmland had higher levels of radiation. Huang would not say why the waste was removed if it was harmless, nor would he name the Hebei village or comment on the allegations of illnesses there. He said the Tianjin newspaper reporter had a poor understanding of nuclear radiation and said "many parts of his article are untrue or exaggerated." REUTERCOPYRIGHT 1993 Reuters Information Services, Inc. All rights reserved.

PLANS TO HELP EX-SOVIET SCIENTISTS FOUNDERING

RTw 8/18/93 3:03 PM By Carol Giacomo WASHINGTON, Aug 18 (Reuter) - Plans for Western-financed science centres to employ ex-Soviet nuclear scientists who might otherwise work for renegade states are being blocked by opponents in Russia and Ukraine, U.S. officials say. "We have done everything we can on our part to get them going," Assistant Secretary of State Robert Gallucci said recently. "We're very frustrated but the Russians are probably the most frustrated of all in this," another U.S. official told Reuters. The plan took shape after then-Secretary of State James Baker, in February 1992, visited the once-secret heart of the former Soviet Union's nuclear arms industry at Chelyabinsk-70 institute, deep in a Ural mountains forest. The scientists -- some of the best in the business -- told Baker they had no shortage of ideas to replace the atomic arms research they were involved in for 40 years of the Cold War. It was a moving appeal and Baker promised that the West would help adapt their skills to peacetime activities in science centres to be created in Russia and Ukraine. But the centres have not got off the ground and life for the scientists -- once the elite of Russian society with superior salaries and living conditions -- has so deteriorated they have been forced to stage protests. Government-promised wage increases have not been forthcoming and Chelyabinsk-70 scientists were reported to have gone without any salary for at least two months. U.S. officials said most of the scientists, living in once "closed" locations, are unable to move to cities like Moscow, where jobs in emerging industries and universities might be available, because housing is scarce. Russian emigration restrictions have prevented most of these researchers from leaving for other countries, like Iran, which is believed eager to acquire Russian expertise to help develop its nuclear industry. But U.S. officials said they fear these scientists may not have to leave home to become involved in such projects. They said joint ventures by various countries could exploit the knowledge of these nuclear researchers right in Russia itself. The United States put up \$25 million for the Russian science centre and contributions from Japan and the European Community brought the total to about \$70 million. Russia and the donors signed a formal agreement last November, office space and support staff for the centre in Moscow is in place and at least 50 proposals from U.S. companies, universities and hospitals have been submitted. None of the proposals, dealing with nuclear safety and defence conversion, have been approved, however. The accord, which must be approved by the Russian parliament, is languishing, thwarted by hardline deputies who are "strongly opposed for a variety of

reasons" -- including opposition to President Boris Yeltsin and Foreign Minister Andrei Kozyrev, keen backers of the science centre proposal, one U.S. official told Reuters. These deputies also have objected to a provision granting access to sensitive facilities for audit purposes, he said. "They are basically manufactured objections. As a group ... these deputies discovered they can't really stop things but they have developed to a very high degree their ability to delay," another official said. Plans for the science centre in Ukraine -- for which the United States and other countries pledged \$13.5 million -- are far less developed than the Russian centre. But they too are stuck, victims of a growing Ukrainian nationalism that has slowed down Western efforts to ensure that Kiev gives up nuclear weapons of the former Soviet Union that are stationed on Ukrainian territory. U.S. officials said some deputies in Ukraine's parliament fear Washington and its allies are trying to tap Ukraine's nuclear secrets and exploit its talent by paying bargain prices for expertise that commands far more in the West. U.S. officials are hoping new elections in Russia later this year could make approval of the science centre plan happen. Otherwise, they say they are looking at alternative ways -- apart from a formal science center arrangement -- to help put the scientists to work. REUTERCOPYRIGHT 1993 REUTERS INFORMATION SERVICES, INC. ALL RIGHTS RESERVED.

Two nuclear reactors shut down after cooling water

...UPn 8/19/93 6:46 AM Two nuclear reactors shut down after cooling water flood LONDON (UPI) -- Two nuclear reactors were shut down at the Bradwell power station in east England Thursday because millions of gallons of sea water flooded its cooling plant. Len Green, a spokesman for the Nuclear Electric Co. plant in Essex, said there was no danger of a radiation leak from the accident. He said one water chamber was flooded and another was partially flooded with 6 million gallons (23 million liters) of sea water. "The building is remote from the nuclear reactors -- several hundreds yards away -- and there are no nuclear implications," Green said. The accident occurred shortly after 1:30 a.m. Thursday and was believed to have been caused by a fracture in the cast iron water intake pipes. "We are not sure of the cause at the moment, but the pump houses are below sea level so if there is a leak the water level comes up quickly," he said. Ten fire engines were called to the power station to help the company pump out the water. Green said there was no danger of fire and the engines were called only so the company could use their pumps. "The sea water is used to cool the steam from the turbines and is then pumped out to sea again. Because there is nothing to cool the steam the turbines have been shut down and because of this the reactors also have been shut down," Green said. He explained that brittle cast iron, which may be subject to fracturing, is used to carry the sea water to the pump house because the metal is resistant to corrosion. Brigitte Woodman, a nuclear campaigner at Greenpeace, said the accident could have been potentially dangerous as operators struggled to control the temperature of the reactor after it was shut down. "A shutdown leads to all sorts of problems and one of them is embrittlement," Woodman said. "If the steel reactor is allowed to cool down too quickly it becomes brittle and could break. "Because heat rises, the bottom of the reactor cools quicker than the top and the operators would have had to do a juggling act to keep the temperature even," she explained. She said the Bradwell power station was 32 years old and had been scheduled for closure 12 years ago. "With reactors as old as these ones, a sudden shutdown is like giving it a real jolt," she said. The worst nuclear accident in British history occurred in 1957 in Cumbria, north England at the Windscale plant -- renamed Sellafield in 1981 -- when a reactor caught fire, releasing high levels of radiation into the atmosphere. Copyright 1993 The United Press International

BELARUS PLAGUED BY LINGERING CHERNOBYL RADIATION,

UPn 8/29/93 11:00 PM Belarus plagued by lingering Chernobyl radiation, infectious illnesses UPI NewsFeature (800) Adv. Mon. Aug. 30 or thereafter By VALENTINA STAROVA MOSCOW (UPI) -- The government of the former Soviet republic of Belarus recently issued chilling statistics that confirmed the worst fears of its readers about the legacy of the 1986 Chernobyl nuclear accident. The figures showed that thyroid cancer -- a rare but deadly illness often linked to radiation exposure -- is on the rise in Belarus, with almost as many new cases recorded in the first six months of this year as in all of 1992. The news comes as a grim reminder that Belarus, which took the brunt of wind-borne nuclear fallout from the Chernobyl explosion, has only just begun to see the accident's long-term consequences for the health of its citizens. More than half the republic's 10.7 million people, including 400,000 children, still live in areas contaminated by radioactive fallout. While the number of cases of thyroid cancer is still relatively small -- there were 43 new cases in the first six months of 1993 -- it is a quantum leap from the pre-Chernobyl era, when there were barely seven cases a year. Making matters worse, Belarus -- like

neighboring Russia and Ukraine -- is suffering from outbreaks of ordinary infectious diseases such as diphtheria, cholera, tuberculosis and typhoid once thought to have been banished by the vaunted Soviet medical system. In the south of the republic, a recent spate of floods has washed pesticides and radioactive particles into drinking water supplies, creating further health problems. But unlike its much larger Slavic neighbors, Belarus is particularly ill-equipped to deal with a potential public health crisis. The republic produces only about one-tenth of the medicines it needs and must import the rest. But the Soviet collapse and the economic dislocation that followed has disrupted ties with traditional suppliers in Ukraine and Russia. Belarus now has its own currency, so it has trouble obtaining the rubles needed to pay for Russian medicines. Russian drug manufacturers, meanwhile, demand cash up front for their products. "Since the Soviet Union disintegrated, it's harder to buy medicines in Russia than abroad," Deputy Health Minister Nikolai Krysenko said. As a result, this year Belarus may get only one-third of the medicines and vaccines it needs for a population increasingly falling prey to a range of crippling illnesses. "The situation with drugs is critical. There is a shortage of practically everything, from anaesthetics to antibiotics," said Valery Gorenkov, head of the national pharmaceutical association, Farmatseya. Part of the problem, though, is of Belarus' own making. For example, the republic's fledgling customs service routinely detains shipments of vaccine imported from other republics. The shipments are held in unrefrigerated storage, often for weeks, and so the vaccine's potency is completely destroyed. "The conditions there are absolutely unsuitable for the vaccine," said Dina Zakharenko, the head of preventive medicine at the Health Ministry. "How can one talk about refrigeration in such a mess?" Another complication arises from a widespread phobia of anything to do with radiation that has resulted from the Chernobyl accident. Many Belarusians now refuse to have X-rays out of fear of being irradiated. So, since 1987, the Belarus health authorities stopped a program of obligatory X-ray testing for tuberculosis. "We're afraid of exposing people to the slightest additional radiation," Deputy Health Minister Krysenko said. Last year the number of new TB cases rose 15 percent to 3,452 -- not an epidemic, but a serious problem in a country that does not produce TB vaccine and can import it only with great difficulty. "Since Belarus does not manufacture the vaccine itself, we are helpless," Zakharenko said. Other infectious diseases are spreading much faster. New cases of both measles and diphtheria have tripled in the past two years. On the bright side, Western humanitarian aid is helping to fill part of the gap left by traditional suppliers. Belarus has more than 70 per cent of the anti-cancer medicines it needs, supplied mainly by Germany and Japan. A new center for the treatment of psychological after-effects of the Chernobyl accident, built partly with German financing, opened recently just outside the Belarus capital Minsk, the Itar-Tass news agency said. Many now look back fondly on the old Soviet medical system, which despite its inefficiencies, at least kept the republic supplied with its basic needs. "We felt so much more secure under the powerful Soviet Union," Zakharenko said. adv mon aug 30 Copyright 1993 The United Press International

UKRAINE MINISTER WANTS CHERNOBYL TO REMAIN OPEN

RTw 8/31/93 9:58 AM KIEV, Ukraine (Reuter) - Ukraine's Energy Minister urged parliament Tuesday to reverse its order to close the stricken Chernobyl nuclear power station by the end of the year. The plant -- site of the world's worst nuclear accident in 1986 -- was declared safe by the minister, Vilen Semenyuk. "We have to take a decision to allow the Chernobyl nuclear plant to continue operating," he told a session devoted to the government's economic reform plan. "Experts say that after introduction of safety measures, the Chernobyl plant is among the safest, and not only in Ukraine." Semenyuk's announcement was the first call from a government minister for the station, whose fourth reactor remains encased in concrete, to continue operating beyond the parliamentary deadline. Ukraine's powerful nuclear lobby, pointing to the former Soviet republic's severe energy shortages, have been lobbying for months to overturn parliament's 1991 order to close Chernobyl. An equally formidable environmental movement says the station is unsafe and has been leading a noisy campaign to ensure parliament abides by the order. Semenyuk also called on deputies to lift a freeze imposed on construction of six reactors after the Chernobyl disaster. Three reactors could be on stream within months if construction were allowed to resume. Parliament in June postponed a decision on the construction moratorium until autumn despite strong pressure from scientists. Nuclear power remains a highly emotive issue in Ukraine seven years after the accident, blamed by authorities for some 8,000 deaths. Dealing with the aftermath still accounts for some 11 percent of the national budget. Ukraine has five nuclear power stations providing more than 30 percent of the country's power. REUTERS Copyright 1993 Reuters Information Services, Inc. All rights reserved.

GREENPEACE TO CHALLENGE URANIUM TESTS IN BRITAIN

RTw 9/1/93 1:51 PM LONDON, Sept 1 (Reuter) - A British court on Wednesday granted the environmental group Greenpeace permission to mount a legal challenge against a decision to allow uranium testing at a controversial nuclear waste processing plant at Sellafield. Last week, Britain's Conservative government gave the go-ahead to state-owned British Nuclear Fuels Plc (BNFL) to begin testing its new reprocessing plant with uranium prior to deciding whether the plant should be allowed to operate at all. And although Greenpeace's lawyers won the right to seek a judicial review of that decision, they failed to obtain a court order preventing BNFL from starting the 10-week testing period before the outcome of the High Court challenge is known. A two-day High Court hearing was set to start on September 14. The new 2.8 billion pound (\$4.19 billion) Thermal Oxide Reprocessing Plant (Thorp) was originally due to open early this year to reprocess spent nuclear fuel from not only Britain but from other countries under contract including Japan and Germany. But environmental worries over the plant's deadly by-product of plutonium has prompted the government to delay opening the Thorp plant at Sellafield in northwest England pending further consultations. Greenpeace spokeswoman Bridget Woodman said later: "We are very happy to have won our application to seek judicial review. "As far as the stay is concerned, we will be going to the Court of Appeal as quickly as possible to stop the plant becoming contaminated," she added. Thorp was designed to produce recycled uranium fuel for nuclear reactors but it also creates plutonium as a by-product for which there are few uses except to make nuclear weapons. Government ministers have said cancellation of the plant could cost Britain billions of pounds in compensation to countries whose waste nuclear fuel is already in Britain awaiting reprocessing. REUTERCopyright 1993 Reuters Information Services, Inc. All rights reserved.

RUSSIA SIGN ECONOMIC, TECHNICAL PACTS;INTERNATIONALIZING SPACE STATION, AIDING NUCLEAR SAFETY ARE AIMS
WP 9/2/93 11:00 PM U.S. and By Thomas W. Lippman Washington Post Staff Writer The United States and Russia signed a wide range of economic and technical agreements yesterday aimed at pumping U.S. cash into the Russian economy, enhancing nuclear safety and turning the proposed U.S. space station into an international project. In a day of cheery ceremonies and upbeat briefings, President Clinton, Vice President Gore and other administration officials hailed the agreements as a prelude to a new era of cooperation on energy, the environment, arms control and technology. "I'm personally very happy about this," Clinton said after meeting with Russian Prime Minister Viktor Chernomyrdin. As expected, Russia agreed formally to join the United States and more than 20 other nations in abiding by the Missile Control Technology Regime, a 1987 agreement limiting commerce in missiles. The move officially ended a U.S.-Russian dispute over Russia's sale of rocket engines to India. That dispute had twice delayed Chernomyrdin's visit here. The agreement to work together on development of the controversial space station will "minimize costs and cut the time needed to do projects while achieving more than would otherwise have been possible," Gore said. "We're going to have Russians and Americans working very closely together," a White House official said. "We'll get more space station faster," with a new target of "getting something up and flying in the 1996-97 time frame," about four years earlier than previously planned, the official added. Clinton used the occasion to press the Russians on two key foreign policy points not related to the agreements, White House officials said. He urged Russia to improve its relations with Japan, a potential source of capital investment, and to complete the withdrawal of Russian troops from the Baltic nations. Chernomyrdin offered no timetable for the troop withdrawal, a White House briefer said, "but the Russians clearly understand the need" for it. In addition to the space station, agreements signed yesterday included:A commitment by the Overseas Private Investment Corp. to provide \$50 million for a fund to invest in new businesses in Russia. The Russian government will provide \$25 million for the fund, which is to be managed by Paine Webber Inc. and aims to stimulate private investment in the struggling Russian economy. An agreement to cooperate in the development of Russia's oil and gas industry. The United States will provide environmental expertise and technology to the Russians, and the Export-Import Bank will help finance increased U.S. investment in the Russian energy industry. Establishment of an "ombudsman" in each country to facilitate the other's economic activity. An OPIC commitment of \$28 million in insurance and loan guarantees to back Texaco Inc.'s \$80 million project to restore oil wells in western Siberia, a project critical to Russia's effort to reverse a drop in its oil production. Creation of six "working groups" to foster economic relations, as agreed by Clinton and Russian President Boris Yeltsin at their Vancouver summit in April. The first two, on business development and bilateral energy deals, are to be headed by Commerce Secretary Ronald H. Brown and Energy Secretary Hazel R. O'Leary, officials said. The Russians departed without completing one major deal that they have been seeking for more than a year: the proposed sale of more than \$200 million worth of surplus bomb-grade uranium to the United States for conversion into fuel for nuclear power plants. Uranium industry sources said the Russians were upset at the failure to sign this contract, but administration officials denied this. They said all bilateral issues related to the proposed sale have been resolved and the only remaining obstacle is a dispute between Russia and Ukraine over dividing the proceeds. That dispute could be resolved when Yeltsin and Ukrainian

President Leonid Kravchuk meet today in Kiev, U.S. officials said. A White House official said the details of the space station agreement remain to be worked out. "The relative amounts of American and Russian content and the impact on our own contractors remains to be seen," she said. "It's possible there will be a net job gain" in this country. Copyright 1993 The Washington Post

IN THE FORMER SOVIET UNION, PAYING THE NUCLEAR

..WP 9/6/93 11:00 PM In the Former Soviet Union, Paying the Nuclear Price; Radioactive Accidents and Dumps Sicken Generations By Michael Dobbs Washington Post Foreign Service SEMIPALATINSK, Kazakhstan It was the happiest day of Sergei Davydov's life: Aug. 29, 1949. The retired engineer still remembers the blinding flash and his "feverish joy" at the sight of a huge, mushroom-shaped cloud erupting over the desert of northern Kazakhstan. The Soviet Union, the world's first communist state, had become a nuclear superpower - and he had pressed the button. In a squalid wooden hut 600 miles away in southern Russia, by the bank of the Techa River, Mavzhida Valeyeva remembers 1949 for a different reason. It was the year her health began to deteriorate dramatically. Along with practically all her neighbors, she now suffers from violent headaches and constant nosebleeds. Her blood is anemic. Her four children and five surviving grandchildren are all invalids. It took Valeyeva more than four decades to make a connection between her family's devastating health problems and the Soviet Union's nuclear bomb project. In 1990, the Soviet government finally acknowledged that millions of tons of highly toxic radioactive waste had been secretly dumped in the Techa by a plutonium plant 49 miles upstream from Valeyeva's village, Muslyumovo. The river the villagers saw as a source of life was in fact a source of death. "It would be better if they had never discovered this nuclear energy," said Valeyeva, who visited the river daily to collect drinking water and wash her family's clothes. "It would be better to be poorer, but at least to be healthy and give our children and grandchildren a chance of living a normal life." The Communist politicians who launched the Soviet Union on a program of breakneck industrialization and transformed the country into a military and political rival of the United States, believed that the natural resources under their control were inexhaustible. Yet future generations of Russians and Tatars, Balts and Ukrainians, Czechs and Poles will pay a heavy price for the hubris of their leaders. There came a point when nature simply rebelled. Based on a two-month journey from the center of Europe to the Russian Far East, this is the third in a series of articles about the legacy of Marx, Engels, Lenin and Stalin. Today's article looks at the destructive impact that communism had on the environment in Russia - one of the scars left by the combination of totalitarian rule and socialist economics that will almost certainly take generations to heal. The environmental catastrophe left behind by 70 years of Communist rule is visible in poisoned rivers, devastated forests, dried-up lakes and smog-polluted cities. Some of these disasters, such as the evaporation of the Aral Sea following the diversion of rivers for an irrigation project, have permanently changed the contours of the vast Eurasian landmass. But, according to Russian scientists and ecologists, the most lasting physical damage will probably have been caused by the unleashing of nuclear power. "Radioactive contamination is the number one environmental problem in this country. Air and water pollution come next," said Alexei Yablokov, a biologist who serves as President Boris Yeltsin's chief adviser on environmental matters. "The way we have dealt with the whole issue of nuclear power, and particularly the problem of nuclear waste, was irresponsible and immoral." The scale of nuclear contamination in the former Soviet Union has only become clear over the last few years, with the advent of free speech and the lifting of censorship restrictions. In the wake of the 1986 Chernobyl catastrophe, Russians learned about other disasters, including a series of accidents at a plutonium-producing plant near the southern Urals city of Chelyabinsk between 1948 and 1967. They also learned about dozens of ad hoc nuclear dumps, some of which could begin seeping radioactivity at any moment. The seas around Russia - from the Baltic to the Pacific - are littered with decaying hulks of nuclear submarines and rusting metal containers with tens of millions of tons of nuclear waste. Russia itself is dotted with dozens of once secret cities with names like Chelyabinsk-70, Tomsk-7 and Krasnoyarsk-26, where nuclear materials have been stockpiled. Unmarked on any map, they hit the headlines only when there is an accident. Vast areas of the country have been treated as a nuclear dump, the result of four decades of testing. "We were turned into human guinea pigs for these experiments," said Bakhit Tumyenova, a senior health official in the Semipalatinsk region, the main Soviet nuclear test site until 1989. "They kept on telling us that it was for the good of the people, the Communist Party, the future. The individual never counted for anything in this system." 'A Pernicious Philosophy' The testing of the Soviet Union's first atomic bomb in 1949 represented a huge achievement for a backward, semi-Asiatic country. It had mobilized vast economic and human resources, from the team of elite scientists who designed the bomb to the army of slave laborers who mined the uranium and disposed of the nuclear waste. The two sides of the Soviet nuclear project - the epic achievements and the disregard for human life - are symbolized by the man initially in charge of it. Lavrenti Beria, the chief of Stalin's secret police, was a great organizer. But he was also a great destroyer, willing to obliterate any obstacle to achieve his goal. "It was a

heroic epoch," recalled Igor Golovin, a leading scientist and biographer of Igor Kurchatov, the head of the nuclear project. "We worked days and nights and really believed in what we were doing. The propaganda instilled the idea that the United States had the bomb and wanted to enslave us, so it was vital that we acquired our own nuclear weapons as soon as possible, whatever the cost." Few of the scientists and engineers working on the project gave much thought to the dangers of radioactive fallout. After pushing the button that triggered the first nuclear device, Davydov rushed to the site of the explosion without any protective clothing or gas mask. He was later sick with leukemia for some 20 years. "They gave me special injections, and it somehow stabilized. Now I feel all right," said the 76-year-old pensioner, proudly displaying a chestful of medals. "Personally, I think that all those people who demand privileges from the government because their health suffered as a result of these tests are just crooks and swindlers." The idea that any sacrifice was justified in the effort to turn the Soviet Union into a superpower was a fundamental part of the communist ethos. ("You can't make an omelette without cracking eggs," Lenin liked to remark.) It permeated the nuclear project right from the start, and still exists to some extent among older people. The system elevated the state above ordinary individuals - and this was its basic flaw. "The postwar generation was brought up with the idea that they should be ready to sacrifice themselves for the state. This was the philosophy of the time. It was a pernicious philosophy because it prevented any thought being given to ecological problems," said Natalya Mironova, an environmental activist in Chelyabinsk. "For many years we were unable even to discuss such matters." Little attention was paid to such issues as nuclear safety and the training of responsible personnel. The manager of the Chernobyl plant at the time of the 1986 disaster had previously been in charge of a heating plant. According to officials, roughly 50 percent of the accidents in nuclear power stations and 75 percent of accidents on nuclear submarines are due to "human error." This year alone, there have been at least three accidents at nuclear facilities in Russia involving the release of radioactivity. The government has been inundated with dozens of letters from scientists at both military and civilian nuclear facilities warning of "further Chernobyls" because of rapidly deteriorating working conditions and the departure of many highly qualified workers. Into the Food Chain For the 1,000 inhabitants of Muslyumovo in the southern Urals, the Soviet Union's experiments with the atom are a curse that will blight the lives of many generations. According to the local doctor, Gulfarida Galimova, 4 of every 5 villagers are "chronically sick." She says the effects of radiation have altered the genetic code of the local Tatar population, with the result that babies are often sick from birth. "We do not have a future," said Galimova. "We have been so genetically harmed that our descendants will not be able to escape this curse. Patients come to me, and I know I can never cure them. Radiation has entered the food chain. Our cows eat radiated grass. The potatoes we grow in our back yards are poisoned. The only solution is to close this entire region off - and not let anyone come here for 3,000 years. But they won't do that, because there isn't enough money." The 2.75 million curies of radioactive waste flushed into the shallow Techa was equivalent to half the fallout from the bomb that fell on Hiroshima, but nobody bothered to inform local inhabitants. In the late 1950s, signs were posted along the Techa warning people not to bathe in the river. The nature of the danger was never explained, so most villagers paid little attention. In the early 1980s, Galimova first started noticing that something was terribly amiss with the health of Muslyumovo residents. Nearly 10 percent of births in the village were premature. Many of her patients were anemic. There was a high incidence of cancer. When she reported her findings to her superiors in Chelyabinsk, the problems were blamed on bad food and a lack of hemoglobin. She was accused of being a bad doctor. What local people refer to as "the river illness" is now affecting the third and even fourth generation of Muslyumovo residents. Valeyeva's eldest son, Ural, 33, is mentally retarded. His three children - aged 6, 4 and 18 months - can barely summon up the energy to get out of bed. Another daughter, Sazhida, 29, has a chronic craving for chalk that has destroyed all her teeth. Her oldest son, Vadim, 11, has been sick from birth. Timur, 6, has chronic bronchitis and anemia. It was not until April 1986 that Galimova finally guessed what was the matter. Chernobyl played a crucial role in convincing Mikhail Gorbachev and other Soviet leaders that the country's problems could not be solved without glasnost, openness. Discussion of ecological problems was no longer taboo. When they finally came clean about the contamination of the Techa, the authorities also admitted two disasters involving the Mayak plutonium-producing plant at Kyshtym, some 60 miles northwest of Chelyabinsk. In 1957, a waste storage tank exploded at the plant, releasing 20 million curies of radiation. A decade later, a drought dried up nearby Lake Karachai, which had been used as a storage tank for 120 million curies of waste products from Mayak. High winds scattered radioactive dust over a wide area. According to an official Russian government report released earlier this year, the three disasters at Mayak affected 450,000 people living in a contaminated region roughly the size of Maryland. The amount of radioactivity still stored at Mayak - much of it in insecure conditions - is equivalent to the fallout from 20 Chernobyl disasters. Nearly 20,000 residents of the Chelyabinsk region were evacuated from their homes. By a tragic twist of fate, some of these people were moved from one high-risk region to another. Valentina Lazareva, for example, was evacuated from a village near Mayak in 1957 as a 9-year-old orphan. There were rumors of an "explosion" at the plant, but nobody knew anything for sure. She spent the rest of her childhood in an

orphanage in Brodokalmak, a village a few miles downriver from Muslyumovo. The children crossed the Techa every day on their way to school, and drank water from a nearby well. In the summer, they would swim in the village. "Now we are all sick," said Lazareva, who is 46 but looks much older. "There were 32 people in my class. We have already buried five of my classmates. Another 10 are dying. But all are invalids, in one way or another."

Glasnost Without Rubles Today, there is no shortage of glasnost about the man-made environmental disaster confronting the former Soviet Union. But there is a desperate shortage of resources to do much about it. The amount of money the government has earmarked to clean up the Chelyabinsk region - roughly \$20 million - is minuscule compared to the \$40 billion to \$60 billion cost the United States has projected for the cleanup of its main plutonium-producing facility, the Hanford nuclear reservation in Washington state. In Kazakhstan, which declared itself an independent state in December 1991 following the breakup of the Soviet Union, health officials say they are unable to provide even basic medical care to villages exposed to four decades of nuclear tests. The lack of basic health services has encouraged many people to turn to charlatans and faith healers for help. In Semipalatinsk - the site of 470 nuclear explosions, including 116 in the atmosphere, between 1949 and 1989 - a Muslim preacher named Sary-Aulie has been attracting crowds of 10,000 with his promise to cure aches and pains through "vibrations." "We can't do much for these people, so it's not surprising that they put their trust in charlatans," said Tumenova, the regional health administrator. "The Semipalatinsk test site served the entire Soviet Union. Now the other republics have gone their own way - and we have been left alone, sitting on top of a gigantic nuclear rubbish heap."

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CHEMICALS LEAK FROM NUCLEAR REPROCESSING PLANT

RTw 9/7/93 5:48 PM LONDON (Reuter) - Almost 300 workers were evacuated from a British nuclear fuel reprocessing plant after chemicals escaped into the air Tuesday, but officials stressed there was no danger of radiation. "The leak had nothing to do with radioactivity," said a spokesman for British Nuclear Fuels, which runs the Thorp re-processing plant at Sellafield in Cumbria, north England. About 15 people had medical checks for irritation to the throat after nitrogen oxide escaped into an area of the plant. "The 280 people working in the vicinity were evacuated as a precaution. We were testing the ventilation system," he said. "It is a chemical part of testing. It is not connected in any way with uranium testing which began last Thursday." The \$2.82-billion plant has not yet begun reprocessing spent fuel from nuclear power stations but has been given the go-ahead to start tests ahead of a final decision on whether to let it open despite fierce opposition. "If 280 people have to be evacuated from Thorp during tests, it shows the risks will be totally unacceptable if (it) is allowed to reprocess fully irradiated nuclear waste fuel," said a spokesman for the environmental group Greenpeace. REUTERCOPYRIGHT 1993 REUTERS INFORMATION SERVICES, INC. All rights reserved.

NUCLEAR PLANT REOPENS AFTER GAS LEAK

UPn 9/8/93 9:37 AM LONDON (UPI) -- The Thorp nuclear reprocessing plant at Sellafield in northwest England reopened Wednesday one day after a gas leak forced the site to be shut down and nearly 300 staff evacuated. A spokesman for British Nuclear Fuels Ltd., which owns the \$2.7 billion plant, said the leak of nitrogen dioxide gas occurred Tuesday while testing equipment was being disconnected from the main plant. About 15 people received medical checks for throat irritation after the evacuation. "The leak was not radioactive and was not in any way connected with the uranium commissioning taking place in other parts of the plant," the spokesman said. "Even when Thorp is in full operation, this section of the plant will not contain radioactive material," he added. "Intensive investigations into the gas leak have revealed that the actual Thorp equipment itself tested satisfactorily and was not in any way faulty." When it receives its license, the Thorp plant will recycle spent nuclear fuel into new fuel. The plant, Britain's most controversial nuclear site, was completed earlier this year but has been dogged by difficulties in obtaining its operating license. Environmental groups and government advisory committees have questioned the dangers of nuclear waste and the prospect of the materials falling into the wrong hands. In June, Environment Secretary John Gummer further delayed the licensing by announcing a second round of public consultations to consider wider safety issues associated with Thorp's operation. The gas leak Tuesday came four days after Thorp was granted permission to begin tests involving radioactive materials for 10 weeks while it waits for the government to grant it an operating license. The environmental group Greenpeace is preparing for a High Court judicial review next week over the decision to allow the uranium tests to begin before the licence is approved. "If they cannot deal with the non-radioactive materials safely then we have no confidence that they can deal with the highly radioactive spent fuel," a Greenpeace spokeswoman said Wednesday. Copyright 1993 The United Press International

KERR-McGEE UNVEILS \$140 MILLION CLEANUP PLAN

UPce 9/9/93 7:13 AM WEST CHICAGO, Ill. (UPI) -- Kerr McGee Chemical Corp. could begin a cleanup of radioactive soil at its former suburban factory site as early as next July. Kerr McGee filed a cleanup plan for its shuttered factory with the Illinois Department of Nuclear Safety Wednesday that calls for the removal of nearly 800,000 tons of earth contaminated with radioactive thorium. The contaminated dirt would be shipped by rail to a site in Clive, Utah, over a four-year period. The plan, which will cost an estimated \$140 million, was three years in the making and is expected to receive state approval within the next few months. The thorium is a byproduct of the manufacture of lighting elements that were made at the plant in the 1930s. Kerr-McGee inherited the problem when it purchased the plant in 1967. Copyright 1993 The United Press International

CRUMBLING MOSCOW EMBASSY

WP 9/11/93 11:00 PM By Jack Anderson And Michael Binstein It would only take Russia 30 minutes to destroy the United States. But it took two hours last year for the U.S. ambassador in Moscow to return a phone call to the White House because U.S. Embassy phone circuits were overloaded. This is just one example of the dysfunctional U.S. Embassy described in a State Department internal report. From a crumbling edifice to unreliable electronics systems, the embassy is cracking under the strain of an increased post-Cold War workload. In the event of another coup or a nuclear accident like Chernobyl, the embassy may not even be able to contact Washington, the report warns. "Communications at the Russian posts are dangerously inadequate. The lack of emergency telephone networks at any of the posts could become life threatening in case of civil disasters or unrest. Inadequate circuitry linking Moscow with Washington ... frequently interferes with the conduct of essential business." After a newly built embassy building was found to be bugged in the early 1980s, the House voted to salvage the building while the Senate wants to tear it down and start over. Meanwhile, embassy employees work in what one former ambassador calls a "rabbit warren" while the new building is completely empty. In response to a dramatically increasing number of visa requests by Russians, the embassy attached a temporary structure to the side of its Moscow building, which now looks like "an oversized, Third-World shanty." The report admonishes: "The physical appearance of the consulate general office is an absolute disgrace. ... It is difficult for the United States to represent itself as a technologically advanced society when its local premises are so scruffy." The unreleased 60-page State Department report notes that the embassy is an increasingly important link between the United States and the former Soviet Union, but "could become one of the largest U.S. missions operating under essentially Third World conditions." Employees at the embassy have had to work at desks made of plywood and saw horses and have had to wear surgical masks to protect themselves from construction dust. Diplomatic business has been discussed at meetings held in janitors' closets for a lack of space. Former U.S. ambassador to Moscow Jack Matlock told our associate Andrew Conte that when he left the post in 1991, "There was a lack of appropriate space to have normal working conditions, especially since we were dealing with mountains of information." Currently, each full-time embassy employee is faced with 5,260 pages of reading material every month, much of it classified. After a March 1991 fire, Matlock was forced to keep two-thirds of his staff on the road traveling because they didn't have desks. As a stopgap measure, some "nonclassified" agencies were assigned to a five-story building with asbestos and inadequate electrical wiring. Other workers have been consigned to a converted bowling alley. One State Department official who just returned from Russia told us: "The conditions in Moscow are crummy. They are terrible, and it doesn't make sense. If you're working in one of the most important countries in the world, you have to be able to concentrate." Congress is expected to approve a \$1.8 billion aid package this month to help Russia modernize. Perhaps a modernization of the U.S. Embassy would represent a good start. 1993, United Feature Syndicate, Inc. Copyright 1993 The Washington Post

DOE SECRETARY PLEDGES SUPPORT FOR HANFORD CLEAN-UP

UPwe 9/14/93 3:16 PM RICHLAND, Wash. (UPI) -- U.S. Energy Secretary Hazel O'Leary pledged Tuesday to keep the cleanup of radioactive waste at the Hanford Nuclear Reservation one of the federal government's top priorities. O'Leary delivered a keynote address to Department of Energy employees, industry representatives and environmentalists attending a two-day summit billed as "a national forum on environment, technology and the economy." O'Leary also toured the 560-square-mile Hanford reservation, which holds the nation's largest concentration of high-level radioactive waste. As of 1987 there were 1,400 separate tanks and burial sites holding more than 150 million gallons of liquid nuclear waste. For 40 years, Hanford produced plutonium for the nation's

nuclear weapons program and stockpiled the contaminated byproducts. With that work over, the DOE's aim is to transform Hanford into a showcase for nuclear waste cleanup technology. The 30-year cleanup project is projected to cost \$50 billion. O'Leary pledged that DOE will do its part to keep the project on track and to share cleanup technology with private industry both at home and abroad. "Everyone in this room must keep us focused on the business of cleanup," she said. "I think every time you kick us to do it better, to do it faster, to do it safer, you're right on. "If you're not doing that then you're not doing your job well." O'Leary's presence was lauded by Washington Gov. Mike Lowry, who said it was a sign of a "new spirit of cooperation" between the state, the federal government and the public. "Secretary O'Leary's early commitment to co-host the summit clearly demonstrates the Clinton administration's interest in the future of the Tri-Cities and our state," he said. The cities of Richland, Pasco and Kennewick have for years rode the boom-bust cycle of a community dependent on the nuclear industry. The area is currently experiencing another boom from the coming cleanup industry, causing real estate prices to rise faster than in any other part of the state. Lowry noted the Tri-Cities sport more PhD's and other advanced degrees per capita than anywhere west of the Mississippi. "My vision for Washington state is for us to become the world leader in technology and Hanford and the Tri-Cities will play a key role in helping us get there," the governor said. He also demanded greater public involvement with DOE in Hanford issues, in contrast to the past when the facility was operated with all the secrecy of a high-security military installation. Copyright 1993 The United Press International

LICENSE SIGNED FOR NUCLEAR WASTE DUMP

UPf 9/16/93 7:49 PM By DION NISSENBAUM SACRAMENTO, Calif. (UPI) -- Gov. Pete Wilson's administration signed an operating license Thursday for a proposed low-level nuclear waste dump in Ward Valley, clearing away a major hurdle in the 10-year-old battle over the site. At the same time, Wilson announced plans to work with the Clinton administration and hold a public hearing on the Mojave Desert project in hopes of expediting federal approval of the plan. Environmental groups and some state lawmakers have opposed the project, saying it could harm the area's groundwater supply and wildlife. The state's Department of Health Services signed the operating license with US Ecology Inc., the company selected by the state in 1985 to run the site about 25 miles west of the Colorado River. Ron Low, the department's chief deputy director of operations, said the action expressed the administration's belief "that the design and location are not only safe and appropriate for management of low-level radioactive waste, but also represent the premier design and site in the country today." The signing completes more than 10 years of state efforts to create a dump for low-level waste from hundreds of hospitals, universities, government agencies and others authorized to use radioactive material. As of Jan. 1, two of the nation's existing dumps stopped accepting California's low-level radioactive material, prompting many agencies to temporarily store the waste on site. Wilson also agreed Thursday to U.S. Interior Secretary Bruce Babbitt's request for a public hearing on the proposed transfer of the 1,000-acre site from federal to state hands. One group opposing the project, the Committee to Bridge the Gap, denounced the license signing and said it could lead to serious environmental contamination. "Tens of thousands of people may die from leaking radioactive wastes from this ill-conceived project," said Daniel Hirsch, president of the committee. "We vow to continue to fight to prevent that from happening." Critics will still have a chance to block the project during the public hearing on the land transfer, which is expected to take place by year's end. The Wilson and Clinton administrations have pledged to listen to all scientific reports on the site and evaluate the merits of the evidence. Advancement of the site has also been stalled by a lawsuit filed in San Francisco that contends the dump would contaminate the habitat of the endangered desert tortoise. Low said the project has factored in the necessary mitigations for the endangered animal and predicted the lawsuit would be settled in the administration's favor. If the project is ultimately approved, it would accept radioactive waste from four states involved in the so-called Southwestern Compact -- California, Arizona, North Dakota and South Dakota. The site would operate for 30 years and then be monitored by government officials for another 100 years. Copyright 1993 The United Press International

BOXER CALLS FOR FAIR HEARING ON NUKE DUMP

UPwe 9/22/93 4:58 PM WASHINGTON (UPI) -- California Sen. Barbara Boxer urged Gov. Pete Wilson Wednesday to hold fair hearings on a proposed low-level nuclear waste dump in the Mojave Desert. Boxer wrote the governor to express her "serious concern" that the Wilson administration had issued an operating license for the proposed Ward Valley site before a required hearing on the project could be held. Last week, Wilson's health services agency issued a license to US Ecology to run the site, while the governor agreed to Interior Secretary Bruce Babbitt's call for a hearing on the dump sometime this fall. Babbitt must still approve a transfer of the land from

federal to state hands before the project can go forward. In her letter, Boxer said approval of the license before the public hearing could be held reaffirmed a perception that the hearing would not take a serious look at the public health and safety questions on the matter. Boxer urged the governor to hold "fair and meaningful hearings" on the project. Copyright 1993 The United Press International

EP DEBATES SAFETY PROBLEMS IN RUSSIAN NUCLEAR ...RT_{EC} 9/23/93 9:13 AM EP DEBATES SAFETY PROBLEMS IN RUSSIAN NUCLEAR POWER STATIONS EUROPEAN PARLIAMENT INFO MEMO PRESS RELEASE DOCUMENT DATE: SEPTEMBER 23,1993

+ COMMITTEE ON ENERGY, RESEARCH AND TECHNOLOGY Chairman : Mr. Claude DESAMA (B, PES) Meeting of 21 and 22 September 1993 (first part) + 1.NO SAFETY PROBLEMS IN RUSSIAN NUCLEAR POWER STATIONS, MINISTER SAYS There are no longer safety problems in the Russian nuclear power stations. On the contrary, "our nuclear power stations are as good as those in the EC and some of them are even better than some plants in the United States," Professor Victor MIJAILOV, Minister of Atomic Energy of the Russian Federation, told EP's Committee on Energy, Research and Technology yesterday. Mr. MIJAILOV assured Committee members that safety problems are under control and announced that the Russian Federation will build a large number of new nuclear plants in the near future. "For us, there is no future without nuclear energy," Minister MIJAILOV said. The Russian Minister, who had a open discussion with MEP's, said that he was not at all satisfied about nuclear cooperation between Russia and the EC. "In the past three years, the EC has sent many experts, but nothing has really happened. Precious time has been wasted." He also criticized the Group of 24. The Russian Federation will construct the nuclear power station of the 21st century."Russia will bring its enormous reserves of plutonium and uranium to the world market, Mr. MIJAILOV said. The Russian Federation spent 105 millions US dollars on safety projects. "We would have liked to spend 250 millions, but we run out of money. Yet, I have not come here to ask for money. I only ask for a realistic cooperation between us and the EC in the field of nuclear energy." But Mr. MIJAILOV warned MEP's that Russia will also seek cooperation with the US, Japan, China, Korea, India and around. "Cooperation with the US has started later, but has had much better results." But the US are not keen on letting Russian nuclear products in. Said Minister MIJAILOV: "Unfortunately, the world market has reacted harshly to our presence. Anti-dumping actions in the US have cost us 400 millions US dollars. Money, which we could have used for safety purposes." He continued with explaining very ambitious plans to sell nuclear material and was convinced that the Russian federation will be successful on the Japanese market very soon. The Russian Federation needs the returns from sales of nuclear material to finance the process of establishing the market economy, he added. Finally, the Minister once again stressed that better cooperation with the Community is his top priority. He wants the EP to play an important role in future. "But the Commission and Euratom really should change their attitude towards our nuclear policy. We were pleased to have received more than 1000 Western experts in our country, but now we feel that time has come for concrete results. And let one thing be sure: we have no other option than nuclear energy." Critical questions were posed by from Committee members. RRapporteur Mr. Michel HERVE (F, PES) said that, despite Russia being now a democratic state, its culture in the field of safety differs very much from that in the EC and US. Mr. Christian ROVSING (DK, EPP) asked if the Minister now could guarantee the safety of the first generation power stations. Mr. Rolf LINKOHR (D, PES) admitted that the cooperation between Russia and the EC so far has been very poor. Jessica LARIVE (LIB, NL) hoped that the Moscow Institut for Science and Technology would be open and fully operational soon. Hiltrud BREYER (D, Green) doubted very much if Russia could find the funding for the construction of new nuclear plants. "Is Russia going to be member of Euratom?," asked Annemarie GOEDMAKERS (NL, PES). And Carlos ROBLES PIQUER (E, EPP) was very worried about the disappearing of nuclear material from Russia, which might have gone to Iran. Paul LANNOYE (B, Green) was not at all sure that the Russian population was in favour of nuclear energy and Tullio REGGE (I, PES) told the Minister that there never would be enough money to finance Russia's nuclear industry. Madron SELIGMAN (UK, EPP) asked for figures on casualties in and around Chernobyl and Virginio BETTINI (I, Green) wanted information about russian radio-active metal scraps, found in Germany, Italy and France. Gordon ADAM (UK, PES) pleaded for a consortium of East and West. Companies on both sides should help the Commission by developing programs. Finally, German observer Karl HAGEMANN (D, EPP) asked if Russian technicians would be able to retrofit the closed plant in Greifswald. Minister MIJAILOV assured Committee members that his government would not allow Western nuclear dumping on its territory. "Russia is no dust belt and will not be one." 2. EUROPEAN SCIENCE SUMMIT The European Science Summit, organized by the Committee on Energy, Research and Technology, will be held in 14 and 15 October 1993 in the EP in Brussels (Espace Leopold). The objective of this meeting is to draw to the attention of leading politicians and industrialists the importance of science and technology in society and the ways in which they can help to meet the new chal-

nges which face Europe. EP President M. Egon KLEPSCH will officially open the Summit on Thursday 14 October at 15 p.m. His opening address will be followed by an address by prof. Antonio RUBERTI, Vice-President of the Commission and an introduction by Prof. Claude DESAMA (PSE, B), Chairman of the EP's Committee in Energy, Research and Development. A European Nobel Prize Winner will present the major themes of the Conference. These major themes are : Science, Technology and Sustainable development : towards a new industrial model and Science, Industry and Quality of Life (14 October 1993) and Science, Culture and Society and European Research in a World Context (15 October 1993). Conclusions of this Summit will be drawn on 15 October at 16 p.m. by Mr. Ralf LINKOHR (PSE, D), rapporteur on the Fourth Framework Programme for R&D. The President-in-Office of the Council, Mr Jean-Maurice DEHOUSSE, will hold the closing speech. For more information : Ton HUIJSSOON - phone 284.24.08 END OF DOCUMENT Copyright 1993 Reuters Information Services, Inc. All rights reserved.

SOUTH KOREAN PRESIDENT WARNS OF SANCTIONS AGAINST N...

UPn 9/25/93 12:55 AM South Korean president warns of sanctions against North Korea TOKYO (UPI) -- International sanctions against North Korea will be unavoidable if Pyongyang fails to clear up allegations of a suspected nuclear development program, South Korean President Kim Young Sam said in an interview published Saturday. "North Korea has enough nuclear material to make up to three bombs though its efforts so far have resulted in failure," Kim told the Mainichi Shimbun. "If the nuclear dispute remains unsettled, international sanctions" will most likely follow, the Japanese daily quoted Kim as saying in an interview in Seoul Friday. North Korea has barred inspectors from the International Atomic Energy Agency (IAEA) from two suspect sites. In Tokyo, South Korean Foreign Minister Han Sung Joo urged continued cooperation between Japan, South Korea and the United States in dealing with the alleged North Korean nuclear threat. Han, in Japan for a three-day official visit, voiced his concern during meetings Friday with Prime Minister Morihiro Hosokawa and Foreign Minister Tsutomu Hata, Foreign Ministry officials said. Han said no progress has been made in talks between North Korea and the IAEA, and talks between Pyongyang and Seoul on implementing a mutual inspection pact have not been held either. North Korea suspended its withdrawal from the Nuclear Non- Proliferation Treaty in June after declaring three months earlier it would pull out of the pact in rejecting international inspections of the suspected sites. The IAEA fears the two sites are nuclear waste facilities that could provide evidence of an alleged secret nuclear weapons development program. Pyongyang has maintained the sites are military facilities. The IAEA's Board of Governors decided Thursday to refer its calls for North Korea to accept inspections to the U.N. General Assembly meeting Monday. In talks with the United States in July, Pyongyang had agreed to reopen negotiations with the IAEA on allowing its inspectors access to the sites. Han was quoted as telling Hosokawa Seoul is making efforts to prevent the situation from deteriorating and wants to keep in close contact with Tokyo and Washington. Han and Hata agreed to support Washington's efforts aimed at persuading Pyongyang to accept the international checks. Hata informed Han there is no prospect so far of resuming Japan's negotiations with Pyongyang to normalize relations. Even if the talks do resume, Hata noted normalization of ties was unlikely unless the suspicions concerning North Korea's nuclear development are cleared up. With both Hata and Han scheduled to attend the General Assembly meeting in New York Monday, Hata brushed aside concerns that Japan's bid for permanent membership on the Security Council means it is planning to become a major military power, the officials said. Hata said Japan is seeking a permanent seat on an expanded council so it can more actively contribute to improving the efficiency of the United Nations. Copyright 1993 The United Press International

BRF--RUSSIA-CHERNOBYL PROTEST

APn 9/27/93 5:56 AM Copyright 1993 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) -- Forty-two rescue workers who were exposed to radiation during the 1986 Chernobyl nuclear disaster went on hunger strike today to protest their poor living conditions. The workers are at a veterans' hospital in the former Soviet republic of Kazakhstan. They claim Kazakhstan's parliament has failed to provide the disability benefits promised by laws that were passed before the Soviet collapse. The explosion and fire at the Chernobyl nuclear power plant in Ukraine was the worst nuclear accident in history. According to official Soviet figures, it killed 32 people. Ukrainian doctors now say, however, that hundreds or even thousands of people died from radiation-related illnesses, including cancer.

NUCLEAR FUEL SHIPMENT

APn 9/28/93 9:13 AM Copyright 1993 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 TED ANTHONY Associated Press Writer PHILADELPHIA (AP) -- A trainload of radioactive fuel moved slowly through downtown before dawn today, arriving safely at a suburban nuclear plant. Some city leaders had opposed the shipment, the first of more than 30 planned shipments, arguing it was too dangerous to risk moving nuclear fuel in urban areas. The fuel from New York's never-used Shoreham nuclear reactor arrived at Philadelphia Electric Co.'s Limerick nuclear plant early today after a 40-mile trip that reached a top speed of 30 mph, utility spokesman Bill Jones said. "The eagle has landed, safe and sound," Jones said. The train was accompanied by a state trooper, a health technician to monitor any radioactivity and a Conrail police supervisor. Jones said it would take two days to unload the mildly radioactive uranium oxide fuel. The fuel arrived in port early Monday morning by barge. The utility is getting roughly 200 tons of fuel free from New York's Shoreham plant, scheduled for 33 shipments. The utility withheld the train schedule to avoid any trackside demonstrations. No protesters were sighted during the trek to the plant about 26 miles northwest of downtown, Jones said. The Nuclear Regulatory Commission approved the route in June. But environmental groups and a handful of City Council members said it was too risky. "Three Mile Island was safe, they told us. Chernobyl was safe, they told us. They were wrong," said Councilman David Cohen, who attended a protest outside Mayor Ed Rendell's office Monday. They demanded public hearings before the next shipment is sent. "The radiation in this train isn't going to hurt anybody," Jones said. "The only way you're going to get hurt by this train is to get run over by it." The Shoreham plant was ordered closed in 1988 over concerns about evacuating the densely populated eastern Long Island in an emergency.

CONGRESSIONAL STUDY FINDS UTILITIES CLOSING NUCLEAR...

UPf 9/28/93 5:52 PM Congressional study finds utilities closing nuclear plants early WASHINGTON (UPI) -- A congressional study released Tuesday found economic factors have prompted utilities to consider shutting down aging nuclear-power plants rather than keeping them going. The report said that since 1989, the industry has shut down six reactors before the sites' 40-year licenses expired. The study added utilities will have to close down some three dozen plants in the next 20 years because of license expirations. But at the same time, the report found average operating costs have gone down, while safety performance remained good. Researchers said a variety of issues, including state and federal regulation, will affect utilities' decisions about when to close aging plants. The study also said federal policies on nuclear waste disposal and reactor regulation will have a major economic impact on the industry. "Whatever one's view about the future of nuclear power, the report makes clear that federal leadership is critical for the public's health and safety," said Sen. John Glenn, D-Ohio, chairman of the Senate Committee on Governmental Affairs. Copyright 1993 The United Press International

WARD VALLEY OPPONENTS EXPAND ANTI-NUCLEAR CAMPAIGN

UPwe 9/28/93 6:05 PM By JUSTIN ZIMMERMAN SACRAMENTO (UPI) -- Opponents of the proposed Ward Valley nuclear waste dump expanded their statewide billboard campaign Tuesday to rally public support against the controversial project. Americans for a Safe Future unveiled the latest billboard on a heavily traveled road in a dense business district of Sacramento. The animated billboard, titled "Mutated Love: A Ward Valley Production," shows two deformed lovers embracing near barrels of radioactive waste. The woman pictured has three breasts and her shirtless partner has a foot where his hand should be. Dana Gluckstein, the group's president, said the billboard's shock value was necessary to bring Ward Valley to the attention of an unknowing public. "We believe that the more people hear about (Ward Valley), the more outraged they will be," she said. The dump site would accept low-level radioactive waste from California, Arizona, North Dakota and South Dakota, including waste generated by hospitals and research facilities. Gluckstein accused the Wilson administration of exaggerating the site's importance to the biotechnology industry and refuted claims that biotech firms would flee the state without Ward Valley to accept their waste. Rather, most toxic waste in the site would come from nuclear power plants, Gluckstein said. "We've got to peel away the medical issue to look at the truth," she said. U.S. Interior Secretary Bruce Babbitt has ordered a public safety hearing before transferring the site from federal to state government hands, but Gov. Pete Wilson has already approved an operating license for the dump. US Ecology, the waste management firm licensed to run the site, denounced the ads as "further confirmation that these people get their information from comic books rather than science books," Steve Romano, vice president of the firm, said the ad "inflames public fear with misinformation and has little to do with the truth." After the billboard was unveiled, Wilson remained firm in his support for Ward Valley. The governor said toxic waste will continue to accumulate

with or without the site. Low-level nuclear waste has been stored on-site in many places since Jan. 1, when two of the nation's dumps stopped accepting California's waste. Radioactive waste has to be dumped somewhere "far removed from the public," Wilson said, and Ward Valley fits that bill. Opponents are concerned about the site's potential for contaminating the Colorado River, about 25 miles from the proposed dump in the Mojave Desert, and that taxpayers would pay millions of dollars for clean-up costs if accidents occur. In the event of such a worst-case scenario, Gluckstein said it would be "larger than the savings and loan disaster." "Wilson's decision to go ahead and license Ward Valley before the safety hearing is like shooting first and asking questions later," Gluckstein said. "It makes a mockery of due process of the law." The billboard has already been placed in Los Angeles, and the group plans to buy space for the commercial in San Diego, San Jose and the San Francisco East Bay. Copyright 1993 The United Press International

STUDY QUESTIONS FUTURE OF U.S. NUCLEAR PLANTS

UPma 9/29/93 7:01 AM WASHINGTON (UPI) -- A study finds economic factors have prompted utilities to consider shutting down aging nuclear power plants rather than keep them going. A Congressional study released Tuesday said six reactors have been shut down since 1989 in advance of their 40-year license expiration. But the study also found average operating costs have gone down and safety performance has been good. Decisions about aging plants would be affected by a variety of issues, including state and federal regulation. The report said some three dozen nuclear plants will have to retire in the next 20 years because of license expiration. Federal policies on nuclear waste disposal and reactor regulation would have a major economic impact on the industry as well. "Whatever one's view about the future of nuclear power, the report makes clear that federal leadership is critical for the public's health and safety," said Sen. John Glenn, D-Ohio, chairman of the Senate Committee on Governmental Affairs. Copyright 1993 The United Press International

SETBACK FOR OPPONENTS OF BRITISH NUCLEAR PLANT

RTw 9/29/93 1:37 PM LONDON, Sept 29 (Reuter) - Environmental group Greenpeace on Wednesday suffered a setback in its fight against a controversial new British nuclear plant when a judge refused to order a halt to testing there. Greenpeace had asked for uranium testing to be halted at the Sellafield nuclear waste reprocessing plant in northwest England until the government decided whether to allow the 2.8 billion pound (\$4.2 billion) site to open. But a High Court judge ruled authorities acted lawfully in approving the 10-week test programme at the plant belonging to state-owned British Nuclear Fuels. The government is expected to announce next month whether it will allow the facility to operate but has already said it is "minded" to give the go-ahead. The government gave approval in August for the early testing after British Nuclear Fuels said the move could save millions of pounds (dollars) if the plant won an operating licence. But Greenpeace argued that allowing the testing made a "mockery" of a public consultation process currently under way. The Thermal Oxide Reprocessing Plant (Thorp) was originally slated to open early this year to reprocess spent nuclear fuel from Britain and other countries including Japan and Germany. But environmental worries over the plant's deadly by-product of plutonium prompted the government to delay opening the plant pending further consultations. Thorp was designed to produce recycled uranium fuel for nuclear reactors but it also creates plutonium as a by-product for which there are few uses except to make nuclear weapons. Government ministers have said cancellation of the plant could cost Britain billions of dollars in compensation to countries whose waste nuclear fuel is already in Britain awaiting reprocessing. But Greenpeace says there is no environmental or economic justification for Thorp and is demanding a full public inquiry into whether the plant should open. REUTERCopyright 1993 Reuters Information Services, Inc. All rights reserved.

COMMISSION ADOPTS MANDATE FOR NUCLEAR SAFETY

...RTec 9/30/93 9:23 AM COMMISSION ADOPTS MANDATE FOR NUCLEAR SAFETY CONVENTION
EUROPEAN COMMISSION PRESS RELEASE: IP/93/822 DOCUMENT DATE: SEPTEMBER 30, 1993 +
COMMISSION ADOPTS A COMMUNICATION TO THE COUNCIL CONCERNING A MANDATE OF
NEGOTIATION IN VIEW OF ESTABLISHING AN INTERNATIONAL NUCLEAR SAFETY CONVENTION
+ In view of the clear responsibilities that the Euratom Treaty gives to the Community, especially for radiation protection and nuclear safety, the Commission approved on 27 September 1993 a Communication to the Council proposing the adoption of directives for the negotiation of an international convention on nuclear safety presently discussed within the International Energy Agency. Preparatory work in view of establishing this international

convention on nuclear safety is presently in progress within the International Atomic Energy Agency (IAEA), the specialised United Nations body. A number of meetings of experts have taken place in which Member States and the Commission have been represented. These meetings have achieved a substantial measure of agreement on the content and form of a draft convention which aims at establishing a high level of nuclear safety worldwide. It is expected that a diplomatic conference to negotiate the convention will be convened early in 1994. Mr Paleokrassas, Member of the Commission responsible for nuclear safety said: "We, all Community citizens will benefit from a high level of nuclear safety throughout the world and especially in our neighbouring countries. The mechanisms set up by the convention will also prevent any dangerous complacency which may develop in the Community itself". END OF DOCUMENT Copyright 1993 Reuters Information Services, Inc. All rights reserved.

CONGRESS-SPENDING

APn 10/1/93 9:58 AM Copyright 1993 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 ALAN FRAM Associated Press Writer WASHINGTON (AP) -- Lawmakers scrambling through spending bills for the new federal budget year are opening government coffers to a Texas atom smasher and the former Soviet republics. Just hours before today's start of fiscal year 1994, the Senate voted Thursday to give President Clinton all \$640 million he requested for the year's work on the superconducting super collider. The multibillion-dollar research instrument is under construction outside Dallas. Deficit-conscious opponents tried to kill the collider, but its defenders prevailed on a 57-42 roll call. Senators will now begin seeking compromise with members of the House, which voted to kill the program in June. "I have every confidence the House will accede to the Senate wishes," said a hopeful Sen. Kay Bailey Hutchison, R-Texas. In other actions Thursday: --Clinton signed a stopgap spending measure that will keep the government functioning into the new fiscal year even though only two of the 13 normal appropriations bills have been enacted. --The president also signed a \$13 billion foreign aid bill containing \$2.5 billion for Russia and other former Soviet republics. The Senate had given it final congressional approval, 87-11, just hours earlier. --The House approved \$71 billion for agriculture programs in a compromise that eliminates subsidy payments in 1994 for honey, wool and mohair. But in a last-minute change, lawmakers allowed payments to be made for wool and mohair produced in this calendar year, a concession that will cost \$190 million. The Senate must act before the bill can go to Clinton. --The House voted 325-102 for a \$240 billion defense bill that buys everything from ballistic missiles to bullets for Boy Scouts. Along with its usual collection of weapons systems, the measure contained \$2 million for a Spanish-American War-era program that dispenses ammunition and weapons to firearms competitions. An effort by liberals to kill the program failed, 242-190. The money for the super collider was included in a measure financing the government's energy and water programs. The overall \$22 billion bill was approved, 89-10. The House and Senate will now have to write a compromise version before sending it to the White House. In the same bill, the Senate voted, 53-45, to preserve more than \$30 million for work on the advanced liquid metal reactor. That contradicts an earlier House vote to kill it. Supporters say the reactor, designed to burn plutonium, could be the long-sought answer to the problem of nuclear waste disposal. But opponents said the reactor could be easily converted into a breeder that would create plutonium, and might thus lead to a proliferation of nuclear arms. The super collider, an underground ring 54 miles around, is 20 percent completed, but will probably cost \$11 billion or more to finish. Its supporters say that it will create thousands of jobs and perhaps help scientists discover where matter comes from. "This nation is on the verge of ... finding out about the origins of mass, about why things have weight, about how it all fits together, about what the basic pattern of this universe is, about how we are put together, where the universe is going from here," said Sen. Bennett Johnston, D-La. But a leading opponent, Sen. Dale Bumpers, D-Ark., said the research should wait until the government can afford it. Matter, Bumpers said, "ain't going away."

U.S. SIGNS ENERGY COOPERATION DEAL WITH RUSSIA

RTw 10/1/93 12:25 PM MOSCOW, Oct 1 (Reuter) - U.S. Energy Secretary Hazel O'Leary and Russian Fuel and Energy Minister Yuri Shafranik signed an agreement on Friday calling for cooperation in improving energy efficiency. After two days of talks with senior Russian government officials, O'Leary told a news conference the memorandum of cooperation would lead, among other things, to better lighting on Moscow's congested streets. "This agreement clearly strengthens the new era of cooperative relations between the U.S. and Russia...(It) will help open the Russian market to investment and energy-efficient U.S. technologies," she said. Under the accord, the United States and Russia will exchange information, technology and research in areas related to energy efficiency

and alternative sources of energy. O'Leary also discussed nuclear safety on Thursday at talks with Russian Prime Minister Viktor Chernomyrdin. REUTERCOPYRIGHT 1993 Reuters Information Services, Inc. All rights reserved.

BULGARIA CLAIMS NEW BEER CAN CLEANSE BODY OF RADIOA...

UPn 10/1/93 1:18 PM Bulgaria claims new beer can cleanse body of radioactive contamination SOFIA (UPI) -- One of Bulgaria's largest breweries is beginning production of a special beer that government officials claim could help against radioactive contamination. News reports published Friday claimed that the beer -- called Lulin Special Light Lager -- helps rid the body of strontium, which was part of the radioactive fallout from the 1986 Chernobyl nuclear accident. The particles enter the body through the air and food and are deposited in bones. Newspapers in Sofia carried pictures of members of the Defense Ministry's Civil Defense Department savoring the beer. In Washington, a U.S. Food and Drug Administration expert on radioactive contamination was somewhat skeptical that a beer -- or anything else -- could easily eliminate strontium accumulated in human bodies. "It certainly sounds far-fetched to me," said George Pauli, an FDA scientist who was involved in monitoring the aftermath of the Chernobyl disaster. "I'd like to see a heck of a lot of data before I'd believe that." Lt. Col. Valentin Angelov, scientific secretary of the Bulgaria Defense Ministry's Scientific Development Council, told United Press International that work on the project started two years ago. "After the Chernobyl incident, we began intensive work on foodstuffs and beverages which could help the human body fight radioactive contamination," Angelov said. The beer's "special effect" is said to be due to an ingredient called Kanta-tonic, which contains some 40 herbs and was developed jointly by the country's Academy of Sciences and the Central Laboratory on Radiobiology and Toxicology at the Military Medical Academy. It is said to dissolve the strontium particles. Pauli said removing accumulated strontium would require dissolving part of the bone and flushing it from the system. The bone tissue would require immediate replacement, he said. On April 26, 1986, the nuclear power plant in Chernobyl, 80 miles (128 km) north of Kiev, Ukraine, was damaged. Radioactive contamination spread across eastern and northern Europe. Copyright 1993 The United Press International

EXPERTS WORRIED ABOUT THREATS TO TIBET ENVIRONMENT

RTw 10/1/93 1:35 PM PARIS, Oct 1 (Reuter) - An international conference on Tibet voiced concern on Friday that deforestation and suspected dumping of Chinese nuclear waste posed serious threats to the environment of the Himalayan region. Participants in the first such meeting on Tibet's environment cited a report saying China was suspected of dumping radioactive waste near its "Ninth Academy" secret nuclear centre. The report by the Washington-based International Campaign for Tibet (ICT) said the "Ninth Academy," in northeast Tibet, was China's main nuclear weapons centre in the 1970s and was believed to still be a research centre. The organisers, Environmental Concern over Tibet (ECO-Tibet), said they had no evidence of radioactive dumping, but they had credible reports of new, unknown illnesses and deaths among nomads near the plant, as well as reports of underground facilities being dug in zones off limits to civilians. China took over Tibet in 1950 and rules it with a heavy military presence. Non-Chinese need a permit to enter Tibet and some areas are sealed off to civilians. There were also reports that nomads had fallen ill or died near uranium mines and areas where river water was believed to be contaminated. But ICT Director John Ackerly said samples of water smuggled out of Tibet showed no trace of contamination. Ackerly told the conference Chinese nuclear missiles in Tibet posed a serious threat to world stability. Tibet is the world's only region where four nuclear or potentially nuclear powers -- China, India, Pakistan and former Soviet republics -- border each other. Travellers returning from Tibet told of convoys of timber trucks and floating logs as evidence of widespread deforestation that could alter crucial weather patterns. Eco-Tibet said Tibet's forests had been cut in half since 1949. Weather expert Elmar Reiter said Tibet held the key to the Asian summer monsoon on which tens of millions of people depend for their livelihood. Deforestation, by increasing the sun reflection factor, could delay the spring warming of the Tibetan plateau, in turn delaying and shortening the monsoon. There were also unclear correlations between Tibet and climate anomalies as far away as the Atlantic Ocean. Eco-Tibet voiced concern about wildlife in Tibet, citing evidence China was offering tourists hunting trips to shoot wild yaks, wapitis, argalis, gazelles, foxes and rare deer. China pours millions of dollars a year into Tibet and is developing tourism as one way to recoup some of that money. It said this week that the number of foreign tourists visiting the region increased 25 percent to 15,000 in the first eight months of this year, bringing more than \$5 million. By the end of 1992, the region had 23 tourist hotels and 44 mountain peaks opened for climbing. REUTERCOPYRIGHT 1993 Reuters Information Services, Inc. All rights reserved.

HANFORD CLEANUP

APn 10/2/93 5:08 AM Copyright 1993 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 NICHOLAS K. GERANIOS Associated Press Writer RICHLAND, Wash. (AP) -- Cleanup efforts at the nation's most polluted nuclear site will shift from the most dangerous radioactive wastes to the most common under an agreement between the state and federal governments. The new deal allows the U.S. Department of Energy to delay construction of a \$1 billion plant on the Hanford nuclear reservation that will turn liquid radioactive wastes into glass, officials said. Those so-called low-level wastes account for 90 percent of the volume at Hanford, which for decades made plutonium for nuclear weapons. In return, the amended pact speeds the removal of radioactive groundwater and other wastes that threaten the Columbia River, the Energy Department said Friday. The agency also will move to release by October 1994 for other uses 46 percent of the 560-square mile Hanford site that is uncontaminated. Those uses were not defined. The agreement also extends the cleanup deadline from 30 to 40 years, ensuring a stream of high-paying government jobs for the region. In 1989, the state and federal governments agreed on a 30-year deadline for cleaning up Hanford. Costs were estimated at \$57 billion. But they quickly ran into technical and money problems, and the DOE sought to amend the agreement. The state, DOE and the U.S. Environmental Protection Agency had a self-imposed deadline of midnight Thursday in the 6-month renegotiations. John Wagoner, manager of the site for DOE, said the new pact "establishes more realistic strategies for Hanford cleanup projects." Assistant Energy Secretary Tom Grumbly said the new agreement has more chance of succeeding because technical issues are more thoroughly understood. He said the department would pursue renegotiations with many of the 19 states where it now has cleanup agreements. Among the agreement changes: --The Energy Department will begin constructing a glassification -- or vitrification -- plant by 1997 to handle low-level liquid wastes. It is to be finished by 2005. --A separate vitrification plant for the most-radioactive wastes, which was to begin construction this year and be built by 1999, will be pushed back 10 years. Those wastes are stored in underground tanks, many of which have leaks or are threats to explode. The Energy Department was concerned that the plant design was inadequate. --The contents of all nuclear waste storage tanks will be known by 1999. --A facility to separate low-level from high-level wastes will be built by 2004. The previous plan to mix low-level wastes with a grout to make a cementlike block for burial was rejected. The project had been criticized because of fears the blocks would decompose and the waste would leak. The department has spent \$200 million on the grout project since the 1980s.

ENERGY DEPARTMENT CONSIDERING NEW NUKE WASTE DUMP S...

UPne 10/2/93 2:19 PM Energy Department considering new nuke waste dump sites. ALBANY, N.Y. (UPI) -- Nuclear waste may stay upstate instead of being shipped to a government facility in Idaho, a report said Saturday. The Kesselring site of the Knolls Atomic Power Laboratory in West Milton, N.Y. has been identified as one of the sites being considered to receive, store and process its own nuclear waste. Kesselring's waste, primarily spent nuclear fuel from testing and research on nuclear propulsion systems, was shipped to Idaho's National Engineering Laboratory operated by the U.S. Department of Energy. The Albany Times Union reported that, as a result of a court order, the Energy Department was now considering alternative sites, including Kesselring, as a new storage and processing center for waste from other naval facilities. A federal court this summer ordered an indefinite moratorium on shipments to Idaho until the Energy Department completed an environmental impact statement on that site. Martin Marietta Corp., which last year bought General Electric's plant in Schenectady, N.Y., as well as its entire aerospace division, runs the West Milton facility for the Energy Department. Amber Jones, a spokeswoman for the Energy Department in Washington, D.C., told the Times Union, "The Environmental Impact Statement (on the Idaho site), by law, has to consider all reasonable alternatives" to Idaho. Also being considered for the nuclear waste were the Norfolk Naval Shipyard in Portsmouth, Va., Puget Sound Naval Shipyard in Bremerton, Wash., Portsmouth Naval Shipyard in Kittery, Me., and Pearl Harbor Naval Shipyard in Honolulu. A decision was likely in the summer of 1995, Jones said. Copyright 1993 The United Press International

RESETTING" THE BODY CLOCK SEEN PREVENTING

...RTw 10/4/93 9:13 PM RESETTNG" THE BODY CLOCK SEEN PREVENTING ACCIDENTS, JETLAG
By Cynthia Johnson, Technology Correspondent LONDON, Oct 5 (Reuter) - Preventing jet lag and industrial accidents caused by drowsy night workers are just two uses of a powerful hormone that can "reset" the body's biological clock, researchers say. The financial savings on industrial accidents alone could be significant. The nuclear accidents at Three Mile Island in the United States, Chernobyl in the Ukraine and the chemical leak at

Bhopal, India, all occurred at night when human error is more likely, said researchers at a recent London conference. The hormone is melatonin, produced by the pineal gland at the base of the brain, a gland named for its resemblance to a pine cone. Melatonin output is highest in darkness and sunlight suppresses its flow. "In some respects melatonin represents darkness, because it's made at night," said Josephine Arendt, professor of endocrinology at the University of Surrey in Guildford, England. "In humans it has a property in shifting the so-called body clock, which is an internally-generated, roughly 24-hour rhythm. It will advance or delay the cycle -- shift it "eastward" or "westward" if you like, in the case of time-zone travellers." Arendt has tested melatonin in long-term trials to treat jet lag on more than 400 people and in small studies on shift workers. In the larger study those taking the hormone were able to halve their jet lag, with very few side effects such as headaches or sleepiness. The shift workers slept better during the day and were more alert at work. Arendt and others say the other promising treatment for shift workers is "bright light," which was first used as a therapy for certain psychiatric illnesses, such as winter depression. It is now used in workplaces in the United States and essentially consists of increasing workplace illumination in the early-morning hours. Researchers say melatonin and bright light are complimentary treatments but the correct timing of the therapies is essential. "All of the disorders that have responded to the phase-shifting effects of appropriately timed exposure to bright light should also respond to appropriately timed melatonin administration," said Al Lewy, a professor of psychiatry at the Oregon Health Sciences University, Portland. Says Arendt: "Think of melatonin as darkness. You know that if you turn the lights out earlier in the evening you will go to sleep earlier. If you take melatonin in the late afternoon or early evening, this has a similar effect. "If you leave the lights off or put blinds on your bedroom until late in the morning then you will sleep later and get up later. Taking melatonin in the morning will induce this effect. "Bright light works in the opposite way, so if you use it at the opposite end of the cycle you reinforce the effect." Researchers at Brown University in Providence, Rhode Island, have found teenagers' tendency to stay up late and sleep late also may be due to the melatonin cycle and linked to puberty. If true, this may have implications for the timing of the school day, says study director Mary Carskadon. A number of pharmaceutical companies are developing chemical compounds that mimic melatonin but which, unlike the natural substance, can be patented. Massachusetts-based Interneuron Pharmaceuticals, for example, is working on a sleeping pill that will include melatonin with an altered structure. Slow-release compounds are being researched but it may be several years before any are commercially available as their long-term effects are still being studied. REUTER REUTERCopyright 1993 Reuters Information Services, Inc. All rights reserved.

EC COMMISSIONER WANTS INCREASED RESEARCH SPENDING

RTw 10/6/93 10:31 AM BRUSSELS, Oct 6 (Reuters) - The European Community and its member countries must step up their research spending to boost economic growth and industrial competitiveness, EC Research Commissioner Antonio Ruberti said on Tuesday. "People keep saying that the development of research, the development of vocational training are fundamental to help Europe move out of recession and crisis," Ruberti said at a news conference. "At the same time, when it comes to earmarking resources... all sorts of difficulties arise," he said. Ruberti said the EC should try to match Japan and the United States, who spend three percent of their gross domestic product on research. EC countries on average spend only two percent, he said. Ruberti's pitch comes just days before EC research ministers are set to discuss the Commission's proposal to spend 13.1 billion European currency units (\$15.2 billion) on research projects over five years. The ministers, who will meet on Monday in Luxembourg, will try to fix an overall figure for the so-called 1994-98 Fourth Framework Programme and a breakdown between different research categories. But they have to negotiate the final decision with the European Parliament, which traditionally pushes for higher spending than the ministers want. Ruberti said the European Commission adopted a working document on Wednesday setting out the scientific content of projects it has proposed in areas ranging from biotechnology to nuclear safety. Companies which participate in the projects generally provide 50 percent of the funding. The Commission's proposal would give communications and information technologies by far the biggest chunk of money -- 3.9 billion Ecus (\$4.5 billion). Ministers must adopt all of the specific projects individually after they have adopted the overall framework programme. REUTERCopyright 1993 Reuters Information Services, Inc. All rights reserved.

RUBERTI CALLS FOR INCREASED RESEARCH SPENDING

RTec 10/6/93 12:32 PM BRUSSELS, Oct 6 (Reuters) - The European Community and its member countries must step up their research spending to boost economic growth and industrial competitiveness, EC Research Commissioner Antonio Ruberti said on Wednesday. "People keep saying that the development of research, the development of vocational training are fundamental to help Europe move out of recession and crisis," Ruberti said at

a news conference. "At the same time, when it comes to earmarking resources...all sorts of difficulties arise," he said. Ruberti said the EC should try to match Japan and the United States, who spend three percent of their gross domestic product on research. EC countries on average spend only two percent, he said. Ruberti's pitch comes just days before EC research ministers are set to discuss the Commission's proposal to spend 13.1 billion European Ecus on research projects over five years. The ministers, who will meet on Monday in Luxembourg, will try to fix an overall figure for the 1994-98 Fourth Framework Programme and a breakdown between different research categories. But they have to negotiate the final decision with the European Parliament, which traditionally pushes for higher spending than the ministers want. Ruberti said the European Commission adopted a working document on Wednesday setting out the scientific content of projects it has proposed in areas ranging from biotechnology to nuclear safety. Companies who participate in the projects generally provide 50 percent of the funding. The Commission's proposal would give communications and information technologies by far the biggest chunk of money -- 3.9 billion Ecus. Ministers must adopt all of the specific projects individually after they have adopted the overall framework programme. Ruberti said the working document was an attempt to accelerate that process. He said its budget figures did not deviate from the formal proposal for the framework programme which was adopted in June. The Commission would take the parliament and Council's views into account, however, when preparing the formal proposals for the specific programmes, he said. The working document outlines the following elements of the Commission's proposal, according to statement P(93) 45: -- Better coordination between EC and national research efforts, for example creation of a network to coordinate research on global climate change. -- Concentration within each field on a smaller number of problems and "generic technologies" with multi-sectoral impact. Projects in information and communications technologies, for example, would emphasise new information infrastructure and improving access to services and technologies. The life sciences programme would focus on biotechnologies and the health programme on AIDS and cancer. -- Support for other EC policies. The Joint Research Centre would play an important role, concentrating on issues such as the environment, agriculture and technology assessment. Research projects are proposed for transport, education and training and social exclusion. -- Reinforcement of training and mobility of scientific researchers. The new programme would help train 5,000 researchers a year, create a network of 1,500 laboratories and assure researchers access to large facilities. -- Increased participation of small and medium-sized enterprises within different projects. The CRAFT cooperative research system, which supports work performed by research centres for groups of SMEs without research capacity, would be reinforced and expanded. -- Grouping cooperation with third countries and international organisations for the first time into a single programme, with a strong accent on cooperation with Eastern Europe and the former Soviet Union. REUTERCopyright 1993 Reuters Information Services, Inc. All rights reserved.

FINLAND FEARS RADIATION RISK FROM RUSSIAN SUBS

- ...RTw 10/7/93 7:26 AM FINLAND FEARS RADIATION RISK FROM RUSSIAN SUBS - NEWSPAPER HELSINKI, Oct 7 (Reuter) - Finland fears nearby Russian nuclear plants and submarines could be a radiation risk due to their poor condition, a newspaper wrote on Thursday citing a confidential government report. Iltalehti said the report listed a possible risk from 110 Russian nuclear submarines and eight nuclear icebreakers operating from the Kola peninsula around Murmansk, and some 100 nuclear submarines scheduled for dismantling. "Finland is concerned about the condition of the submarines and fears mishaps in connection with their dismantling," the paper wrote. The report, a copy of which was obtained by the paper, also listed nuclear power plants on the Kola and near St Petersburg, as well as dumped and stockpiled nuclear waste and ammunition. Finland's 1,300-km (800-mile) border with Russia runs from close to St Petersburg in the south to an area near the Kola in the north, with its huge naval bases in and around Murmansk. REUTERCopyright 1993 Reuters Information Services, Inc. All rights reserved.

BLEAK BLACK SEA

APn 10/10/93 11:00 PMCopyright 1993 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 VIOREL URMA Associated Press Writer CONSTANTIA, Romania (AP) -- The bathing beaches are still there. But fish stocks are dwindling, chemical pollution is spreading and the Black Sea is losing its sun and water worshippers. All along its 2,500-mile coastline, fishing boats sit in port, idled by the sharp drop in numbers of caviar-laden sturgeon, anchovy, sprat and mackerel. The ancient link between Europe and Asia is suffering dramatic changes and biologists warn it could become an ecological graveyard by early next century. They worry about the growing

tide of human, farm and industrial effluent pouring in from the six Black Sea countries -- Turkey, Romania, Bulgaria, Ukraine, Russia and Georgia -- that use the almost landlocked sea as a dump and sewer. "Ecologically, the Black Sea is in an extremely critical situation. It could become dead in 10 or 15 years if nothing is done to rescue it," said Simion Nicolaev, director of the Romanian Marine Research Institute in Constanta. The situation led to the signing last year of a plan for protecting the sea with a cooperative effort that will include environmental scientists from the former Soviet Union, Bulgaria, Romania, Turkey and the United States. The World Bank has promised assistance beginning with 1994. Dozens of rivers and streams deliver waste from a catchment area of 162 million people in 11 countries, spanning much of Europe. Among the biggest and most polluted are the Dnieper, the Dniester and the Bug flowing through Ukraine, and the Danube, acting like a huge trade artery for the Balkan countries. They carry tons of toxic materials -- hydrocarbons, organic matter, detergents, pesticides, heavy metals. Ukraine's deputy minister of environmental protection, Yaroslav Movchan, said another problem is radioactive fallout from the 1986 nuclear accident at Chernobyl, which gets into the sea through the waters of the Dnieper River after rains in the contaminated area. "Combined loss from fishing and tourism totals \$650 million yearly for the entire Black Sea basin," Nicolaev said. "Failing to stop ecological decay will cost us \$1 billion in the long run." For bathing lovers all this is bad news. Swimming at Istanbul beaches in Turkey has been declared a health hazard, because of dangerous concentrations of coliform bacteria from human and animal waste coming from untreated sewage emptying into the sea. Beaches near Odessa, Ukraine, have been closed in recent summers because of toxicity and the smelly froth of algae. In Mamaia, one of Romania's top resorts just north of this port, the winds carry the noxious smell from the Midia-Navodari petrochemical complex whose tall chimneys can be seen in the distance belching black smoke. Nearly a dozen hotels stayed closed this summer because of fewer tourists. The fall of communism permitted specialists from the region to meet and debate the Black Sea's problems freely for the first time at a conference in Varna, Bulgaria, in 1991. "Information regarding pollution was never transmitted before the Soviet breakup. Moscow considered it a secret. Now there's a desire to talk openly," Nicolaev said. "Nothing can be done without regional cooperation and coordination." Fishermen have been hit hardest, as a combination of overfishing -- especially by the Soviet Union -- in the 1980s and increasing levels of pollution led to a dramatic reduction in fish stocks. The overall Black Sea catch dropped from 900,000 tons in 1987 to 100,000 tons in 1991 -- a loss of \$240 million for fishermen, Nicolaev said. Dolphins and sturgeon are almost gone as are oysters. Seals have disappeared altogether. Chemical wastes also have caused the near extinction of once-abundant turbot. Turkish fishermen complain that they now catch only small fry and that they are unable to pay for their boats. In addition, vast areas of seagrass meadows have been lost and marine organisms that inhabit the sea floor have nearly disappeared over broad tracts. There has been an explosion of algae blooms, which rob marine life of oxygen, and a rapid influx of jellyfish. Complicating the situation is the Black Sea's unusual geographic configuration, having only a narrow outlet -- the Bosphorous strait. That results in a lack of currents that stir up deep layers of water, allowing the absorption of oxygen from the atmosphere. It is the largest oxygen-short body of water in the world, said Vladimir Mamayev, a Russian researcher with the Woods Hole Oceanographic Institution in Massachusetts, which organized the 1991 Varna meeting. Marine life has been largely confined to the sea's top 300 feet -- even without the ill effects of modern pollution. "The Black Sea is more degraded than the Baltic Sea, where currents offer a better ventilation, or the North Sea, which is a more open sea," Nicolaev said. "Generally speaking, its problems are bleaker." End Adv for Mon AMs, Oct. 11

BOXER QUESTIONS SAFETY OF NUCLEAR WASTE SITE

UPwe 10/11/93 3:55 PM LOS ANGELES (UPI) -- Sen. Barbara Boxer accused Gov. Pete Wilson and Interior Secretary Bruce Babbitt Monday of covering up new information about the safety of a proposed low-level nuclear waste dump in the Mojave Desert. Citing independent studies by the U.S. Geological Survey and Southern California Metropolitan Water District, Boxer said there is "an alarming" possibility of groundwater contamination at the Ward Valley site. "I believe that the state of California and the U.S. Interior Department have covered up this information in an effort to move this project forward," Boxer said. The proposed 1,000-acre site would hold low-level waste from hospitals, laboratories and nuclear power plants in California, Arizona, North and South Dakota under the terms of a regional compact already approved by federal law. The senator said Wilson and Babbitt have ignored questions raised by the independent studies and are trying to push through the transfer of federal lands in Ward Valley to US Ecology, the company licensed to run the proposed dump. Public hearings on the land transfer are expected to be held sometime this fall. Last month, the Interior Department gave final approval to an environmental impact study which Boxer claims was written without objectivity by the Wilson administration and US Ecology. Boxer also questioned the state's decision to license US Ecology to operate the radioactive waste site before any public hearings were held on the project. US Ecology's operations in four other states have been

marred by litigation, with several now listed as federal Superfund toxic waste cleanup sites, Boxer said. The senator distributed copies of the state Department of Health Services' negative review of US Ecology's initial 1984 application to run the Ward Valley site to support her claims. Also appearing with Boxer at Monday's news conference was MWD board member Del Scott, who said the nearby Colorado River could be contaminated. The river provides water for Southern California, Arizona and Mexico. "The actions of the governor in licensing US Ecology and of Secretary Babbitt ...in advance of the forthcoming evidentiary hearing on these unresolved issues, suggest that the (land transfer) hearing will be a sham proceeding," Scott said. "There are big, big bucks involved here," he added. Copyright 1993 The United Press International

RADIATION OUT OF CONTROL IN FORMER SOVIET--U.N. REPORT

RTw 10/15/93 7:06 AM By Lars Foyen COPENHAGEN, Oct 15 (Reuter) - Radioactive contamination is out of control in the former Soviet Union and some nuclear waste is being dumped into rivers, according to two global agencies in a disturbing report just released. "It's a frightening situation. Nuclear waste deposits are mostly full already, so liquid waste is simply put into rivers," Reinhart Helmke, a director of the United Nations Development Programme (UNDP), told Reuters in an interview. UNDP and the International Atomic Energy Agency (IAEA) based the 144-page report on a forum in Vienna in May where officials of Commonwealth of Independent States (CIS) countries for the first time revealed the magnitude of the problems. Helmke said the collapse of the Soviet Union, economic hardship and chaotic attempts to shift to a market economy were aggravating an already-serious situation. "Only Russia and the Ukraine have regulatory bodies for radiation protection. And it is very difficult to control nuclear sources and the waste from them in a situation where they suddenly gain a market value," he said. Helmke said a number of scary facts and theories emerged during the Vienna meeting. --Highly radioactive material was by coincidence found in the vault of a Lithuanian bank. It was deposited without any safety measures as collateral for a private loan. --Virtually no liquid atomic waste has in the past 18 months reached the official deposit sites in the Ukraine and the situation is similar in the Baltic states. --Early radiation readings in the Caspian Sea indicate radioactivity levels 100 times above normal, probably a result of dumped nuclear waste emanating from Siberian rivers. The Baltic and the Baring Sea are other possible flashpoints. --Small nuclear-driven devices are abundant in factories, hospitals, in agricultural machinery and even in lighthouses in the former Soviet Union. Such civilian nuclear devices may be 10 times as common as in the West. The Ukraine alone is estimated to have more than 100,000 nuclear sources in action. "The Soviet Union was a nuclear power. Anybody who wanted a nuclear source could have it," Helmke said. --There are more than 50 Chernobyl-type nuclear power plants in the CIS and hundreds of spent fuel rods need to be exchanged. But outside of Russia there is no available safe place to deposit them. --Estonia has stored high-grade nuclear waste in marine terrace deposits covering more than 33 hectares (82 acres) on its Gulf of Finland coastline. These deposits are not considered safe by Western standards. --Security doubts linger over military installations, which are classified and thus not covered by the report. Georgia, close to Iran and Iraq, for example cannot guarantee it is not used as a transit country for the smuggling of radioactive material and even nuclear weapons, Helmke said. The UNDP was now launching a \$50 million programme to examine the problems, create regulatory agencies in each former Soviet republic and raise public awareness about the dangers of radiation. "We are close to a situation where human lives are at risk even outside the CIS. If the move to democracy and market economy fails, we would be facing a huge global problem," Helmke said. REUTERCopyright 1993 Reuters Information Services, Inc. All rights reserved.

COMMISSION PUBLISHES DETAILS OF RESEARCH PROGRAMMES

RTec 10/15/93 8:30 AM EUROPEAN DOCUMENT RESEARCH - October 14, 1993 + Detailed descriptions of EC scientific and technological programmes have been issued in a new "working document" published by the Commission. The 246-page document describes Community programmes on information technology, telecommunications, telematics, industrial technologies, environment, clean and efficient energy technologies, nuclear safety, fusion, transport, and more. Ref: COM(93)459 final; October 14; 246 pages EDR 47 This document is available immediately from European Document Research. 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 1993 Reuters Information Services, Inc. All rights reserved.

RUSSIA GIVES UP TRYING TO RAISE SUNKEN NUCLEAR SUB

RTw 10/16/93 9:36 AM By Timothy Heritage MOSCOW, Oct 16 (Reuter) - Russia has scrapped plans to raise a nuclear submarine which sank off Norway in 1989, an official said in an interview published on Saturday highlighting the problems of radioactive waste at sea. Tengiz Borisov, head of a government committee on special underwater work, confirmed to the Rossiiskaya Gazeta newspaper that the submarine Komsomolets and its two nuclear-armed torpedos would be sealed in a special tomb to limit pollution leaks. "We can now say without doubt that there is no point in raising the Komsomolets and it would be dangerous to do so," Borisov said in the interview. "Specialists have come to the conclusion that the body of the Komsomolets should be buried in a unique tomb," he said, adding that the committee's findings had the support of the defence ministry and top scientific bodies. The Komsomolets sank in the Norwegian Sea off northern Norway in April 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. Borisov has previously said the submarine could leak enough radioactive substances to contaminate the Norwegian Sea for 700 years but some Norwegian officials have said the danger of Russian nuclear waste in other waters is far greater. In London, the environmental group Greenpeace said a Russian tanker was on its way on Saturday to dump another shipload of radioactive waste in the Sea of Japan. Greenpeace has said the Russian Ministry of Ecology has given the navy a permit to continue radioactive waste dumping at sea, despite a moratorium on this by the international London Convention in 1983. The former ruling Communist Party's politburo initially said the Komsomolets should be raised to the surface because of contamination fears and 360 proposed salvage projects were received. "But practically none of these suggestions could be carried out," Borisov said. An attempt to raise just an escape capsule from the Komsomolets failed when the winch's line snapped under the pressure of a big wave. The capsule contains the remains of three of the submarine's officers. Borisov said earlier this year he favoured burying the submarine in a tomb made from a special substance to prevent contamination and that the work should be done next year. He told Rossiiskaya Gazeta eight substances had been proposed to seal the submarine but did not identify them. "It can definitely be said now that there is a danger of polluting the sea," he said. "Repeated examination of the Komsomolets has shown the submarine is leaking, it is letting caesium and strontium out into the sea -- in small quantities, it is true." He said the torpedo equipment was showing signs of corrosion and the casing preventing plutonium escaping was gradually being worn away, a factor which could have serious consequences in two to three years. "Plutonium dissolves easily in sea water so the harmful substance can enter the human organism through the food chain -- plankton, fish and other sea products," Borisov said. He said the submarine's reactor itself did not pose any immediate danger and could safely remain in its current state for several hundred years. REUTERCOPYRIGHT 1993 REUTERS INFORMATION SERVICES, INC. ALL RIGHTS RESERVED.

CHRISTOPHER HEADING FOR E. EUROPE, RUSSIA

RTw 10/19/93 2:49 PM (Eds: Recasts with senior official's comment) By Deborah Zabarenko WASHINGTON, Oct 19 (Reuter) - Secretary of State Warren Christopher heads for Eastern Europe and the former Soviet Union Wednesday, playing to U.S. diplomatic strength amid persistent questions over Haiti, Somalia and Bosnia. Christopher has said he plans to use this trip to press the former Soviet nuclear states to dismantle their atomic warheads, but officials said Tuesday he also aims to reinforce U.S. support for Russian President Boris Yeltsin. "Boris Yeltsin has repeatedly proved his democratic credentials," a senior U.S. official said before the trip. Yeltsin and Christopher will meet in Moscow, and the official said a key topic would be preparations for parliamentary elections set for Dec. 12. Washington is confident Yeltsin can ensure these elections will be free and fair, the official said. Christopher's visit to Moscow, less than a week after the lifting of a Yeltsin-imposed state of emergency following the Oct. 3 parliamentary upheaval, is meant to send a strong signal of U.S. approval of Yeltsin. Still, the senior U.S. official said pointedly that a free press was a key to democratization -- a jab at Yeltsin's suspension of opposition newspapers after the parliament's uprising. Christopher is also expected to discuss Russia's offshore nuclear waste dumping as well as the question of U.N. sanctions against Libya tied to the release of two suspects in the 1988 Lockerbie bombing. Russia has hinted it might veto a U.N. plan to tighten the sanctions. Before Moscow, Christopher stops in Budapest for talks with Hungarian officials, whom he is expected to thank for supporting economic sanctions against Serbia, despite the cost to Hungary and other states bordering the former Yugoslavia. He then tours Russia, Kazakhstan, Ukraine and Belarus to try to press them to dismantle most of their nuclear weapons, as they have promised. Money is the sticking point in the dismantling of nuclear arms in the former Soviet Union, according to one senior U.S. arms control official, who said the warheads could be worth \$12 billion when reprocessed and sold to U.S. nuclear power plants. With so much at stake, the squabbling between Russia and Ukraine -- which have the most warheads -- has been intense, with Ukraine voicing fears that without its nuclear weapons it would be vulnerable to Russia, which will retain some. Christopher is likely to face questions

about the role of NATO after the Cold War, and the prospect of admitting Eastern European countries, possibly including Russia, to the alliance. The question of the former Yugoslavia will also be discussed, especially the notion of U.S. or U.N. peacekeeping if a settlement is reached in Bosnia. A senior U.S. diplomat suggested the United States would probably stress a stronger peacekeeping role for NATO. Asked whether Russia might participate in peacekeeping, the diplomat said any participation would be through the North Atlantic Coordinating Council -- the former Warsaw Pact countries which now liaise with NATO. The journey's last stop is Latvia, where Christopher will meet leaders of all three Baltic states. These discussions are likely to focus on the final withdrawal of the 22,000 Russian troops that still remain in Latvia and Estonia. This long-planned visit by Christopher is seen by many as a confidence-builder, not just for U.S. allies in the region but for critics at home who view the Clinton team's policy as unfocused. Set against a backdrop of U.S. foreign policy crises -- the pullout of U.S. Army Rangers from Somalia, the naval blockade of Haiti -- Christopher's visit to the former Soviet empire looks like an easy winner. But there are signs this trip could be overshadowed by questions about Bosnia: Christopher Monday renewed U.S. warnings that NATO forces could launch air strikes to halt any Serb effort to strangle Sarajevo. REUTERCOPYRIGHT 1993 Reuters Information Services, Inc. All rights reserved.

STUDY LINKS PARTICULAR CANCER CLUSTER TO RADIATION

RTw 10/20/93 5:39 AM (Eds: release at 1330 GMT Wednesday October 20) LONDON, Oct 20 (Reuter) - A British study into claims that a nuclear waste plant causes cancer found on Wednesday that high radiation doses in the 1960s may have contributed to leukaemia in workers' children but ruled that the site was now safe. The keenly-awaited report into a cluster of childhood cancer cases near the Sellafield plant in northwest England identified their fathers' exposure to workplace radiation 30 years ago as one factor in the high incidence of the disease. The Health and Safety Executive report contradicts a High Court ruling earlier this month that there was insufficient evidence linking cancer with workers at the reprocessing site. In a test case, a 73-year-old widow of a Sellafield worker sued for damages over the death of her infant daughter in 1962, and a 27-year-old argued the cancer that had left her partially disabled had been triggered by her father's damaged sperm. The judge rejected their damages claims against state-owned British Nuclear Fuels on the grounds that evidence attributing the cancer cluster at Seascale, near Sellafield, to genetic damage was inconclusive. "The excess of leukaemias identified in our study is mainly confined to Seascale residents, and to the children of fathers who started at Sellafield before 1965," the new report said. "Possibly this might be explained by some combination of causes including both population-mixing and paternal radiation exposures prior to conception," it said. It added that, although no one factor appeared to be the direct cause, the demographic angle warranted further serious consideration. The theory of population-mixing holds that an influx of people into a geographically isolated area, swelling the gene pool and possibly bringing in new infectious agents, can cause unusually high concentrations of disease. "Our other main conclusion is that there is no need for preventative action to protect the health of the Sellafield workforce other than the measures already in place," the watchdog said in the report. "Our evidence suggests no association between workplace factors and cancers, other than the historical Seascale effect. There has been a significant reduction in does levels since the 1960s," it said. The 30-year controversy over health risks at Sellafield was renewed by disputed 1990 research linking the high number of cancer cases with workplace radiation, and is now being fuelled by a row over plans to open a 2.8 billion pound (\$4 billion) reprocessing facility at the site. REUTERCOPYRIGHT 1993 Reuters Information Services, Inc. All rights reserved.

RUSSIA BUCKLES UNDER PRESSURE ON ATOM DUMPING

RTw 10/20/93 12:52 PM (Eds: Updates with minister's proposal to cancel dumping) By Martin Nesirky MOSCOW, Oct 20 (Reuter) - Russia buckled under international pressure on Wednesday when the ecology minister proposed cancelling plans to dump more nuclear waste at sea after Japan and other states reacted furiously to an earlier mission. Ministry spokesman Yuri Kazakov said Ecology Minister Viktor Danilov-Danilyan had advised Prime Minister Viktor Chernomyrdin to revoke the decision for a tanker to ditch a second load of low-level liquid waste from submarines. Moscow has been under intense pressure from Tokyo, Washington, Seoul and elsewhere since the first mission last Saturday when 900 cubic metres (32,000 cubic feet) of waste were dumped virtually unannounced in the Sea of Japan. "It is probable that the second dumping will not take place," Kazakov said. "The minister has proposed to the prime minister that the decision be cancelled." Japan warned Russia on Wednesday to cancel plans to ditch a second load or risk souring recently improved ties. Kazakov said the Russian cabinet would be meeting on Thursday and a decision would be announced after that. A spokesman for President Boris

Yeltsin said the Russian head of state had been briefed on the problem and could be involved in the decision. Asked what would happen to the waste if the operation did not go ahead, Kazakov said it could be kept in the tanker for six months, but that "if the problem is not solved we'll be back to square one again." Moscow wants financial help from Japan and elsewhere to build storage sites. In addition, the Kremlin is eager to secure general aid from Tokyo to help rebuild its shattered economy. Kazakov said the Japanese ambassador in Moscow had handed Danilov-Danilyan a note from Tokyo on Wednesday and that the minister then went to Chernomyrdin to advise him. In Tokyo, government spokesman Masayoshi Takemura told reporters Japan was considering releasing some of the \$100 million it has set aside in funds to help Russia disarm its nuclear weapons. Earlier, the Russian Ecology Ministry had signalled a change of heart when it said it was possible the tanker being loaded in the Far Eastern harbour of Bolshoi Kamyen would stay in the bay rather than head to sea because of the complaints. Workers had begun loading the navy tanker with 800 cubic metres (28,000 cubic feet) of liquid nuclear waste. Until Wednesday, the official line was that the dumping would go ahead despite the outrage abroad. Moscow says the waste is safe, and in any case has no choice because land sites are full. Tokyo was incensed by the first dumping, angry that Moscow should ditch nuclear waste on its doorstep without adequate warning just days after Yeltsin visited Japan on a fence-mending trip. Moscow informed only one of the three relevant international nuclear watchdogs. In Seoul, Russia faced a wave of protests outside its embassy by South Korean political, environmental and religious groups. South Korea borders on the Sea of Japan. The low-level radioactive waste being loaded comes from coolants and cleaning fluids from nuclear submarines refitted or gutted at the once top-secret naval base at Bolshoi Kamyen near Vladivostok on the Sea of Japan. Russia has said it has to dump waste at sea because it does not have the capacity on land and the amount stored on floating tankers is growing as submarines and other atomic-powered navy vessels are decommissioned. REUTERCopyright 1993 Reuters Information Services, Inc. All rights reserved.

NUCLEAR PROCESSING COSTS SPUR GERMAN WASTE STORAGE

RTw 10/20/93 2:04 PM By Nao Nakanishi BONN, Oct 20 (Reuter) - Germany, which gets about a third of its electricity from nuclear power, is losing interest in costly nuclear reprocessing as it becomes economically unattractive, the nuclear industry lobby said on Wednesday. "The trend is going in the direction that we give up nuclear reprocessing and store nuclear waste directly instead," Manfred Petroll, spokesman for Deutsche Atomforum, told Reuters. Germany ships used nuclear rods to Britain and France for reprocessing -- separating into plutonium and uranium. It had planned to re-use the plutonium as fuel when it starts coming back in large quantities next year. But a recent report by the Federal Audit Office said that reprocessing of spent fuel was no longer economically justifiable and direct disposal of waste would not violate the nuclear power law. "Reprocessing costs at least twice as much as direct storage," said the report, commissioned by parliament's budget committee. Under German law, energy companies will have to bear the high costs for reprocessing, while the government is responsible for the disposal of dangerous radioactive by-products. Abandoning reprocessing might require changes in the law. Germany would also have to develop the technology and storage sites to accommodate unprocessed used nuclear fuel. Energy firms are bound by reprocessing contracts with Britain and France until 1995 and would have to pay penalties of at least 900 million marks (\$550 million) if they cancelled after that date. "We'll get at least 40 tonnes of plutonium even if we cancel our contract for reprocessing with France and Britain after 1995," Petroll said. Industry sources say Chancellor Helmut Kohl's centre-right government was leaning towards changing the law to allow companies to dispose directly of used nuclear fuel as well as reprocessed fuels. The opposition Social Democrats (SPD), who rule 11 of Germany's 16 states and hope to take power in Bonn next year, want to abandon nuclear reprocessing altogether. In another blow to reprocessing, the Federal Administrative Court in July suspended construction of Germany's only major mixed oxide (MOX) fuel plant in Hanau, which will make nuclear fuel by adding uranium to plutonium won from reprocessing used rods. Electricity firms, which have lost billions of marks (dollars) in thwarted nuclear projects since the early 1980s due to objections from the SPD, are reluctant to invest in any new projects unless the SPD drops its opposition to nuclear power. REUTERCopyright 1993 Reuters Information Services, Inc. All rights reserved.

RUSSIA WANTS HELP DISPOSING OF WASTE, DISMISSES DAN...

UPn 10/21/93 11:31 AMRussia wants help disposing of waste, dismisses dangers By DAVRELL TIEN MOSCOW (UPI) -- Even as Russia pledged Thursday to stop dumping nuclear waste in the Sea of Japan, Russia's top environmental official downplayed dangers posed by the waste and said that if the world wants Russia to stop its dumping, then it should help pay for alternate disposal methods. "We are counting on assistance from other

countries," said Minister of Environmental Viktor Danilov-Danilyan, citing a figure of 10 billion rubles (\$10 million) as the necessary amount for building storage and treatment facilities. Although Russia's dumping raised concerns among governments and environmentalists around the world, Japan raised the biggest outcry over the dumping near its shore, and Danilov-Danilyan suggested Japan ought to help pay Russia to do something else with the radioactive liquids being spewed into the ocean from a Russian tanker. The ecology minister also sought to silence the alarms over the dangers posed by the dumping. He compared the waste -- liquid coolant from the Soviet nuclear submarine fleet -- with low-level radiation produced by a hospital. Even though Russia has called off its current dumping -- Prime Minister Viktor Chernomyrdin himself got into the act to order a halt in response to Japan's protests -- the state environment chief said that until Russia gets new, as yet unplanned, facilities to handle such wastes, it would eventually be forced to resume dumping. A representative of Greenpeace -- the organization which exposed Russia's violations over the past week of an international moratorium on the disposal of radioactive wastes at sea -- who attended Danilov-Danilyan's press conference challenged the minister's assertions that Russia had acted within the bounds of its legal obligations. Josh Handler, research coordinator for Greenpeace's nuclear-free seas campaign, said Russia violated the spirit and letter of international law. Much of the controversy revolves around interpretations of the 1972 London convention on disposal of hazardous waste at sea, and amendments to the treaty made in 1983. Danilov-Danilyan maintained that the original treaty, which allows disposal of low-level nuclear wastes, gave Russia the right to dump waste 340 miles off the coast of Japan. The Russian official emphasized that the subsequent 1983 moratorium is voluntary. Handler retorted that the recent dumping failed to meet International Atomic Energy Agency (IAEA) regulations. "Liquid wastes should be enclosed so that they don't resurface and pose a threat to passing ships," he said. Russia simply released the liquids into the water. He also noted that since dumping is forbidden in enclosed seas, over continental shelves, and in waters less than 13,125 feet deep, Russia should not have chosen the Sea of Japan. Danilov-Danilyan claimed Russia had informed the proper authorities, but Handler said this was untrue and that communication was intentionally misdirected. Japan also complained that Moscow had failed to notify Tokyo. Nor did Russia provide required public notice to ships in the area, Handler said. Handler agreed the international community had a role to play in helping Russia dispose of its waste and concurred with Danilov-Danilyan that Japan itself should give Russia specifically targeted assistance to help solve the problem -- and keep waste-carrying tankers out of the Sea of Japan. However, Handler also said that aid will only be effective when Russia provides more information about its problems. "At present international aid is subsidizing Russia's continued production of nuclear wastes rather than solving the fundamental problems facing Russia's nuclear industry," Handler said. Meanwhile, Russia's decision to stop dumping waste at sea may jeopardize the Russian coast where the waste is stored in rusty tankers awaiting disposal. Copyright 1993 The United Press International

UKRAINE-CHERNOBYL

APn 10/21/93 1:32 PM Copyright 1993 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 MARTA KOLOMAYETS Associated Press Writer KIEV, Ukraine (AP) -- Squeezed by an energy shortage, Ukrainian lawmakers put aside worries about the safety of Chernobyl's nuclear reactors and voted Thursday to keep the power plant open. They also voted to lift a moratorium on building new nuclear plants. Environmentalists condemned the actions, saying the former Soviet republic failed to learn from its tragic nuclear past. Chernobyl is the site of the world's worst nuclear accident, a reactor explosion and fire that spread radiation over a wide area in April 1986. The official death toll was 32, but scientists say hundreds may have died from exposure to radiation during the incident or during later cleanups. Lawmakers voted in October 1991 -- not long after Ukraine declared independence from the Soviet Union -- to shut down Chernobyl by the end of this year. They cited the opinions of international experts who consider its RBMK-type reactors unsafe. Parliament reversed that decision Thursday with a 221-38 vote. "We were forced to pass such a resolution. We have no other option than to use atomic energy," said one lawmaker, Volodymyr Duntau. Ukraine has been crippled by fuel shortages and general economic chaos since the breakup of the Soviet Union. It remains dependent on Russia for oil and natural gas, which were heavily subsidized in Soviet times. Russia has been raising fuel prices gradually, saying its own sputtering economy demands it. Two of Chernobyl's four graphite reactors were restarted in 1992 because of the energy shortage. Officials say a third could be restarted eventually. Reactor No. 4, which exploded in 1986, has been encased in steel and concrete. Reactor No. 2 has been off since a fire in 1991. Germany's environment minister, Klaus Toepfer, who has long advocated the plant's closure, condemned Parliament's decision. "A political decision was reached here that disregards international safety concerns," said Toepfer, whose country has been a leading source of economic aid to Ukraine. Viktor Kapusta, a plant spokesman, told The Associated Press that closing Chernobyl would have

been costly. In addition to the loss of energy, he said electricity would have been needed from other sources just to maintain the idle reactors. But Hanna Tsvitkova, spokeswoman in Kiev for the international environmentalist group Greenpeace, said building new reactors and operating the old ones will cost even more. "Chernobyl is Ukraine's ecological tragedy," she said. "The 2 percent of nuclear energy that Chernobyl supplies to Ukraine's citizens will never justify Chernobyl's victims of the past, present and future." Parliament also ordered that the Khmelnytsky, Rovno and Zaporozhye nuclear power plants get additional reactors into operation as soon as possible. All use VVER-1000 reactors, a different design than Chernobyl's. The accident at Chernobyl, 80 miles north of Kiev, forced the evacuation and resettlement of more than 180,000 people from surrounding villages and cities. It left Ukraine's 52 million people deeply ambivalent about what to do with the nuclear plants on which they are heavily dependent for energy. The country also is torn over what to do with nuclear weapons left over from the Soviet arsenal. U.S. Secretary of State Warren Christopher plans to discuss Ukraine's nuclear weapons in a visit to Kiev scheduled for Sunday. Parliament's decision was a relief to Chernobyl workers, Kapusta said. "The plant was ready for both closure and continued work, and we were just waiting for the signal," he said. "Everyone is walking around with happy faces because at least now we know our own future."

EC COMMISSION WORRIED THAT CHERNOBYL STAYING OPEN

RTw 10/21/93 1:44 PM BRUSSELS, Oct 21 (Reuter) - The European Commission said on Thursday it was deeply worried by Ukraine's decision to keep open the Chernobyl nuclear power station, site of the world's worst nuclear accident in 1986. "There is a danger. That's obvious. All I can convey is our profound concern, our disappointment," a Commission spokesman told Reuters. Ukraine's parliament on Thursday voted by an overwhelming majority to reverse its earlier decision to close Chernobyl by the end of the year after President Leonid Kravchuk told deputies the country had no alternative but to develop nuclear energy. It also decided to lift a 1990 moratorium on construction of new nuclear plants. The Commission spokesman said it was disturbing that Ukraine had backtracked on a promise to close Chernobyl. The Commission drafts environmental legislation at the level of the European Community and helps to coordinate collaboration on nuclear safety issues in the G24 group of leading industrial nations. An explosion and fire at Chernobyl station on April 26, 1986 is held responsible by authorities for 8,000 deaths and widespread contamination in Ukraine, Belarus and Russia. Its aftermath still absorbs some 11 percent of Ukraine's national budget. Ukraine's Environment Minister Yuri Kostenko said he opposed Chernobyl's continued operation but acknowledged that Ukraine, which is facing economic crisis and chronic energy shortages, had little choice with winter approaching. REUTERCOPYRIGHT 1993 Reuters Information Services, Inc. All rights reserved.

U.S. SHIFTS ON RADIOACTIVE WASTE TESTS; STORAGE

...WP 10/21/93 11:00 PM U.S. Shifts on Radioactive Waste Tests; Storage Experiments to Be Conducted in Labs Instead of Underground By Daniel Southerland Washington Post Staff Writer Reversing a Bush administration policy, the Energy Department said yesterday it will conduct tests in laboratories - rather than underground - to determine the suitability of radioactive waste storage. Energy Secretary Hazel O'Leary said the policy was changed because the Bush administration "did not give full consideration" to the concerns of scientists, the Environmental Protection Agency and the public. The tests are needed to determine the suitability for radioactive waste storage of a now empty, underground Energy Department waste isolation pilot plant near Carlsbad, N.M. The Bush administration had intended to place small amounts of radioactive waste generated by the production of nuclear weapons into the underground facility as early as next year, and then to run tests inside that facility to determine its suitability. According to the Energy Department, a review group decided that the underground testing in New Mexico would be too costly and lacked a scientific rationale. The \$1.2 billion pilot plant, situated 2,150 feet underground in salt deposits, is supposed to demonstrate the feasibility of disposing of such waste in other underground facilities. Nuclear waste disposal is one of the thorniest environmental issues confronting the Clinton administration. "By doing these tests in laboratories, we will be able to collect the right technical data more quickly and at a lower cost," said Thomas P. Grumbly, the department's assistant secretary for environmental management. Grumbly said most of the testing will now take place at the Los Alamos National Laboratory in New Mexico. He said that Westinghouse Corp., which has been maintaining the underground plant near Carlsbad in readiness for waste disposal will probably reduce its work force there until final test results are in. Decision to change the test plan addresses criticisms submitted by scientists from the National Academy of Sciences, the Energy Department said. Grumbly said the revised test program would save more than \$100 million compared with the current underground test program. Copyright 1993 The Washington Post

UKRAINE TO CONTINUE OPERATING CHERNOBYL;221-38 ...

WP 10/21/93 11:00 PM Ukraine to Continue Operating Chernobyl;221-38 Vote Reverses Imminent Closure By Robert Seely Special to The Washington Post KIEV, Ukraine, Oct. 21 - Confronting chronic energy shortages, Ukraine's parliament today reversed its decision to close the Chernobyl power station, scene of the 1986 nuclear accident that became a byword for fear of nuclear power. The 221-38 vote was taken by a parliament desperate to maintain electricity supplies for the country's battered post-Soviet economy through the winter. "We are alarmed and concerned by this," said a Scandinavian diplomat based in Kiev, "and will put whatever pressure we can to get the decision reversed." Germany's environment minister, Klaus Toepfer, said that the Ukrainian move ignored "international safety considerations." A moratorium also was lifted on building nuclear power stations, which are unpopular in this country of 52 million. Ukraine's leaders reportedly are set to order the completion of three reactors whose development was halted by the Chernobyl disaster. The country has 13 working reactors. "We cannot afford to reject the development of nuclear power in Ukraine," President Leonid Kravchuk told parliament. Until today's action, Chernobyl's two functioning generators were to have shut down by the end of this year - a decision taken 18 months ago. A third was turned off with hopes for revival, while the fourth has been entombed. Ukrainians are still paying heavily for the accident at Chernobyl, when an explosion at reactor number four threw a radioactive cloud over Ukraine, the surrounding republics of the former Soviet Union and much of Europe. Ukrainian authorities hold the disaster responsible for 8,000 deaths in the country. More than 10 percent of this impoverished nation's national budget goes toward the continuing cleanup. Among persistent technical problems, the sarcophagus encasing the stricken reactor is leaking radioactivity into the beautiful but now poisoned Pripyat marshland around it. Environment Minister Yuri Kostenko said that the power station still lacked a containment building. "Any accident will involve the release of radioactive waste into the atmosphere," he warned. Speaking to the Reuter, Ukraine's leading anti-Chernobyl lawmaker, Volodimir Yavorivsky, said the decision was "senseless and unprofessional," opening the way to the "development of primitive nuclear energy." However, Mikhail Umanets, chairman of Ukraine's nuclear power authority, argued that Chernobyl was safe. "There will be no repeat of the Chernobyl events," he said. Energy supply is Ukraine's Achilles heel. The country, which stretches from the Russian Caucasus mountains to the Polish border, has few energy resources. The Kremlin has made clear that Ukraine's reliance on Russian energy carries a heavy political price. Ukraine's foundering economy has meant the country cannot afford to pay world prices for Russian oil. Despite advice given by Western nations, the aging power stations still may not be safe enough. "These reactors are less stable than those in the West. They are first generation nuclear power plants," said Peter Cameron, a European Community energy consultant. The Chernobyl plant's design was rejected almost 45 years ago by British scientists as being too unstable. Russia to Quit Dumping Nuclear Wastes, for Now Reuter MOSCOW, Oct. 21 - Russia suspended plans today to dump more nuclear waste in the Sea of Japan, but said it may be forced to resume the practice unless it can build a processing plant within 18 months. Russia's weekend dumping of nearly 2,000 tons of low-level liquid nuclear waste provoked outrage from Japan, South Korea, the United States and international environmentalists. It had planned to dump a second load this week. "The prime minister (Viktor Chernomyrdin) has decided to suspend the second dumping of waste. A second dumping will not take place in the near future," Ecology Minister Viktor Danilov-Danilyan said at a news conference after a cabinet meeting. He said Chernomyrdin plans to order a feasibility study into the construction of a plant in the Far East to process the waste. But he said such a plant could cost about \$8.5 million, and he appealed for foreign help. If the factory were built quickly, it might be possible to avoid dumping more waste, he said. "If, however, this takes some time, more than a year and a half, Russia will probably be forced to dump more waste," Danilov-Danilyan said. Copyright 1993 The Washington Post

GREENPEACE SAYS MOSCOW HOLDING WORLD TO NUCLEAR RANSOM

RTw 10/22/93 11:29 AM MOSCOW, Oct 22 (Reuter) - The international environmental group Greenpeace on Friday accused Russia of holding the world to ransom by demanding aid to help clean up its nuclear waste. On Thursday, Moscow called off a controversial second dumping of liquid radioactive waste into the Sea of Japan after protests about the first operation last weekend. The Russian government said it would try to build a storage base on land within 18 months with foreign help but might have to resume dumping if it failed to reach this deadline. Greenpeace said it welcomed the decision to cancel the second mission, but was disappointed Moscow had not announced a permanent halt to its dumping of nuclear waste at sea. "The Russian government is holding both its own people and the international community hostage for aid to clean up its nuclear mess," it said in a statement. "The fact remains that when building up its useless nuclear-powered fleet, the Soviet Union/Russia did not make

adequate provisions for the handling of waste." REUTERCopyright 1993 Reuters Information Services, Inc. All rights reserved.

CHERNOBYL BOSS WELCOMES REPRIEVE FOR NUCLEAR PLANT

RTw 10/22/93 12:32 PM By Rostislav Khotin KIEV, Oct 22 (Reuter) - The head of the Chernobyl power station, site of the world's worst nuclear accident, on Friday welcomed the Ukrainian parliament's decision to keep the plant open. But officials at other plants said the vote might have come too late to save a demoralised industry. "The staff are thrilled. They now have a personal and professional future," director Nikolai Sorokin said by telephone. "We spent 20 percent of the cost of the station to improve safety. We now have completely different reactors from 1986. Nowhere in the world are reactors being closed in this way." Deputies grappling with economic troubles and energy shortages voted overwhelmingly on Thursday to reverse their 1991 decision to close the plant by the end of this year. Public opinion, hostile to nuclear power after the explosion and fire at the Chernobyl plant in 1986, has been dulled by poverty and the cost of Russian oil and gas. Only a handful of protesters stood outside parliament to lobby against the vote. The resolution passed by deputies also lifted a moratorium on construction of new reactors. Three had been on the verge of completion when the ban was imposed in 1990. Officials in Germany and Scandinavia, who say the design of Chernobyl's RBMK reactors is dangerous, said the decision flew in the face of international opinion. The European Community's executive commission expressed "profound concern and disappointment." Itar-Tass news agency quoted Russia's Ministry of Atomic Energy as saying it would be "impermissible" to continue operating the station without modernisation. Russian specialists "with a certain amount of experience" could help Ukraine ensure standards were upheld, it said. The accident in Chernobyl's fourth reactor spread radioactivity across northern Europe and is regarded by Ukrainian authorities as the cause of 8,000 deaths. Vast stretches of land in Ukraine, Belarus and Russia remain contaminated. Sorokin said keeping Chernobyl operating would produce an estimated \$500 million worth of power annually and save \$300 million in reduced purchases of fossil fuels. "Ukraine simply has no money of this sort," Sorokin said. "Parliament took account of the economic situation in Ukraine." Vladimir Bronnikov, director of Europe's largest nuclear station near the central Ukrainian city of Zaporizha, said his staff were unenthusiastic. "There is no great enthusiasm here over the decision," he said. "The mood among the staff is not one of celebration. People here are doing no more than continuing to work." The moratorium and years of public hostility to nuclear power had sapped the morale of thousands of workers earning considerably less than their colleagues in Russia. Technical mishaps this year -- including two minor fires at Chernobyl and an explosion that killed a welder at Zaporizha -- also affected enthusiasm. Vyacheslav Tyshchenko, chief engineer at Zaporizha, said workers were at least pleased to be guaranteed work in completing the sixth reactor. "The reactor is 98 percent ready. It is simply stupid to have a car in running order and then not use it," he said. "Lifting the moratorium is not a victory for the nuclear industry. It comes pretty late in the day. Many people have already left the station for jobs elsewhere." The Ukrainian security service said on Friday that nuclear fuel had been stolen from Chernobyl but refused to disclose the type and quantity that was missing. "The disappearance of fuel has been noted from containers in a storage area at the Chernobyl station," spokesman Anatoly Sakhno told Reuters by telephone. REUTERCopyright 1993 Reuters Information Services, Inc. All rights reserved.

US-UKRAINE

APn 10/22/93 2:03 PM Copyright 1993 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 State Department expressed concern Friday about a vote by the Ukrainian Parliament to keep the Chernobyl nuclear reactors open, saying such facilities "should be shut down as soon as possible." The Parliament set aside concerns about the safety of the reactors Thursday and voted to keep them open because of an energy shortage. In 1991, the lawmakers had voted to close the facilities. "While we recognize decisions about Ukraine's energy sector are for Ukrainians to make, we have serious concerns about the safety of the nuclear power reactors at Chernobyl and continue to believe that reactors of this type should be shut down as soon as possible," State Department spokesman David Johnson said. The issue is expected to come up during a visit by Secretary of State Warren Christopher to Kiev on Sunday. The world's worst nuclear accident occurred at Chernobyl in April 1986 when an explosion at a nuclear reactor spread radiation over a wide area. The death toll was officially listed at 32 but some scientists say hundreds may have died from exposure to radiation.

ADVISORY-NUKEDUMP

UPwe 10/22/93 6:33 PM Editors: Gov. Pete Wilson today attacked Sen. Barbara Boxer for leading what he called an alarmist assault on the state's effort to win approval for a low-level nuclear waste dump in the Mojave Desert. Wilson made the comments in a speech to biotechnology leaders in San Diego. UPI will move a story. Contact: J.P. Tremblay or Kevin Eckery 916-445-4571. UPI-Sacramento Copyright 1993 The United Press International

RUSSIA SAYS JAPAN DUMPING MORE DANGEROUS N-WASTE

RTw 10/25/93 9:21 AM TOKYO, Oct 25 (Reuter) - An international row over nuclear waste dumping turned about on Monday, as Moscow charged Japan with releasing waste ten times more radioactive than Russia dumped a week ago. Meanwhile, Japan said it had found normal radioactivity levels in the Sea of Japan where Russia dumped the nuclear waste. Russian Atomic Energy Minister Viktor Mikhailov told Science and Technology Agency chief Satsuki Eda that Russia's dumping posed less of a health hazard than discharges by the Japanese electric power industry, Kyodo news agency reported, quoting Japanese officials. The Russian waste had radioactivity of 37 billion becquerels, compared with 400 billion becquerels dumped annually in the Sea of Japan by Tokyo Electric Power Co Inc's power plant at Kashiwazaki-Kariwa in Niigata Prefecture, Mikhailov said. A Tokyo Electric Power (TEPCO) spokesman said the plant in 1992 released tritium, a radioactive isotope, with 390 billion becquerels of radioactivity. He said the level was within safety standards. Eda told Mikhailov that the Japanese power station releases radioactive waste after "conducting assessment of public nuclear exposure and ensuring safety," the officials said. Kyodo quoted the officials as saying Eda agreed that the 37 billion becquerels of radioactivity in the Russian waste was not likely to affect the environment. Eda's remark echoed a Maritime Safety Agency spokesman who said initial reports from a survey ship in the Sea of Japan had revealed normal radioactivity. Russian tankers dumped 900 cubic metres (32,000 cubic feet) of low-level waste some 550 km (340 miles) off the Japanese coast on October 17, sparking widespread concern about the possible contamination of fish and other marine life. Moscow said on Thursday it would not be releasing a second load of 800 cubic metres (28,000 cubic feet) of low-level waste from scrapped nuclear submarines in the sea off Japan after international protests following the initial discharge. The dumping occurred just days after Russia and Japan signed an agreement during President Boris Yeltsin's visit to Tokyo to work to end nuclear contamination of the world's oceans. REUTERCOPYRIGHT 1993 Reuters Information Services, Inc. All rights reserved.

UNITED STATES TO HELP UKRAINE WITH NUCLEAR POWER

RTw 10/25/93 1:31 PM KIEV, Oct 25 (Reuter) - The United States offered \$27 million to Ukraine on Monday to improve safety at the former Soviet republic's five nuclear power plants. An agreement was signed by U.S. Secretary of State Warren Christopher and Ukrainian Foreign Minister Anatoly Zlenko four days after Ukraine's parliament reversed its decision to close the Chernobyl nuclear power plant. The reversal, strongly opposed in the United States and Europe, was adopted to guard against energy shortages in the coming winter. Parliament voted in 1991 to close Chernobyl by the end of this year, more than seven years after the world's worst nuclear accident, believed to have caused 8,000 deaths. A U.S. statement said Monday's accord called for the supply of equipment, analysis and visits to Ukrainian plants by U.S. experts. The United States, it said, had agreed to build a simulator for training power plant operators. Ukraine depends on nuclear power for about 30 percent of its electricity and plans call for that share to be increased to about 40 percent by the end of the century. In another accord signed during Christopher's visit, representatives of Canada, Sweden, Ukraine and the United States agreed to establish a scientific centre in Kiev. The centre is to employ weapons scientists from Ukraine and other former Soviet republics. REUTERCOPYRIGHT 1993 Reuters Information Services, Inc. All rights reserved.

FINNISH SPENT NUCLEAR FUEL TO BE TRANSPORTED TO RUSSIA

RTw 10/27/93 2:31 PM HELSINKI, Oct 27 (Reuter) - Environmentalists on Wednesday sharply criticised plans to transport 25 tonnes of spent nuclear fuel from Finland to a reprocessing plant in neighbouring Russia. The Finnish news agency (STT) said the transport from the Loviisa nuclear power plant in southern Finland would take place in the next few weeks and would be the first for some three years. The nuclear fuel originated in Russia. A Russian train has arrived in Loviisa town to take the spent fuel to a plant in Chelyabinsk in Russia following a long pause in transports due to developments in Russia and lengthy price negotiations. The environmentalist group Greenpeace said the nuclear waste was going to the plant of Mayak in Chelyabinsk. "The Finnish company...seems to completely ignore Russia's unstable political situation and the fact that Mayak is considered as

one of the world's most radioactively contaminated areas," Greenpeace said in a statement. It alleged that IVO, a Finnish state-owned power company, has transported spent nuclear fuel to Russia since 1981 without having detailed technical knowledge about the reprocessing plant. "It was only in 1990 that it was discovered that the Finnish waste actually ends up at Mayak's military complex, where uranium and plutonium are being separated," it said. IVO rejected the allegations. Head of department Ossi Koskivirta admitted that there were badly polluted areas in the region but that these originated from military industries operating there from 1949 to 1985. He told STT that this should not be confused with the civilian processing plant dating from 1976 which he said worked well, and did so also from an environmental point of view. Greenpeace said that plants like Mayak have a "history of accidents and incidents," and demanded that the transports be stopped. "The responsibility over radioactive wastes belongs to the company producing them -- not to another country's military authorities or companies," Greenpeace said. A total of 200 tonnes of spent fuel have been transported to Russia from Loviisa, a Soviet-made plant with two reactors, in 10 different transports since 1981. The last one took place in 1990, STT said. IVO has an agreement under which Russia accepts spent nuclear fuel from the Loviisa plant as long as it remains in operation. REUTERCOPYRIGHT 1993 Reuters Information Services, Inc. All rights reserved.

UKRAINE: NUCLEAR FEVER

WP 10/27/93 11:00 PM WARREN CHRISTOPHER, the secretary of state, has been in Ukraine trying to persuade this former Soviet republic to respect its brave no-nuclear-weapons pledges of 1992. It's tough going. Ukraine is new, big and bristling with nationalistic pride. It's in the strategic shadow of a nuclear giant, Russia, which somewhat resents its nationhood. Not only does it possess the industrial capacity to go nuclear from scratch if it chose. It also has on its soil - and can look forward to having in its control - a force of nuclear missiles inherited from the Soviet armory. The Bush administration talked tough to Ukraine, conditioning offers of economic and other support on Ukraine's prior yielding up of its nuclear arms and options. The Clinton team has taken a more expansive view, offering less-conditioned support as up-front encouragement for Ukrainian nuclear responsibility. But in fact neither approach has so far proven out. Ukraine is still fudging on dismantling the Soviet weapons and on swearing off weapons of its own. The problem is not so much America's deftness or lack of it as it is Ukraine's uncertainty. Ukraine is proud to reclaim independence, but it is inexperienced in dealing with the genuine difficulty of matching its security interests in respect to Russia with its economic and political interests in integrating into the Western world. It needs time and practice, but it is under heavy pressure from the United States, Russia and others to make irreversible nuclear policy decisions, and to make them quickly. From an American standpoint, it is vital to keep the pressure on. Not to is to tempt Ukraine to slide into a nuclear status quo, thus raising a risk of nuclear complication if not nuclear confrontation in a whole new corner of the world. It also makes sense to test further the policy of offering Ukraine semi-advance payments on nonproliferation. One such payment is a fair aid package - fair even if it falls short of Kiev's inflated requests. Another payment lies in the invitation to a new security "partnership" with NATO. The American role in nonproliferation is on the line. But so is the Russian role. Moscow sometimes conveys an attitude that Ukraine is an unwarranted and impermanent state. This provokes Ukrainian nationalists to fresh surges of nuclear possessiveness. But Russia is not just any old neighbor of Ukraine. As a nuclear power, it has unshirkable duties as a patron of nonproliferation. It falls to Russia, more than to any other country, to create the climate of mutual respect that will help Ukraine's nuclear fever to subside. Copyright 1993 The Washington Post

SOVIET NUCLEAR PLANT SAFETY STILL BIG CONCERN

RTw 10/28/93 2:09 PM WASHINGTON, Oct 28 (Reuter) - Soviet-designed nuclear reactors are safer these days but long-term risks remain a threat, a U.S. energy official told a House panel Thursday. Russia and the former Soviet republics have made major improvements in nuclear power plant safety with assistance from the United States but almost every plant still falls short of western safety standards, U.S. Nuclear Regulatory Commission chairman Ivan Selin said. "There has been significant progress in the short-term risk reduction but (they) will need more help for the long-term," Selin told a House Energy and Commerce panel. "The Russians see these short-term improvements as final steps in themselves," he said. Many of the Soviet-design nuclear systems have big design deficiencies, Selin said. The riskiest are ten times more likely to have an accident than U.S. plants, and "should not be operated any longer than necessary," he said. U.S. Energy Secretary Hazel O'Leary noted a lack of effective operating and training procedures, and a general attitude that safety is not a primary objective. "There are accidents waiting to happen there," she said. Russia will not close its reactors unless it has some energy alternatives, O'Leary said. But with hard currency in short supply, one possible option -- natural gas -- is seen more for its sale than its use. "They see it as a commodity to be moved to the east or west," O'Leary said. "Our

short-term goals do not match the Russian's long-term goals. Our timetable and theirs is not in sync," she said. The United States began providing nuclear safety assistance to Russia and the former Soviet republics after the Chernobyl accident in 1986. One major obstacle, however, is the potential liability facing the United States and its contractors for damages or injury at a nuclear plant that is receiving U.S. safety assistance, O'Leary said. She said the State Department is negotiating with the Russians to resolve this "critical issue." REUTERCopyright 1993 Reuters Information Services, Inc. All rights reserved.

WHO-CHERNOBYL

APn 10/29/93 11:51 AMCopyright 1993 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. GENEVA (AP) -- Thyroid cancer cases are increasing dramatically among children affected by radioactive fallout from the Chernobyl nuclear accident, the World Health Organization said Friday. The U.N. health agency said that since 1989, 225 new cases of the disease had been identified among children in the former Soviet republic of Belarus -- the region worst affected by the 1986 reactor explosion in Chernobyl, Ukraine. A statement from the organization said two or three cases could be expected under normal circumstances. One of Chernobyl's four nuclear reactors exploded and burned in April 1986, spreading radiation over a wide area. The official death toll was 32, but scientists say hundreds may actually have been killed by radiation exposure. The increase in thyroid cancer is linked to radioactive iodine spread by the explosion. In the human body, iodine is concentrated in the thyroid. The cancer has appeared most in children because they are more sensitive to radiation and their thyroid glands are smaller, so a given amount of radioactive iodine represents a larger dose than for an adult. Dr. Yuri Riaboukhine, a scientist in WHO's Chernobyl unit, said there has been no sign of an increase in leukemia -- another disease that is a typical result of radiation. Some experts have predicted leukemia will increase in the next few years. Despite concerns from international nuclear experts about the safety of the reactors at Chernobyl, Ukraine's parliament voted last week to keep the plant open because of an energy shortage that is hurting the economy.

U.S. MILITARY TO REVIEW NUCLEAR ARSENAL, POLICY

RTw 10/29/93 12:44 PM By Charles Aldinger WASHINGTON, Oct 29 (Reuter) - Defence Secretary Les Aspin announced plans Friday for an unprecedented review of U.S. nuclear policy including determination of how many missiles to keep on alert after the Cold War and where to point them. The sweeping Pentagon study will look at the new "multi-headed monster" of potential nuclear threats from maverick Third World states and terrorist groups, he said. "The old Soviet nuclear threat ... was somewhat comforting. We had developed rules of the road," Aspin told reporters. "All of that is less certain now. We're not sure how the old deterrence applies." The study, which Aspin said could be completed next spring, will look at how many long-range nuclear missiles, bombers and submarines the United States will need in the coming years and how they should be used. "It's one of the things we will be looking at," he said when asked if the study would determine which cities and countries -- including perhaps non-nuclear states -- might be targeted as part of future U.S. military deterrence. While American nuclear policy is being constantly updated, Aspin said at a Pentagon news conference that the new study would be the most comprehensive ever by the military in terms of nuclear arsenal, policy and posture. The United States currently has about 8,000 nuclear warheads, a figure that is supposed to shrink to about 3,500 by the year 2000 under the START-2 treaty with Moscow. Aspin said the study could result in even deeper cuts to the U.S. nuclear arsenal in the future. The study will be headed by Assistant Defence Secretary Ashton Carter and Army General Barry McCaffrey. Carter oversees U.S. nuclear security and counter-proliferation efforts and McCaffrey is director for strategic plans and policy on the Pentagon's joint military staff. Aspin noted that the Pentagon had recently completed a major study of U.S. conventional warfare needs and capability and that nuclear policy questions must now be answered. "As we have seen, the world has changed even more fundamentally for our nuclear forces," he said. During the Cold War, American nuclear policy against the former Soviet Union was based on the threat of "mutually assured destruction" in any massive atomic exchange with Moscow and its allies. But Aspin and Carter said countries such as North Korea which might obtain a few nuclear weapons in the future might not respond to the threat of destruction. Aspin said the study would be focused on U.S. nuclear needs and would not include France and Britain, although he said those governments would be consulted later. "We're looking at this mainly from our own national interest," he said. REUTERCopyright 1993 Reuters Information Services, Inc. All rights reserved.

PENTAGON-NUCLEAR

APn 10/29/93 1:02 PM Copyright 1993 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 SUSANNE M. SCHAFER AP Military Writer WASHINGTON (AP) -- Defense Secretary Les Aspin ordered the first post-Cold War review of the nation's nuclear weapons arsenal Friday and warned that renegade states or terrorists could threaten America with weapons of mass destruction. "It is a new nuclear threat we face," Aspin said at a Pentagon press conference. "The old nuclear danger was thousands of warheads from the Soviet Union. That threat has subsided but the arsenal still exists," Aspin said. "The new nuclear danger stems from the possibility of a handful of weapons in less reliable hands." The secretary said the goal of the review is to help design a long-term strategy and structure for the nation's nuclear force, and help shape thinking for events that could occur decades from now. For example, Aspin said, no terrorist groups are known to have nuclear weapons in their possession at this time, but such a development shouldn't be ruled out. "This (problem) is a different animal -- and it's not a single animal, it's a multi-headed monster," Aspin said of the potential for the proliferation of nuclear weaponry, delivery systems and know-how. Aspin said the review should be completed in the spring, possibly by April, and that it would take a fresh look at every aspect of nuclear policy -- including the role of nuclear weapons in U.S. security strategy, their number, type, delivery systems, and safety concerns. The study will also review plans for targeting nuclear weapons, counter-proliferation issues and operational plans to determine which forces need to be on alert, Aspin said. As well, developing relationships with the newly emerging states of the former Soviet Union will have to be dealt with in the review, given their continued possession of nuclear weapons. Aspin said the review is in line with President Clinton's directive to "redefine the size and shape of our forces," both nuclear and conventional, in the post-Cold War era. He ordered that both civilian and military officials conduct the review, putting it in the hands of Ash Carter, the assistant secretary of defense for nuclear security and counterproliferation, and Lt. Gen. Barry McCaffrey, the director for strategic plans and policy for the Joint Staff. The United States has about 8,000 nuclear weapons, but is expected to deploy only about 3,500 following the ratification and implementation of the START II nuclear weapons treaty signed under President Bush.

COMMISSION AGREES TO HELP RUSSIA ON NUCLEAR DUMPING

RTw 10/29/93 1:18 PM BRUSSELS, Oct 29 (Reuter) - The European Commission has promised to help Russia find new ways to get rid of nuclear waste to avoid dumping in the Sea of Japan, a Commission spokesman said on Friday. The decision follows a meeting in Bonn on Thursday between Russian Environment Minister Viktor Danilov-Danilyan and the European Community's Environment Commissioner Yannis Paleokrassas. The spokesman said Paleokrassas agreed to study the technical problems which he said could be assessed within the Group of 24 industrial nations technical coordination group chaired by the Commission. He said the EC's executive would begin to look at the financial aspects and for alternatives to dumping. Russia formally announced last week it would no longer dump nuclear waste in the Sea of Japan but said it might be forced to resume if it could not build a new processing plant within 18 months. Moscow sparked fierce protests the previous weekend when it poured 900 cubic metres (32,000 cubic feet) of waste from scrapped nuclear-powered submarines into the sea off Japan. Danilov-Danilyan said last week that Russian Prime Minister Viktor Chernomyrdin would soon order a feasibility study into building a plant in the far east of Russia to process the waste at a cost of around 10 billion roubles (\$8.5 million), and appealed for foreign help. REUTERCOPYRIGHT 1993 REUTERS INFORMATION SERVICES, INC. All rights reserved.

CHERNOBYL-STYLE REACTORS CAN GO ON, EXPERTS SAY

RTw 10/29/93 1:52 PM MOSCOW, Oct 29 (Reuter) - International experts said on Friday Chernobyl-style nuclear reactors in former Soviet republics could be operated if they were modernised, Itar-Tass news agency reported. The world's worst nuclear accident occurred at Chernobyl in Ukraine in 1986 and there has been alarm in the West that similar plants equipped with so-called RBMK reactors still exist. Tass quoted Yevgeny Adamov, a co-chairman of the international panel, as saying there were 15 such reactors in Russia, Ukraine and Lithuania. "Nuclear power plants with RBMK reactors can be operated after some modernisation," Tass quoted the panel as concluding in its report, the first stage of an independent examination of safety at Chernobyl-style stations. The 60 independent experts began work in March this year. Ukraine's parliament voted last week to reverse its decision to close the Chernobyl plant by the end of the year. Ukraine faces a fuel shortage and says it needs the electricity generating capacity. One of the experts told Tass Western countries had opened an account to finance projects to improve safety at such atomic stations. It was not clear how much money was involved. REUTERCOPYRIGHT 1993 REUTERS INFORMATION SERVICES, INC. All rights reserved.

RUSSIA NAVAL CHIEF HINTS SEA DUMPING MAY RESUME

RTw 10/30/93 12:38 PM MOSCOW, Oct 30 (Reuter) - The commander-in-chief of Russia's Pacific Fleet said on Saturday he was ready to resume dumping nuclear waste in the Sea of Japan and hinted operations could restart soon. Russian television quoted Admiral Georgy Gurinov as saying that no matter how unpopular the step was it was practically impossible for Russia now to do anything but dump 800 cubic metres of liquid radioactive waste in the sea. Gurinov appeared to be referring to a consignment of waste whose dumping the Russian government cancelled last week after an international outcry following the "burial" of a first load of 900 cubic metres in the Sea of Japan. Though it cancelled that operation, the Russian government has made it clear it will resume sea dumping if a land disposal site cannot be prepared quickly, preferably with foreign aid. Russia, keen to get aid from its wealthy eastern neighbour, wants Japan to help pay for building the onshore storage units. But Japanese officials have said Moscow should pick up the bill itself. "It is not a question that the waste cannot be stored. It could be stored if I had more capacity (for storing). I could store it and would not dump it until a nuclear waste processing factory was built for me where I could hand it over," Gurinov was quoted as saying. Gurinov seemed to be saying that for operational reasons he was unable to wait until a land site had been found and built. Russian television quoted him as saying dumping operations would have to be carried out at least once every six months over the next five years. The dumping in the Sea of Japan provoked protests from Japan, South Korea and the United States. Russian officials have hit back by saying that Tokyo and Washington themselves have authorised similar operations. REUTERCopyright 1993 Reuters Information Services, Inc. All rights reserved.

FEDERAL RESEARCH FUNDS MADE AVAILABLE

UPma 11/2/93 11:43 AM COLUMBUS, Ohio (UPI) -- State officials announced Tuesday about \$500,000 in Nuclear Regulatory Commission funds will be made available to small, technology-oriented, Ohio companies through the federal Small Business Innovation Research Program. About 10 Phase 1 research grants, up to \$50,000 each, will be awarded to small firms to support feasibility research. Companies with successful Phase 1 research may compete for Phase II awards of up to \$150,000 for two-year prototype development. Interested firms must submit proposals before Jan. 21. Proposal topics include engineering technology for nuclear power plants, safety of nuclear waste disposal, radiation protection and health effects, risk analysis research related to nuclear facilities, advanced nuclear reactor research and thermal hydraulics in nuclear reactors. The federal program, established in 1982, funds research and development in companies with 500 or fewer workers. Since its inception, more than \$3.2 billion have been awarded. The state's program helps businesses with topic identification, proposal preparation and agency contacts. Copyright 1993 The United Press International

RUSSIAN ATOMIC PLANT AID DELAYED;U.S. COMPANIES

...WP 11/2/93 11:00 PM Russian Atomic Plant Aid Delayed;U.S. Companies Wary Of Liability ClaimsBy David S. HilzenrathWashington Post Staff Writer The international effort to reduce the threat of another nuclear accident like the 1986 Chernobyl power plant explosion is being stymied by a Western nightmare, the fear of lawsuits. U.S. corporations, including Bechtel Power Corp. and Westinghouse Electric Corp., are telling government officials that they will not do much of the work needed to improve the safety of Soviet-built power plants unless they are shielded from liability for any future accident. The Clinton administration is trying to get Russia to agree to protect U.S. firms from potential lawsuits. Ukraine already has signed such an agreement. But breaking the impasse would take more than those guarantees, said Omer F. Brown II, a Washington lawyer for a group of U.S. firms. Contractors and suppliers say the U.S. government must write a virtual blank check promising to cover any damages that Russia and Ukraine fail to pay. Given the political instability and economic weakness of the former Soviet states, their guarantees would not provide enough protection, U.S. companies have argued. "There is a fundamental concern that a nuclear incident could be of such a magnitude that the Russian Federation would be unable to fulfill its obligations," the group Brown represents said in a briefing paper prepared for meetings with government officials. According to industry and government officials, the companies fear that, if they provide engineering plans or hardware to upgrade the poorly designed and deteriorating plants, they could be held responsible for billions of dollars of damages in the event of a disaster. As a result of the companies' concerns, much of the \$110 million that the U.S. government has allotted to fund reactor improvements in Russia and Ukraine during the fiscal year that began Oct. 1 could remain idle, officials said. "Some of our planned work has already been delayed pending the resolution of this issue and most work ... would be affected if agreement is not reached by January," Energy

Secretary Hazel R. O'Leary said in recent congressional testimony. Department of Energy officials declined to say whether they would support having the U.S. government assume the financial risk, but they said the administration has the legal authority to do so without an act of Congress. "I take this as a very serious issue" and "a very sticky problem," O'Leary told a House subcommittee. The companies involved include several teams of engineering companies and other firms that already are under contract with the Brookhaven National Laboratory in Upton, N.Y., to help upgrade Russian power plants through a program administered by the Energy Department. They are: NUS Corp., based in Gaithersburg; Babcock & Wilcox Co. of Lynchburg, Va.; Ebasco Services Inc. of New York; and Stone & Webster Engineering Corp. of Boston. "Westinghouse's position is that we're not going to do work (in the former Soviet bloc) if that would entail risk of being implicated in a nuclear incident," said David Kremen, assistant general counsel of Westinghouse, which is a member of three of the Brookhaven teams. Russia lacks the legal framework of the United States and other industrialized nations that generally assigns liability to nuclear plant operators rather than their contractors and suppliers. In the United States, power plant operators have an additional safety "In Russia, there are no laws. The sky's the limit." - Edward E. Purvis III, a consultant to the nuclear industry of their own. U.S. utility companies are required to carry \$200 million of insurance per nuclear plant. If damages from an accident exceeded that coverage, the cost would be shared by all 116 U.S. nuclear power plants, which could be required to contribute up to \$75.5 million each. "In Russia, there are no laws. The sky's the limit. You don't know what you're getting yourself in for," said Edward E. Purvis III, a consultant to the nuclear industry. "Anybody would be an idiot to sign a contract where they assumed an undefined liability for an undefined limit," he said. More than being sued in one of the former communist states, some U.S. companies worry about being sued in a U.S. court, where they could face unlimited damages and seizure of their domestic assets, according to their briefing paper. The indemnity U.S. companies are seeking would absolve them of financial liability even if it were proven that their own flawed work caused an accident. Purvis suggested that the industry's hard line could be part negotiating position, but Brown said, "We're not doing this for posturing, that's for sure. I don't know what the compromise could be." Companies in Western Europe generally share the concerns of U.S. companies, industry officials said. U.S. contractors, while willing to proceed with work such as training Russian personnel, are balking at providing things such as fire safety equipment, control room panels and cooling valves, according to the Energy Department. Western governments have argued that many of the Soviet-built reactors should be shut down because of inherently dangerous designs, such as a lack of containment houses to prevent radioactive leaks. But Russia, which depends on the electricity the plants provide, does not agree that there are "fundamental problems" with the reactors, Nuclear Regulatory Commission Chairman Ivan Selin testified. "Much as we would like to see the many unsafe reactors shut down immediately, it is not likely to happen any time soon," Selin said. Copyright 1993 The Washington Post

BAN SOUGHT ON LOW-LEVEL NUCLEAR WASTE DUMPING

UPn 11/3/93 4:34 PM WASHINGTON (UPI) -- The White House plans to call for prohibiting the dumping of low-level radioactive waste at sea when an international meeting convenes next week in London, a spokeswoman said Wednesday. White House press secretary Dee Dee Myers said in a written statement that the Clinton administration's position is "a departure from the approach of previous administrations." Recently, Russia has been dumping radioactive waste in the Sea of Japan. The administration will seek an international legal prohibition against disposal of low-level nuclear waste in oceans at the next meeting of the London Convention on Nov. 8-12. The deliberate dumping of high-level radio active waste is already prohibited by the convention, but low-level dumping is allowed with a special permit. The United States has not dumped low-level waste in the ocean since 1970 and has no plans to do so, Myers said. Myers said the United States believes the nuclear powers have "a special responsibility to display leadership on sensitive ocean environmental issues," and said a prohibition would be a prudent move. The environmental watchdog group Greenpeace immediately applauded the Clinton administration's decision, saying, "Support for the ban will certainly undermine attempts by the U.K. and France to keep the dumping option open." "With this one decision, the U.S. government has regained the mantle of environmental leadership within the London Convention," said Clifton Curtis, U.S.-based political adviser for Greenpeace International. Curtis also said the decision shows the administration "has the backbone to stand up to the Navy," which has argued in the past to keep the dumping option open internationally. At the Earth Summit last year in Brazil, some 172 nations expressed general support for a ban on nuclear waste dumping at sea. However, six nations -- the United States, Britain, Canada, France, Japan and Russia -- until recently have opposed such a ban. Copyright 1993 The United Press International

US-NUCLEAR DUMPING

APn 11/3/93 6:19 PM Copyright 1993 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 TOM RAUM Associated Press Writer WASHINGTON (AP) -- The Clinton administration announced its support Wednesday for a complete global ban on radioactive waste dumping at sea, saying nuclear powers have a "special responsibility" for protecting the oceans. The move was applauded by environmentalists. An international ban on dumping high-level wastes is already in effect. Although the government claims the United States has not dumped any low-level radioactive wastes into the oceans since 1960, until now it has reserved the option of doing so. The administration will call for the international ban next week at a meeting in London of nations that have signed the so-called London Convention banning ocean disposal of high-level nuclear wastes. "The nuclear powers have a special responsibility to display leadership on sensitive ocean environmental issues," said White House press secretary Dee Dee Myers in a statement. "This announcement is a departure from the approach of previous administrations, which opposed specific international legal prohibitions regarding low-level waste disposal," the statement said. Greenpeace, a combative environmental group, praised the move. "With this one decision, the U.S. government has regained the mantle of environmental leadership within the London Convention," said Clifton Curtis, a spokesman for Greenpeace International. He called it "a major victory for global environmental protection." The administration announcement came on the day a Russian news agency reported that Russia's navy will continue dumping radioactive waste in the Sea of Japan until better disposal ways are devised. Japan and South Korea protested last month after a Russian tanker poured 990 tons of low-level waste into the Sea of Japan. "The Pacific Fleet will dispose of nuclear waste in keeping with schedule in areas of the Sea of Japan, which are known to (the International Atomic Energy Agency) and world public opinion," Adm. Georgy Gurinov, the fleet commander, was quoted by ITAR-Tass as saying. Russian officials contend the dumping posed no environmental threat. Since 1980, U.S. law has prohibited dumping of any nuclear wastes off U.S. coasts. The Environmental Protection Agency has supported a complete global ban. But in the past, the Navy has argued for keeping the dumping option open. Some 172 nations expressed support for a complete global ban on radioactive waste dumping at last year's Earth Summit in Brazil. Until recently, the United States, Britain, Canada, France, Japan and Russia have opposed such a full ban. The U.S. move follows an announcement by Japan that it would support such a prohibition.

WORLD MARITIME GROUP AGREES NUCLEAR SHIPMENT CODE

RTw 11/4/93 12:39 PM LONDON, Nov 4 (Reuter) - The International Maritime Organisation (IMO) on Thursday agreed a new code on transporting nuclear waste and plutonium but was immediately accused by the environmental group Greenpeace of failing to protect the seas. "The IMO has failed to live up to its responsibility to protect the maritime environment," a Greenpeace official said in a statement. "The needs of the nuclear industry have proven more important than those of safety and environmental protection," he said. But an IMO spokesman said: "We don't have a view on the rights or wrongs of nuclear activity. We feel if it has to be carried on ships there should be safeguards." Some countries expressed reservations against the code including North Korea, itself at the centre of a row over refusal to let international observers check whether it is producing weapons at its nuclear facilities. Pyongyang said it was opposed to any transportation of nuclear fuel or waste. The IMO spokesman said that currently there were no regulations governing the type of ships that may carry such substances and that the aim of the new code was to make such vessels safer. The spokesman also said the 147-member organisation had agreed to review its new code. REUTERCOPYRIGHT 1993 REUTERS INFORMATION SERVICES, INC. All rights reserved.

TMI INCIDENT PROMPTS NEW SAFETY RULES FOR NUCLEAR

...UPn 11/4/93 2:52 PM TMI incident prompts new safety rules for nuclear plants KING OF PRUSSIA, Pa. (UPI) -- The Nuclear Regulatory Commission has proposed stiffer security requirements at nuclear power plants to protect against attackers driving four-wheel-drive vehicles. In a news release Thursday, the NRC said the proposed changes came in response to the assaults in February on the World Trade Center and the Three Mile Island nuclear power plant near Harrisburg, Pa. The NRC said "there is no indication of an actual vehicle threat against the domestic commercial nuclear industry," but the New York and Pennsylvania incidents indicated that "a vehicle intrusion...to a nuclear power plant could develop without warning in the future." The proposed amendments would require nuclear facilities to develop defenses against "malevolent use of vehicles at nuclear power plants." In the incident at Three Mile Island, a man with a history of mental problems drove his station wagon onto the plant

grounds, crashed through a chain-link fence and slammed into the door of a building housing a turbine. No plant equipment was damaged and the man was captured after a four-hour search. In the World Trade Center bombing, in which six people died and more than 1,000 were injured, a rented van was allegedly used to transport the bomb to an underground parking garage. The NRC said it will now accept public comment on the proposed changes.
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CHRISTOPHER REASSURES CONGRESS ON NEW RUSSIAN MILIT...

UPn 11/4/93 3:27 PM Christopher reassures Congress on new Russian military doctrine By SID BALMAN Jr. WASHINGTON (UPI) -- Secretary of State Warren Christopher reassured a clearly worried Congress Thursday the new Russian military doctrine did not mark a return to the Cold War days of Soviet expansionism and nuclear threats. Moscow Wednesday dropped its 11-year-old pledge not to initiate nuclear war and defended the deployment of Russian troops to quell unrest anywhere in the former Soviet Union as part of the 23-page review of its military mission. Christopher said the United States never took seriously the Soviet Union's "no first use" nuclear policy, and said the new stance is similar to that of the United States. Although the doctrine does call for Russian troops to quash conflicts outside of Russia's borders, Christopher said, it also contains the "important proviso" that such missions will only be conducted in concert with former Soviet republics where fighting takes place. Christopher said he was "concerned about the possibility of Russian expansion," but the military review did not indicate that was Moscow's goal. The secretary of state couched the document in terms of Russia's struggle to redefine itself after the disintegration of the Soviet Union and said the Clinton administration, which has pledged more than \$5 billion dollars to help with reform, has no choice at this time but to support President Boris Yeltsin. "What we're seeing here is Russia coming to grips with the tremendous changes that have occurred over the past three years," Christopher told the Senate Foreign Relations Committee. "President Yeltsin is the best ally we have among the choices we have in Russia today." Sen. Richard Lugar, R-Ind., co-author of legislation that provided the former Soviet Union with nearly \$1 billion solely for disarmament and a champion of democratic reform in the struggling nation, said the new Russian statement of military policy "comes as a surprise." He expressed "some apprehension" about the possibility of Soviet-style Russian expansionism, and said it may be "time to call time and out and ask what's going on here of our friends." "It is clearly an attempt by people who are democratic as opposed to imperialistic in Russia to try to incorporate more of the independent states into their orbit," Lugar said. Numerous Russian officials openly discussed the new military doctrine Wednesday. And Russian Defense Minister Pavel Grachev told reporters Moscow opposes the expansion of the North Atlantic Treaty Organization to include former East Bloc nations, a proposal Yeltsin said he "welcomed" after meeting with Christopher in Moscow late last month. Yeltsin had initially opposed the idea, which the administration has dubbed the "Partnership for Peace," because phased admittance into NATO might redraw Cold War lines through the former Soviet Union and threaten European security. Christopher discounted Grachev's comments as words from a military commander with "a morale situation on his hands" during a time of drastic troop cuts. "I view Defense Minister Grachev's personal comments on this subject as a reflection of his own personal concerns," he said. Copyright 1993 The United Press International

AP 11/05 06:46 EST V0764 COPYRIGHT 1993.

The Associated Press. All Rights Reserved. LONDON (AP) -- The U.N. agency that oversees shipping safety has adopted new standards for the transport of nuclear waste and weapons-grade plutonium on passenger and cargo ships. But the standards approved by the International Maritime Organization are only voluntary, and some nations argue the shipments are still too dangerous. Japan's shipment of 1.7 tons of plutonium from France last November provoked an outcry over the potential danger of an accident or terrorist attack and put the issue of shipping nuclear material into the world spotlight. Some countries, including Japan, have their own regulations about shipping nuclear material. The new code is the first attempt to set international standards. b Radioactive materials can now be carried in any ship if they are in containers that meet standards set by the International Atomic Energy Agency. The new code establishes three categories of transport, based on the amount of radioactivity in the cargo. The most radioactive shipments can be carried only on ships with enhanced safety features, not passenger vessels. "The purpose of the code is to provide standards for the ships themselves," said Roger Kohn, the maritime organization's spokesman. "This is the first stage -- not the final word." The environmental group Greenpeace opposed the new standards. The code lowers existing safety levels and introduces the possibility of transporting types of nuclear materials that have never been shipped before, such as high-level nuclear waste, said Damon Moglen of Greenpeace. "This is the thing of which nightmares are made," Moglen said. At Thursday's

meeting, 123 of the 131 countries approved the code, Kohn said. It is not binding on the members, he said. The main objections were inadequate safety measures, lack of an international liability system to cover accidents, absence of plans for salvage operations, and no provisions to notify countries along the route. The organization also approved a U.S.-sponsored resolution urging governments to combat the smuggling of aliens on ships. It calls for countries to take "all necessary actions" to prevent the smuggling, including detentions and safety inspections of vessels. Ten passengers drowned and 277 people were taken into custody in June when a ship trying to smuggle Chinese immigrants into the United States ran aground.

RUSSIA-UKRAINE-NUCLEAR

APn 11/5/93 2:10 PM Copyright 1993 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 SERGEI SHARGORODSKY Associated Press Writer MOSCOW (AP) -- Ukraine risks a nuclear disaster that would dwarf Chernobyl unless it starts moving its aging nuclear arsenal to Russia by next year, Russia's foreign minister said Friday. An aide to Ukraine's president accused the Russian foreign minister of "scaring the world" to get the missiles, which Russia is to dismantle. Ukraine's 176 long-range missiles make up the world's third-largest nuclear arsenal. Under the START 1 treaty with the United States, Ukraine would give up all its missiles, leaving Russia the only nuclear state in the former Soviet Union. But although the former Soviet republic has pledged to become nuclear-free by the end of the century, it has been reluctant to part with its nuclear arsenal. Ukrainian leaders want unspecified security guarantees and financial compensation from the West and Russia in return. On Friday, they criticized Russia's decision earlier this week to reserve the right to use nuclear weapons first if attacked by a nuclear state that has not signed international accords. The Russian move was widely perceived as way to step up pressure on Ukraine to surrender its nuclear weapons. Russia's foreign minister, Andrei Kozyrev, warned on Friday that the warheads could pose a threat if they are not withdrawn to Russia by the end of the year and dismantled within two years. "Literally over the last few hours, we received very disturbing signals from our Ukrainian colleagues regarding the technical condition of a number of missiles," Kozyrev said before departing for the Black Sea port of Odessa for talks with his Ukrainian counterpart, Anatoly Zlenko. A Ukrainian presidential aide, Anton Budeiko, accused Kozyrev of "scaring the world" to gain control of the missiles. "All warheads are under the control of the same specialists who controlled them in the former Soviet Union," Budeiko told The Associated Press. "No questions arose at that time." Ukrainian Defense Ministry spokesman Alexander Kluban said the warheads "are in the technical state in which they should be. ...This state does not cause any concern." But Kozyrev said the weapons must be moved to Russia by Jan. 1 to avert a potential nuclear disaster. "Nuclear weapons stationed on Ukrainian territory can be safely kept only 24 more months. After that, nobody would guarantee their safety," he said. Any nuclear disaster, he said, would be "stronger than Chernobyl." In remarks reported by the ITAR-Tass and Interfax news agencies, Kozyrev said his talks with Zlenko would mostly be devoted to Ukraine's nuclear disarmament. The April 1986 explosion at Ukraine's Chernobyl nuclear power plant was the world's worst nuclear accident. It forced the resettlement of 180,000 people and killed a reported 32, although scientists say the death toll from radiation exposure could reach into the hundreds. Ukraine admitted in February that it had difficulties maintaining the weapons but denied the possibility of a nuclear accident. It blamed the problems on a lack of spare parts from Russia. Many Ukrainian legislators favor keeping at least some missiles. Fears of Russian aggression are common, and some politicians argue that without nuclear weapons Ukraine will lose international status. Earlier this week, Ukraine's president, Leonid Kravchuk, said he could not guarantee parliamentary approval of either START 1 or the Nuclear Non-Proliferation Treaty. He suggested that financial and political help from the West could serve as encouragement. Seeking to allay Ukrainian fears, Kozyrev said Russia was ready to provide "additional guarantees" of Ukraine's security.

BRITAIN MAY DUMP NUCLEAR WASTE AT SEA, TV SAYS

RTw 11/5/93 4:30 PM LONDON, Nov 5 (Reuter) - Britain is considering dumping the reactors from its old nuclear submarines in the Atlantic, a British television programme said on Friday. A 10-year international moratorium on dumping low-level radioactive nuclear waste at sea has just expired and signatory nations will meet in London next week to consider making the ban permanent. Channel 4 television said: "The government is considering dumping the reactors from seven nuclear submarines in the Atlantic Ocean...The government has offered the Navy no alternative ways of disposing of its redundant submarines." A defence ministry spokesman, questioned about the report, said the government was reviewing its policy on the disposal of decommissioned nuclear submarines. "The situation is that our policy is under consideration. There is no firm decision but we are

reviewing the policy," he told Reuters. He said the radioactive fuel rods were now removed from disused nuclear submarines and taken to the Sellafield nuclear reprocessing plant in northwest England, while the remaining hulk was kept afloat and carefully monitored. A marine biologist for the environmentalist organisation Greenpeace, Dr Paul Johnston, told the television programme that dumping radioactive waste at sea was extremely risky and could easily contaminate marine life. "It would be a triumph of hope over experience if radioactivity did not work its way back into the food chain," he said. "There is very definitely a risk. How great that risk is we simply can't evaluate." The United States called earlier this week for a global ban on the deliberate dumping at sea of low-level radioactive waste. An international dispute over nuclear waste erupted two weeks ago when Russian tankers dumped radioactive waste in the Sea of Japan, violating the London Dumping Convention which took effect in 1972. Washington said U.S. officials would formally call for a permanent ban on nuclear dumping when convention members met in London from November 8 to 12. REUTERCopyright 1993 Reuters Information Services, Inc. All rights reserved.

O'LEARY-WHISTLEBLOWERS

APn 11/6/93 5:17 PM Copyright 1993 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 BETHESDA, Md. (AP) -- Energy Secretary Hazel O'Leary says she is hanging a new sign on the door of the U.S. nuclear weapons complex: "Whistleblowers Welcome." O'Leary said Saturday she will not tolerate reprisals against workers who blow the whistle on safety hazards, waste, fraud and abuse at the Energy Department. "They ought to be celebrated when they do it, not punished," O'Leary said in an interview before speaking to a worker advocacy group, Public Employees for Environmental Responsibility. "I need whistleblowers. The country needs whistleblowers," she said in her speech. "Tell me when something is going wrong. "I understand how beaten, bullied, hopeless and scary it has been for you," she added. "We can't go forward until we look backward and correct what has been done in the past." O'Leary met privately with DOE and contract workers to discuss her commitment to agency reform. "You can't talk about putting safety as a No. 1 priority unless we are willing to change our behavior," she said in the interview. "I'm not fooling myself about how tough that it going to be. The behavior we're trying to change is 45 years old." Her top assistant in charge of nuclear waste cleanup said the DOE's past management of radioactive waste "can only be described as shameful." "Imagine at your house if you had a party every night for 45 years and no body cleaned up after it," said Thomas Grumbly, assistant secretary for environmental restoration and waste management. Grumbly told DOE workers during a workshop he expected their response to his remarks to be skeptical. President Bush's energy secretary, James Watkins, also took office with a pledge for change. "It's very difficult after banging your head against the wall for years," he said. "But by the end of the year, if we all push together, people won't recognize the DOE," he added. The message was well received by at least one whistleblower, Casey Ruud, of Kennewick, Wash. Ruud now works for the Washington State Department of Ecology as a manager overseeing cleanup at the Hanford nuclear reservation, the nation's most contaminated nuclear site. "The winds of change are upon us. It couldn't be more different," he said. Ruud had been a safety auditor at Hanford during the 1980s when he wrote a critical audit of safety and security practices. He also cooperated with a congressional investigation of problems in the nation's nuclear-weapons production system. Congressional investigators later concluded he was harassed illegally by his Hanford employer, and he won a monetary settlement. He relocated to DOE's Savannah River complex in South Carolina, but resigned in 1991 and filed a lawsuit this year claiming he was driven from that job.

U.S. STEPS UP EFFORTS TO COMBAT

...WP 11/6/93 11:00 PM U.S. Steps Up Efforts To Combat Terrorism; Strategies Changing With Nature of Threat By Pierre Thomas and Thomas W. Lippman Washington Post Staff Writers In the wake of the World Trade Center bombing and with new concerns about the unpredictability of the post-Cold War world, the federal government is developing new strategies to reduce the country's vulnerability to terrorists. Some are single-agency responses to specific situations, like a new plan by the Nuclear Regulatory Commission to increase security around nuclear reactors. Others, like a soon-to-be-completed State Department computerized lookout network, are part of a coordinated government effort to target potential terrorist activities abroad and be better prepared to respond to their threat here. "The World Trade Center bombing brought home to all of us very graphically the dangers posed by terrorists," said Barbara K. Bodine, acting coordinator for counterterrorism at the State Department, in a recent speech. "There are other developments now or on the horizon that may give us all . . . pause." The Feb. 26 bombing and the subsequent discovery of an alleged plot to blow up the United Nations drove home to law

enforcement officials that even amateur terrorists can inflict immense damage within U.S. borders. It made government agencies, which have been enhancing their domestic counterterrorism efforts since the early to mid-1980s, rethink their strategies and realize that more coordination and planning is essential. The threat of an apocalyptic war may have diminished. Even worldwide terrorism - much of it directed at U.S. citizens abroad - may be declining. But experts said the threat of terrorism within the United States appears to be higher. As the sole remaining superpower, often taking on a peacemaker role, the United States is likely to generate hostilities abroad and become a target, according to intelligence analysts. New international developments that are of concern to U.S. agencies are the emergence of Islamic fundamentalist groups in Egypt and elsewhere, and the violent confrontations in the Balkans, Haiti and Somalia, where the U.S. role has been questioned. Part of the challenge to federal agencies is the changing nature of terrorism, according to experts. Groups that have posed increasing concern in the United States and to its interests abroad are ad hoc confederations with limited technical training, perhaps without state sponsorship, coming together for a single operation such as the World Trade Center. The defendants charged in the World Trade Center and United Nations bomb plots are believed to be loosely knit groups that coalesced in New York-area mosques and had a common allegiance to the fiery teachings of Sheik Omar Abdel Rahman. Without constantly revamping its efforts, the government is incapable of following the formation and movements of these groups. The World Trade Center bombing, for example, showed the ingenuity of terrorists, who built a powerful bomb of easily obtainable materials, and were bold enough to act in one of the most populated cities. A major planning role has fallen to the Defense Department, which is finishing a study of future terrorism trends that forecasts the proliferation of weapons of mass destruction in a volatile world in which rich nations are pitted against poor ones. The project, called "Terrorism Futures" and scheduled to be released early next year, outlines the forms of terrorism that are likely to develop over the next decade as a result of religious, ethnic and regional conflicts. A Pentagon official said that when the study began nearly two years ago, he and his colleagues expected it would project that groups guided by "holy terror" or religious fervor would be the greatest threat. But the study determined that a greater source of potential trouble is an "us vs. them" mentality, in which fanatics from impoverished countries would attack industrialized nations. The study also will review the potential for new forms of terrorism such as electronic sabotage and environmental terrorism, like that seen in Kuwait during the Persian Gulf War when Iraq set oil wells afire. The study's main conclusion, according to a Pentagon official, is that "there will be proliferation of weapons of mass destruction," including biological, chemical and small nuclear devices. "In the past, tens or perhaps hundreds of people got killed" in terrorist incidents, this official said. "Now we have the potential for mass casualties. We can't stop it, so you have to develop strategies for dealing with it." White House officials have been told intelligence collection and defense planning must "address the potential threat from weapons of mass destruction and missiles around the world," according to a Sept. 27 "fact sheet." In this unstable new world order there is the growing threat that terrorists or so-called terrorist states such as Iran, Iraq or Libya could obtain such weapons. Iraq has repeatedly sought to acquire nuclear capability. Just last year, Iraqi agents murdered an Iraqi nuclear scientist who was seeking asylum abroad, State Department officials said. "Terrorism, up until now, has depended exclusively on conventional weapons and tactics," Bodine said in her speech. "That could change over the coming decade." Although intelligence sources would offer no new specific incidents to buttress their theory of a growing proliferation threat, they point to potential problems created by the splintering of the Soviet bloc and the attendant chaos. Former Warsaw Pact officials with military training, experience and access to weapons stocks and technology might sell their wares, officials worry. The fear of nuclear proliferation is powerful enough to sustain a federal response on several fronts. At the Los Alamos National Laboratory in New Mexico, nuclear weapons scientists have begun working on "counter-proliferation," said John D. Immele, associate director for nuclear weapons technology. The question is, "What if we decide we need to take out a nuclear facility somewhere?" as Israel did by bombing the Osirak reactor under construction in Iraq in 1981. If a nation is violating the Nonproliferation Treaty by producing plutonium or creating weapons-grade uranium, and the United States wants to destroy its facilities, "What kind of weapon should be used?" The scientists are trying to determine what weapons would destroy the facility and at the same time minimize leaks of radioactivity or toxic plutonium into the atmosphere, Immele said. This issue did not arise at Osirak because the reactor had not been put into operation when Israel attacked it. Partly in an attempt to send a message to potential nuclear terrorists, the Energy Department has begun publicizing a little-known unit created in 1975: the Nuclear Emergency Search Team, or NEST. NEST, which has a \$25 million annual budget, is a group of nuclear weapons experts from the Energy Department's laboratories and weapons plants who would be dispatched to help find and render harmless any radioactive device planted - or claimed to have been planted - by terrorists. With most of its equipment based at Nellis Air Force Base, Nev., NEST has planes, helicopters and sophisticated devices for detecting radiation that can be mounted on aircraft or carried in ordinary suitcases. About 800 scientists, engineers, technicians and support personnel from around the nation are "on-call" to respond in the event of an incident. NES, has been called out dozens of times, but the calls

proved to be hoaxes. When the FBI receives a threat, it asks an emergency management team at Energy Department offices in Germantown, Md., to assess its credibility. It responds with a minimum of two people to give an assessment. A major response could involve airplane-loads of equipment and several hundred people. "Obviously we think that this (a nuclear strike by terrorists) is a possibility," said Energy Department spokesman Sam Grizzle. Such an attempt by terrorists may be a "long shot," Bodine said in her speech. "But who would have thought that a small group of extremists in New Jersey would manage to build the device that wounded 1,000 people (and killed six others) at the World Trade Center last February?" For years the NRC has planned for attacks on the nation's reactor plants with armed response teams and all manner of detection systems. But in recent years, the commission has developed a closer working relationship with the nation's intelligence community. After the World Trade Center bombing and another, lesser known incident at the Three Mile Island nuclear plant in Middletown, Pa., the NRC was reminded of its vulnerability. Last January, Three Mile Island officials declared a "site emergency" when an intruder crashed a station wagon through a chain-link fence and disappeared on the site for four hours. The man was unarmed, but NRC officials say they decided that more precautions were needed. Now, they are considering regulations that would require vehicle barriers at all plant locations. The State Department is almost finished with a new computerized lookout network that it hopes will prevent the issuance of visas to suspected terrorists, as apparently happened with Abdel Rahman, the blind Egyptian cleric who entered the country repeatedly despite the government's knowledge of his alleged involvement in terrorism. Under pressure from Congress, the State Department began updating its lookout system for undesirables. About 90 percent of all U.S. embassies now have direct computer links. The key is to have information readily available and to share it with other agencies such as the Immigration and Naturalization Service. The government has been constantly updating a system in which federal agents, diplomats, intelligence analysts and military officials all play roles. The FBI has refocused its existing counterterrorism section in recent years, adding detailees from the Energy Department, the Defense Department and the CIA. The group, which is constantly altering its approach, is examining a range of global terrorist threats from the Middle East to South and Central America. Two years ago, the FBI created a special section focusing on threats from Iran. According to State Department officials, the Iranian fundamentalist government sanctioned murders in Germany last year and this year conducted attacks in Turkey and Italy. Syria, Libya, sundry Middle Eastern terrorist groups and Iraq also receive intense FBI scrutiny. "When you look at the terrorist threat, so much seems to point toward Iran," said Neil J. Gallagher, who heads the FBI counterterrorism section. "Two years ago, we said they needed added attention." About a year earlier the FBI created a database of potential targets that could cripple sections of the United States - ranging from the Alaskan pipeline to water supplies and power stations serving major metropolitan areas. Now if a threat is received the sites can be contacted immediately. The CIA, which reorganized itself to respond to terrorist attacks against Americans in the mid-1980s, is making administrative changes to expedite the flow of information to different agencies. The clearinghouse for all information about terrorist threats to U.S. interests is the CIA's Counterterrorism Center, created in 1986 on orders from President Ronald Reagan after the gunpoint hijacking of a TWA airliner. Although 20 employees of other government agencies are detailed to the center, only CIA employees furnish "finished analysis" for policymakers. Now the CIA plans to add analysts from other government agencies to expand the reservoir of expertise. "The threats are ever changing and your response must be ever changing," Gallagher said. Copyright 1993 The Washington Post

U.N. SHIPPING BODY AGREES SAFETY MEASURES

RTw 11/8/93 6:21 AM LONDON, Nov 8 (Reuter) - The International Maritime Organisation, the United Nations' shipping watchdog, unveiled on Monday a raft of measures designed to improve safety at sea and to protect the environment. The measures, covering a range of topics from the marine transport of nuclear waste to the suppression of piracy, were announced in a statement following the IMO's two-week biennial assembly which ended on Friday. They will now be recommended to the governments of the IMO's 147 member states, which are responsible for ratifying and implementing them. Among the recommendations is a code for the safe carriage of irradiated nuclear fuel, plutonium and high-level radioactive waste in flasks on board ships. The code, opposed by the environmental group Greenpeace, sets standards for the kind of ships allowed to carry nuclear waste. Greenpeace argues that the code fails to apply sufficiently stringent safety standards. Other items agreed by the IMO assembly include allowing state port inspectors to check the ability of crews to carry out their duties. At present inspectors' checks on foreign ships are limited to documentation and equipment. The IMO assembly approved a U.S.-sponsored resolution to permit ships suspected of smuggling illegal immigrants to be inspected on the high seas under certain conditions. It also announced improved guidelines for the survey of bulk carriers and oil tankers that are five years old or more and measures to prevent piracy and armed robbery against ships. Since

1959, the London-based IMO has adopted more than 40 maritime treaties that apply to about 96 percent of the world's merchant fleet. REUTERCOPYRIGHT 1993 Reuters Information Services, Inc. All rights reserved.

CHINA TO BUILD RADIOACTIVE WASTE DUMPS

UPf 11/9/93 3:37 AM

BEIJING (UPI) -- China will build a series of nuclear waste dumps by the turn of the century to store low- and intermediate-level radioactive wastes in preparation for the country's accelerated nuclear energy program, a state-run newspaper reported Monday. The first dump is planned for remote Gansu province in northwest China, which is about 1,000 miles from the nearest of China's two coastal nuclear plants, the official China Daily said. The article did not say how the nuclear waste would be transported to the dumpsite. Subsequent dumps in southern China would be nearer to nuclear plants now operating in Zhejiang and Guangdong provinces, but the region is also more densely populated. Four dumps in northwest, southwest, east and south China will "store and treat low- and intermediate-level radioactive waste produced by nuclear power plants," the article quoted You Deliang, an official at the China National Nuclear Corp. as saying.

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GREENPEACE ENDS OCCUPATION OF GERMAN NUCLEAR SITE

RTw 11/8/93 1:38 PM

(Eds: Greenpeace ends occupation, talks planned) MORSLEBEN, Germany, Nov 8 (Reuter) - Greenpeace activists occupied Germany's only nuclear waste site on Monday and left after the government promised talks on safety at the plant, the environmental group said. A Greenpeace statement said 200 activists moved out of the Morsleben plant in the eastern state of Saxony-Anhalt in the evening, about 14 hours after scaling the fence with ladders to take over the control room. Morsleben, an old potash mine where nuclear waste is stored permanently, is a leftover from Communist East Germany. Greenpeace accepted an offer by Environment Minister Klaus Toepfer for talks in return for ending the occupation peacefully without police interference, the group said. "Our protest action has brought Toepfer to the negotiating table," Greenpeace nuclear expert Inge Lindemann said. The statement said Greenpeace had agreed with Toepfer's ministry that the talks, his first with Greenpeace on Morsleben, would be held in his office in Bonn on Tuesday. There was no comment from the environmental ministry. Earlier, Toepfer condemned the action and demanded that the activists withdraw as a precondition for discussing safety standards at the plant. "To enter the control room by force was a serious form of trespassing and interfered in an irresponsible way with safety at the plant," Toepfer said in a statement. Police had cordoned off the site after the takeover. Lindemann said long-term safety at Morsleben was in doubt but Toepfer rejected the demand that the site be shut down on grounds that it was unsafe and has said the plant will remain in operation until at least 2000. The communist rulers of East Germany dumped 14,000 cubic metres of low and medium level radioactive waste at Morsleben before Germany was unified in 1990. Bonn initially shut down the plant for it to be modernised and it was reopened last year. REUTERCOPYRIGHT 1993 Reuters Information Services, Inc. All rights reserved.

BRITAIN-SUNKEN SUBMARINE

APn 11/16/93 4:40 PM

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By EDITH M. LEDERER

Associated Press Writer

LONDON (AP) -- Russia wants to entomb a submarine that sank off the coast of Norway, taking the lives of 42 crew members, to prevent it from leaking radioactive plutonium into the sea. Russia's Environment Minister Viktor Danilov-Danilyan said raising the submarine would be too dangerous and officials were considering pumping a hardening gel that would absorb radioactive material. Paul Beaver, senior publisher with Jane's Information Group, said Tuesday that the Russian proposal is untested. But if it works, he said the process could be used "to deal with dozens of other nuclear-powered submarines in the future as they are prepared for disposal." The gel contains a substance called chitosan which absorbs heavy metal salts such as plutonium salts. The gel would combine with calcium from sea water to form a substance that could prevent radioactive material from leaking into the sea for decades. A Russian government report released last week said small quantities of plutonium and radioactive

cesium already have leaked into the Norwegian Sea near the wreck of the Komsomolets. Only 27 members of the crew survived after the submarine caught fire and sank on April 7, 1989, about 100 miles from Norway's coast. The report predicted that large quantities of plutonium would start escaping by 1995, posing a greater threat to the environment, contaminating fish and producing "a negative political reaction" in Scandinavian countries. "The uncontrolled process of plutonium escape could occur in pulses and last for several years," it warned. Only one submarine with nuclear warheads on board has been successfully raised -- and then only partially, Beaver said. The deep drilling ship Glomar Explorer, chartered by the CIA, brought up the bow section of a Soviet submarine in 1974 that sank about 750 miles northwest of Hawaii. "Nobody has ever tried to encase a submarine before, and there are obviously tremendous difficulties with it," Beaver said. "But the encasing is an option which appears to pose the least risk." Danilov-Danilyan spoke to reporters last week after a closed-door meeting of the London Convention. The convention is a treaty, signed by 71 nations, which regulates the dumping of nuclear waste and other substances at sea. The Komsomolets sits among some of the world's most violent currents, churned up by the meeting of the cold Arctic sea and warm waters from the Gulf Stream. The report said the nuclear reactor was switched to a stable "cool down mode" at the time of sinking and engineering features made a nuclear explosion "absolutely impossible." But it said the submarine's hull was damaged, the doors of the torpedo tubes were open and sea water had come in contact with radioactive material in the nuclear-armed torpedoes. Plutonium has already leaked into the sea, although not in dangerous amounts, the report said.

DISPUTES DELAY END OF MIDEAST ENVIRONMENT TALKS

RTw 11/16/93 1:49 PM

CAIRO, Nov 16 (Reuter) - Arguments about disposal of Israeli nuclear waste and land reclamation in the Jordan valley erupted on Tuesday at a session of Middle East talks on the environment, a Palestinian delegate said. Mohammed al-Hmaidid told reporters that the Palestinians, Jordan and Egypt had finally agreed that the two issues should be dropped from a final statement on the two days of talks. A news conference to announce the statement was postponed late into the evening while delegates argued. Hmaidid said that because of the dispute, Egypt had announced it was "evaluating" whether to join in some 20 environmental projects that the multilateral conference had agreed to set up, including a plan for Israel, Egypt and Jordan to work together to control pollution in the Gulf of Aqaba. He added that the United States and Russia, co-sponsors of the Middle East peace process, had supported Israel's refusal to discuss nuclear waste or land reclamation at these talks. The nuclear waste issue is sensitive because Israel is widely believed to have nuclear weapons and keeps its nuclear programmes highly secret. Land reclamation in the Jordan valley touches another nerve because it involves territory near the West Bank town of Jericho, from which Israel is due to start withdrawing on December 13. Israel and the Palestine Liberation Organisation are holding intensive separate negotiations to settle how much territory Israel will give up. More than 40 countries and organisations are taking part in the environment talks, one of five sets of multilateral negotiations on the long-term future of the Middle East. The others cover economic affairs, refugees, water and arms control. REUTER

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UKRAINE NUCLEAR OFFICIALS SAY VIOLATIONS INCREASE

RTw 11/16/93 1:34 PM

By Alexander Tkachenko

KIEV, Nov 16 (Reuter) - Officials in Ukraine's nuclear industry admitted on Tuesday, three weeks after parliament decided to keep the Chernobyl station running, that safety violations at its plants were increasing. The officials, attending a meeting to improve safety standards, confirmed a newspaper report of a sharp increase in potentially dangerous incidents in the past two months at the five nuclear plants in the former Soviet republic. They blamed poor training of staff and attempts to increase electricity generation as Ukraine prepared for winter. "We have indeed seen an increase in minor incidents at our plants attributable to staff errors," said Nur Nigmatullin, deputy head of Ukraine's state-run nuclear energy utility. "But you must take into account that we have sharply raised our safety standards. We now shut down reactors in incidents when at one time we would merely have closed our eyes." The incidents outlined in the daily Kievskiy Vedomosti included the operation of a reactor at the South Ukraine station for three days in October without security systems. At the Zaporizha station, Europe's largest with five reactors, staff lost control of regulatory and security systems in one incident and a staff error prompted an unnecessary shutdown of a reactor in another. At Chernobyl, electronic equipment for a safety system was shut down for a time in one of two reactors which still function at the site of the world's worst nuclear

accident. Ukraine's nuclear industry, demoralised by the 1986 disaster, received a huge boost from parliament's decision last month to keep Chernobyl operating beyond the end of the year. Deputies also lifted a moratorium on the completion of reactors long under construction. Three were near completion when the freeze was imposed in 1991. Western countries expressed grave concern over parliament's decision, which was motivated by Ukraine's economic crisis and huge debts to Russia for gas and oil. The heads of all five Ukrainian plants applauded the decision in an article published on Tuesday in the daily Pravda Ukrainy and gave assurances that staff would work to improve safety and efficiency standards. But Nigmatullin said serious problems remained, with workers leaving the industry en masse, often enticed by salaries up to four times higher in Russia. "The best workers are leaving our stations and shortcomings among middle-ranking staff have caused the increase in the number of incidents," he said. "We still have too few possibilities to train them. Today's discussions and decisions will help improve the situation." Further embarrassment has been caused by recent disclosures that two nuclear fuel rods were stolen from Chernobyl. The 1986 Chernobyl disaster spread a nuclear cloud over most of Europe and contaminated vast stretches of land in Ukraine, Belarus and Russia. Ukraine says it has caused some 8,000 deaths and its aftermath still absorbs 11 percent of the national budget. Kievskiy Vedomosti quoted medical officials on Tuesday as saying that cases of psychiatric illness were on the rise because of the after-effects of the catastrophe.

REUTER

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S.KOREA PUTS ENVOY IN CHARGE OF NUCLEAR ISSUE

RTw 11/16/93 4:05 AM

SEOUL, Nov 16 (Reuter) - South Korean President Kim Young-sam on Tuesday appointed a special envoy to take charge of the thorny nuclear problem with communist North Korea. Kim Sam-hoon, 49, a special aide to Foreign Minister Han Sung-joo, will be expected to attend International Atomic Energy Agency meetings and ensure unity and consistency in the government's nuclear policy, a Foreign Ministry spokesman said. North Korea, which denies it is developing nuclear weapons, is refusing to bow to international demands for inspection of suspected nuclear facilities. REUTERCopyright 1993 Reuters Information Services, Inc. All rights reserved.

COURT OF AUDITORS REPORT ON COOPERATION WITH CIS, ...

RTec 11/16/93 2:31 AM

COURT OF AUDITORS REPORT ON COOPERATION WITH CIS, EAST EUROPE SUMMARY OF 1992 ANNUAL REPORT OF THE COURT OF AUDITORS DOCUMENT DATE: NOVEMBER 16, 1993 COOPERATION WITH THE COUNTRIES OF CENTRAL AND EASTERN EUROPE AND THE FORMER SOVIET UNION (Chapter 11) In 1992, Operation PHARE concerned twelve countries, including Bosnia-Herzegovina and the former Yugoslav Republic of Macedonia, which had benefited from humanitarian aid measures in 1992. TACIS assistance ("Technical Assistance to the Commonwealth of Independent States") to the former Soviet Union concerned 14 countries in 1992. In addition to its audits at the Commission, in 1992 the Court carried out audits in four PHARE countries (Bulgaria, Hungary, Poland and Rumania) as well as in Russia, and, at the beginning of 1993, at the European Bank for Reconstruction and Development (EBRD). Both the PHARE and the TACIS programmes represent for the recipient countries important programmes of aid for carrying through and consolidating political and economic changes. By virtue of the partnership system under which it operates, the PHARE programme in particular is making a significant contribution towards bringing the European Community closer to the countries of central and eastern Europe. However, unwieldy centralized management at the Commission in Brussels, which is to the detriment of the national authorities in the case of PHARE, and of the Commission's national Delegations in the case of PHARE and TACIS, tend to hamper the programmes whilst making no contribution to the effectiveness of management and checks. Despite the fact that the Court's on-the-spot inquiries revealed non-eligible items of expenditure (salaries of national staff, rental costs, acquisition of buildings), there were no cases of financial adjustment by the Commission from the point of view of the eligibility of the expenditure declarations submitted by the PHARE management units. Regarding the PHARE and TACIS contracts which it manages directly, at the end of 1992 the Commission was less and less able to carry out payments within the statutory sixty days. The Commission, either directly or through the EBRD, often funds studies of measures or investments which are not followed up. Nor is there any link between consultants' fees and results obtained. After providing finance during the first three years for a large number of studies carried out by western consultancies, in some cases at considerable cost, the Commission, along with the recipient countries, should now concentrate on putting the knowledge acquired into practice. The PHARE procedures do not provide for any

coordination with national budgets to obtain commitments from the budgetary authorities of the recipient State for the purpose of making available the supplementary resources which are indispensable to the successful implementation of the aid programmes. The principle that the authorities of the beneficiary country should jointly finance Community programmes continues to be disregarded in the PHARE and TACIS programmes. With regard to the field of nuclear safety, in 1992 the Commission did not adopt a clear policy or an effective operational and budgetary instrument. In future, humanitarian aid within the framework of the PHARE programme should only be funded in cases of extreme urgency and once real needs have been ascertained. As of the start of 1993, the Commission still did not have any clear idea of how the counterpart funds were being managed and used in central and eastern Europe. In May 1993, it was still not in a position to submit to the Court the management reports provided for on several of the counterpart funds, some of which had been set up as early as 1991. Such inadequate monitoring affected both the composition and the use of the funds, and consequently their contribution to the development of the countries concerned. The procedure for issuing invitations to tender in 1992 within the framework of TACIS is far from transparent for the market operators concerned. In TEMPUS - the programme of aid for higher education in the PHARE countries - the national priorities of the recipient countries, i.e. the reform of the higher education sector and the development of the teaching of management studies, were not always adequately taken into account. The selection of projects is still mainly carried out by Community experts rather than the competent national university authorities of the recipient countries. There was no system for appraising the programmes at the end of 1992 in order to take account of the knowledge acquired. The Commission's annual report on the management of PHARE in 1991 was not ready by April 1993. With regard to balance of payments loans, the Commission had not taken the measures made necessary by the partition of the Czechoslovak Federation which was planned for, and subsequently took place on, 1 January 1993. There was not always satisfactory coordination with the Member States, the G-24, the IMF, the EIB and organizations such as the EBRD, which makes it extremely difficult to ensure that the various sources of aid complement each other. This note is intended only to give brief information. For more details, please refer to the report adopted by the Court of Auditors, which also includes the replies received from the institutions concerned. For further information: External relations Department of the Court of Auditors tel. + (352) 4398-1 fax + (352) 4398-430 END OF DOCUMENT Copyright 1993 Reuters Information Services, Inc. All rights reserved.

JAPAN TO DONATE \$1 MILLION IN AID TO BELARUS

RTw 11/16/93 1:21 AM

TOKYO, Nov 16 (Reuters) - Japan will donate medical equipment worth about \$1 million to Belarus to help treat victims of the 1986 Chernobyl nuclear accident. The former Soviet republic requested the advanced diagnostic equipment including endoscopes and scanners, a Foreign Ministry spokesman said on Tuesday. The Japanese equipment will be delivered next month and at the end of February, he added without giving further details. The number of people believed to have been affected by the radiation leak from the nuclear reactor ranged from hundreds of thousands to several million. REUTERCOPYRIGHT 1993 Reuters Information Services, Inc. All rights reserved.

AT BORDER, NAFTA'S ENVIRONMENTAL PROMISE IS MURKY

WP 11/14/93 11:00 PM By Gary Lee Washington Post Staff Writer EL PASO, Tex., Nov. 14 - John Sproul says the North American Free Trade Agreement will help rid this city of the brown cloud hanging overhead. Linda Lynch counters that it will do no such thing. When Peter Emerson argues that the agreement will discourage pollution in Mexico, Richard Boren responds that it will probably encourage it. United in campaigns to clean up the Rio Grande and other local ecological causes, environmentalists in this city on the Mexican border are split down the middle over NAFTA. "On the one side are those who believe that NAFTA will bring economic growth and better environmental protection," said Sproul, El Paso's best-known conservationist. "Others believe we should concentrate on cleaning up the problems we have. It's a fundamental debate." National environmental groups are similarly divided. Since September, when the National Wildlife Federation and five other environmental groups endorsed the pact, and the Sierra Club and Friends of the Earth condemned it, the two sides have traded barbs. With the House set to vote Wednesday, the debate about all aspects of NAFTA has intensified, dividing Democrats and causing administration officials to predict a "Clinton landslide" - the narrowest possible victory - even as they agreed that NAFTA opponents now hold the upper hand in vote counts. (Details, Page A9.) As the vote nears, environmentalists on both sides have redoubled their lobbying campaigns. Last weekend, Sierra Club members joined labor leaders in anti-NAFTA rallies, while staff members at the World Wildlife Fund and other pro-NAFTA

environmental groups telephoned undecided lawmakers to urge support. NAFTA is designed to encourage trade among the United States, Mexico and Canada. But proponents sweetened the deal with a pledge of \$8 billion for cleanup along the border and an environmental side agreement that would impose up to \$20 million in sanctions against polluters. In their down-to-the-wire effort to sell NAFTA, Clinton administration officials are using the environmental provisions to help sway undecided lawmakers, with mixed success. But it is in this urban sprawl straddling the U.S.-Mexico border, including El Paso and the adjacent Mexican city of Juarez, where the debate over the environmental effects of NAFTA literally is closest to home. If the trade agreement passes, the area undoubtedly will boom with new industry and workers. Already the fastest growing city in Texas, El Paso, with a population of 545,000, will triple in size by 2045, according to forecasts by city planners. Juarez, population 1.3 million and home to more than 250 maquiladora factories, where foreign manufacturers - most of them from the United States - make products solely for export from Mexico in tariff-free zones, will grow even faster. In a region where the sky is brown with pollutants on winter days and gas emissions regularly exceed federal limits, such rapid growth will push ecological problems beyond control, local environmentalists warn. "In our ability to deal with existing environmental problems, we are at the level we should have been in the 1950s," said Lynch, a veteran of local anti-pollution battles. "NAFTA may well move us back to the 1940s." Pro-NAFTA environmentalists say the agreement will help them combat the area's glaring air quality problem. In El Paso, levels of carbon monoxide and other pollutants are consistently higher than the Environmental Protection Agency allows. The city regularly is ranked among the 10 with the dirtiest air in the United States. And temperature inversions lock pollutants in during the winter, leaving the dusky cloud over the city. In response, local environmental officials have enforced a strict anti-pollution regime that includes requiring industrial smokestack scrubbers, paving all of the city's streets and cracking down on smoke-puffing vehicles. In neighboring Juarez, few streets are paved and factory pollution controls are less strictly enforced. During a recent tour of the industrial sector of the city, a Mexican cement-making plant was engulfing the surrounding neighborhood in dust. "Dirty air doesn't stop at the border," said Jesus Reynoso, director of air quality for El Paso. "We would achieve much more progress if we could work more closely with our Mexican counterparts. NAFTA will give us the momentum to do that." A joint U.S.-Mexican air quality board recently was formed to study pollution on both sides of the border and work on ways to reduce it. "NAFTA locks us into closer working relations with the other side and gives us the momentum we need to move forward," said Emerson, a task force organizer and economist in the Austin office of the Environmental Defense Fund, which backs NAFTA. "A defeat of the treaty would set us back 20 yards." Some environmentalists here also regard the proposed border cleanup plan as a major carrot. The package includes \$2 billion already in the Clinton administration budget, a \$2 billion World Bank loan to Mexico and \$4 billion in North American Development Bank funds, to be contributed by both Mexico and the United States. The funds mostly are pegged for air pollution and water treatment programs. The plan is supposed to provide basic facilities to the colonias, a conglomeration of tenements on the outskirts of El Paso, where 65,000 people live in cardboard huts without running water or sewers. Similar developments in Juarez and elsewhere along the border also are to be revamped. Some environmentalists nonetheless consider the package inadequate for combating problems along the U.S.-Mexico border. In the past decade, millions of Mexican workers have flocked to the 2,000 maquiladora plants dispersed from Tijuana at one end of the border to Matamoros at the other. Few water or sewage facilities have been built to accommodate the surge. In Juarez alone, more than half the residents lack running water, according to El Paso health officials. And the U.S. side of the border claims four of the five poorest American cities. Beyond infrastructure, toxic dumps are a pressing environmental hazard along the border. In Juarez, for example, factories regularly dump chemicals into an 18-mile ditch that runs near the Rio Grande. Yet, the border cleanup provides little funding for combating toxics. "The cleanup package is clearly superficial," said Dan Seligman, a Latin American specialist with the Sierra Club. "It sells border residents way short." His group estimates that at least \$20 billion is needed for overhauling the border. Raul Munoz, associate director of El Paso's health district, disagrees. "If they are offering \$8 billion, it's \$8 billion more than they've offered before," he said. "We should take it and run with it." Environmentalists opposing NAFTA also warn that it will encourage unbridled industrialization along the border and elsewhere in Mexico's interior with minimal pollution controls. Long known for its lax enforcement of environmental laws, Mexico has stepped up controls in the past few years. Since 1990, for example, the city of Juarez has increased the number of environmental inspectors from three to more than 30. Still, controls on maquiladora plants there and elsewhere are far too lenient, environmentalists charge. Their latest example: the case of Presto Lock, a U.S.-owned lock manufacturing factory located in a residential section of Juarez. When a young Mexican girl burned her foot on acid waste outside the plant last June, authorities in Juarez shut the plant down and ordered executives to make an environmental audit. A few weeks later, however, it reopened. Dissatisfied with the response, a group of Mexicans living nearby blockaded the entrance of the plant for three days last September, charging managers there with continuing to pollute their neighborhood. The incident illustrates how lenient Mexican authorities are in proven

cases of industrial pollution, said Boren, coordinator of the International Environmental Alliance of the Bravo, an El Paso group. "This is the way Mexican officials are handling an environmental hazard at a time when they want to impress the U.S.," he said. "Under NAFTA this kind of thing would be much more common. It will only bring environmental protection on both sides of the border down to the lowest common denominator." From Lynch's perspective, environmental protection on the U.S. side is no better. She is organizing a protest against recent decisions to build a nuclear waste dump and allow sludge waste from New York to be buried near El Paso. "We complain that Mexican authorities are not responsive to our citizen's complaints," she said. "Our authorities are no more so." NAFTA proponents respond that a provision of the environmental side agreement allowing complaints to be filed against industrial polluters is likely to mean less industrial pollution on both sides of the border. Polluters could be fined as much as \$20 million. Copyright 1993 The Washington Post

NUCLEAR DUMPING-VOTE

APn 11/12/93 2:25 PM Copyright 1993 The Associated Press. All rights reserved. A breakdown of the vote to ban permanently the dumping of nuclear waste at sea by nations that signed the 1972 London Convention (42 of the 71 nations that signed the convention cast votes): ----- FOR: Argentina, Australia, Brazil, Canada, Chile, Cyprus, Denmark, Egypt, Finland, Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, Malta, Mexico, Morocco, Nauru, Netherlands, New Zealand, Nigeria, Norway, Oman, Papua New Guinea, Philippines, Poland, Portugal, Solomon Islands, South Africa, Spain, Sweden, Switzerland, Ukraine, United States, Vanuatu. ----- AGAINST: None. ----- ABSTENTIONS: Belgium, Britain, China, France, Russia.

NUCLEAR THEFT FOUND AT CHERNOBYL;UKRAINE'S ...

WP 11/11/93 11:00 PM Nuclear Theft Found at Chernobyl;Ukraine's Reactors Vulnerable, Security Chief Concedes By Robert Seely Special to The Washington Post KIEV, Ukraine, Nov. 11 - A top official in charge of security at Ukraine's nuclear power stations has painted a picture of dangerously lax conditions and sloppy standards. As a result, Anatoly Marushchak said in an interview Wednesday, thieves were able to walk out of the Chernobyl nuclear power station with two uranium-filled reactor control rods, officials discovered late last month. "Our atomic power stations are not secure against theft," he said. Western nations have repeatedly expressed concern about safety and policing standards in Eastern Europe's aging nuclear power industry. Marushchak's comments are likely to increase that concern. The Chernobyl power station, scene of the world's worst nuclear accident in 1986, is a special target of attention. Despite the theft - and Chernobyl's acknowledged poor safety record - lawmakers in this former Soviet republic voted last month to overturn an earlier decision to close the power plant. Marushchak, an Interior Ministry official in charge of Ukraine's nuclear defense coordinating team, said only one of the country's five nuclear power plants is equipped with isolation doors and electronic passes. "In Western countries, only some specific people can be admitted to premises where nuclear fuel is stored. Such a registration system has not existed here for the past few years," Marushchak said. A combined police and secret service team, he said, is still looking for the thieves who stole the Chernobyl fuel rods. The 3-yard-long zirconium rods and the 454 uranium pellets they contain are valued locally at more than \$1 million. "This looks like the work of a specialist, someone who knows the price and value of the fuel rods," Marushchak said. Ukrainian police, he said, still do not know when the theft took place. "We think it was sometime this year. We should know soon." With hyperinflation, economic decline and a drastic drop in living standards plaguing Ukraine, nuclear safety has dropped on the government's list of priorities. The same has happened in many neighboring states. Thefts from nuclear power stations are nothing new in the former Soviet Union. Authorities in Belarus, which borders Poland, admit their republic served as a conduit for smugglers trying to export uranium to the West. So far, however, smugglers have not been able to get hold of weapons-grade uranium, according to William Potter, nuclear weapons control expert at the Institute of International Studies in Monterey, Calif. For Ukraine, Marushchak said, it will take at least a year to install effective theft security systems in nuclear power plants. Copyright 1993 The Washington Post

RUSSIA EXPOSES NUCLEAR DUMPING BY SOVIET UNION

RTw 11/10/93 11:38 AM By Gareth Jones LONDON, Nov 10 (Reuter) - The former Soviet Union dumped radioactive waste at sea equivalent to nearly half the fallout from the Chernobyl nuclear explosion, according to a Russian government report circulated at a conference on Wednesday. Delegates from the 71 signatories to the London Convention, preventing marine pollution by dumping of wastes, were told huge amounts of radioactive material had been dumped off Russian coasts in violation of international law. The report said as much as 2,500

kiloCuries (a measure of radioactivity) of nuclear material was dumped by the Soviet Union, against about 6,000 released in the reactor explosion at Chernobyl in April 1986 -- the world's worst nuclear accident. Dumped nuclear reactors in waters of the Arctic Ocean pose the biggest environmental threat, said the Russian report distributed ahead of a speech to the convention by Russian Environment Minister Viktor Danilov-Danilian. Six reactors from submarines and one ice-breaker vessel had been dumped in the inlets of Novaya Zemlya in the Kara Sea. The report said Russia needed to assess the condition of the containers holding the radioactive waste and, if any does escape into the sea, the speed of contamination of food cycles. Research had so far failed to indicate any dangerous rise in radioactive levels in the areas affected. The report said the Soviet Union, a signatory to the Convention, dumped the radioactive waste in Arctic and Far Eastern seas between 1959 and 1991 without informing other members and the relevant international bodies. Details of the nuclear reactor dumping have emerged after Russia was last month forced to suspend dumping liquid and solid radioactive waste in the Pacific following an outcry from Japan, South Korea and the United States. But the report warned Russia could not wait forever. "Existing temporary storage facilities...are overfilled. Solid radioactive waste from vessels, ships and yards has been accumulating in containers in outdoor areas," the report said. To stop dumping at sea would lead to accumulation of waste onshore, causing "a rise in social tensions and a real threat to personnel and the population," the report concludes. At present the London Convention -- adopted in 1972 -- does not prohibit the marine dumping of low-level radioactive waste. On Thursday, however, delegates were scheduled to vote on a complete ban on marine dumping of all radioactive and industrial wastes and also on the incineration of chemical wastes. REUTER Copyright 1993 Reuters Information Services, Inc. All rights reserved.

MASKED MONGOLIANS MOP UP MYSTERY RADIATION SITERT

na 11/30/93 1:00 AM ULAN BATOR, Mongolia (Reuter) - Masked civil defense workers Tuesday carted away radiation-contaminated soil from a busy hospital district as Mongolians puzzled over an alarming mystery dating back, many fear, to their long Soviet alliance. Officials, newspapers and ordinary citizens in this isolated Asian capital are grappling with two key worries -- just how did all that strontium-90 get here, and could anyone have been hurt by exposure to it? Mongolia, which scrapped seven decades of communism in 1990 and proclaimed itself a nuclear-free zone in October, has no nuclear power stations or nuclear weapons. Strontium-90, which has medical applications, is a deadly radioactive isotope that is present in the fallout from nuclear explosions. Emergency Commission chief N. Olziykhutga told the official Governmental Newsletter that surface radiation in five trouble spots discovered in August ran as high as 700 milliroentgens. Olziykhutga gave conflicting assessments of the risks, saying such radiation levels generally are too low to endanger public health but also fearing he might be wrong. Taking no chances, a total of 30 men and one woman swathed themselves in radiation suits and masks before scooping up tons of tainted soil in Ulan Bator's busy Bayanzurh suburb for transfer to a "secure site" outside the capital, reports said. Scientists say the strontium-90 may be from 24 glass capsules sent from Moscow which mysteriously vanished in 1972, when Mongolia was communist and a Soviet client state. Although Mongolian scientists had asked for the strontium for research, they did not know what to do with it and buried it near the academy building in 1971, local reports said. A year later the buried capsules disappeared and the academy president was imprisoned as a scapegoat after a fruitless investigation. REUTER Copyright 1993 Reuters Information Services, Inc. All rights reserved.

WHITE PAPERS FINDS PLUTONIUM SAFETY STANDARDS STRICT...

UPf 11/30/93 12:14 AM White papers finds plutonium safety standards strict enough TOKYO (UPI) -- Japan's plutonium safety standards are so strict even a major accident at the nation's fast-breeder reactor would not endanger nearby residents, according to a 1993 white paper on nuclear safety issued Tuesday. Satsuki Eda, director general of the Science and Technology Agency, presented the report to the cabinet. A special section was devoted to plutonium use prior to the April 1994 date when the Monju reactor's fuel achieves a chain reaction. Although plutonium is 260,000 times more radioactive than uranium, the white paper said there is no intrinsic difference between the two substances. Plutonium is a byproduct of the burning of uranium. Even if an unpredictable accident occurs at Monju in Fukui Prefecture, safety measures are so strict nearby residents would receive less than the allowable levels of radiation, the paper said. Earlier this month, Japan announced it will continue its development of nuclear fuel recycling despite a global oversupply of plutonium. In an annual report, the Atomic Energy Commission noted some countries have slowed their nuclear fuel recycling activities due to an "easing world supply-demand of uranium" and the prospect of more plutonium from dismantled nuclear weapons in the former Soviet Union. Energy-starved Japan and France are opting to continue with the development of reprocessing

technology. At the end of June, Japan had 1.6 tons of raw plutonium stored domestically, of which 1.1 tons came by ship from France in January on a 19,200-mile voyage. The shipment generated alarm in more than 45 countries because of the potential for catastrophe in the event of an accident involving one of the most toxic, radioactive substances on earth. Copyright 1993 The United Press International

PROSTATE CANCER A GREATER THREAT TO BLACK MEN

RTw 11/29/93 1:19 PM CHICAGO, Nov 29 (Reuter) - Prostate cancer, which hits twice as many black men as white men, is often diagnosed at a later stage in blacks, a study released Monday said. In a University of Wisconsin study of 801 men diagnosed and treated for prostate cancer, the disease had spread beyond the prostate to other areas of the pelvis in 56 percent of the black patients as opposed to 38 percent of the whites. "Our experience shows that blacks tend to be diagnosed at a significantly later stage of disease than their white counterparts," Colleen Lawton, an associate professor of radiation oncology, reported to the annual convention of the Radiological Society of North America. Prostate cancer is the most common cancer among men. Previous studies have found that black men have an 85 percent greater likelihood of contracting the disease than whites and are twice as likely of dying from it. A separate study of men with the disease from the Eastern Virginia Medical School found blacks often had a more aggressive type of the cancer than whites, and had a poorer overall survival rate. "We need to study this issue further to determine if there are environmental or genetic factors that may contribute to these differences," radiation oncologist June Kim of the Norfolk, Virginia school said. REUTERCOPYRIGHT 1993 Reuters Information Services, Inc. All rights reserved.

ENERGY DEPARTMENT OKS START OF NUCLEAR WASTE ANALYZER

UPwe 11/29/93 1:12 PM RICHLAND, Wash. (UPI) -- The U.S. Department of Energy has authorized startup of construction of the first major solid-waste processing facility at the Hanford Nuclear Reservation in southeast Washington state, operators announced Monday. The \$89.1 million, 52,000 square-foot Waste Receiving and Processing Facility will analyze chemical wastes and waste from nuclear weapons production for new disposal, said Westinghouse Hanford Co., which manages the nuclear reservation for the Energy Department. The facility will examine and repackage wastes currently in underground storage trenches at Hanford to comply with new disposal and shipping regulations, Westinghouse Hanford said. The Energy Department eventually plans to dispose of the materials at a site near Carlsbad, N.M. The Hanford facility will dispose of "more than 37,000 drums of protective clothing, rags, small tools, solid and other types of contaminated materials," said Bill Hamilton, Westinghouse Hanford spokesman. Each drum holds 55 gallons. Some containers will be examined by X-ray. Others will be opened, sorted and repackaged. Westinghouse Hanford said the new facility will be able to process 6,800 drums of waste annually. Construction of the facility is scheduled to begin by next spring, with operation expected to begin in March 1997. Copyright 1993 The United Press International

PANELIST DISCUSS FUTURE OF PANTEX

UPsw 11/29/93 9:01 AM AMARILLO, Texas (UPI) -- Three panelists served up differing views on the future of the Pantex nuclear weapons assembly plant during a discussion sponsored by an Amarillo church. Beverly Gattis, president of Serious Texans Against Nuclear Dumping, Amarillo businessman Don Curphey, and Bill O'Brien, founder of Operation CommonSense, shared their views at the Unitarian Universalist Fellowship Church. Gattis told the group that if plutonium processing comes to Pantex, the plant would undertake new missions, including chemical processing of plutonium and other functions, that would generate numerous wastes. She added that the area must protect its agriculture resources from possible harm. Curphey said that Pantex' future offers high technology research work that could benefit mankind by solving problems of handling nuclear waste. O'Brien said the question of Pantex's future poses a dilemma for Amarillo and the surrounding area. He said the nation must decide what to do with its nuclear materials and how they should be handled and stored. Officials have not announced the future use of the plant. Copyright 1993 The United Press International

GREEN ISSUES GET SHORT SHRIFT IN RUSSIAN CAMPAIGN

Tna 11/28/93 6:13 AM By Mark Trevelyan CHELYABINSK, Russia (Reuter) - Natalia Mironova was just getting into her stride expounding her party's environmental policies when the radio interviewer cut her dead.

"The things on people's minds now are cheap sausage and rising crime. You can't interest listeners now by talking about ecology," he told the crestfallen candidate. "Ecology is fine. I'm all for clean rivers and against radioactivity, but people won't understand what you're saying. They won't vote for you." At first sight, such attitudes seem surprising in Chelyabinsk, a heavily polluted city of 1.2 million people whose giant armaments plants churned out ammunition, tank engines and armored vehicles to feed the Soviet military machine. This industrial center on the threshold of Siberia lies only 45 miles from a plutonium plant where a series of major accidents, hushed up until the late 1980s, subjected nearly half a million people to abnormally high levels of radiation. But the radio exchange reflected a harsh truth: despite the horrific environmental legacy of communism, green issues are firmly on the back-burner as politicians campaign for Russia's first post-Soviet parliamentary elections December 12. Mironova said she was upset by the incident, but not surprised. To most people, she said, everyday issues of economic survival are simply more pressing than environmental concerns. "Radiation risks and ecological risks can be put off till later, and today there are other dangers that can't be postponed: lack of food, prices that make it impossible to buy goods and feed your children, the risk of losing your job ... "This risk is more real today than the risk that the next generation of children will be born deformed." Mironova, one of the leaders of a local ecology movement that has sprung up in the last four years, is putting green issues at the forefront of her campaign as a candidate for the pro-reform Yavlinsky-Boldyrev-Lukin election bloc. Her main battle is to halt the production of nuclear materials at the Mayak plutonium plant, to stop the import of spent nuclear fuel for reprocessing, and to make the authorities resettle thousands of people living in contaminated areas. Another is to prevent the construction of a new atomic power station near Chelyabinsk, which is proceeding despite a local referendum in March 1991 in which three-quarters of voters opposed it. Only one environmental group, the little-known Constructive Ecology Movement or KEDR, succeeded in gathering the 100,000 signatures of support necessary to register at a national level for next month's elections. Lyudmila Boyarina, one of its four candidates in Chelyabinsk region, ascribed the apathy toward green issues to Soviet people's deep-rooted sense that they were powerless to influence the political decisions of their leaders. "Clearly this is the effect of the inertia of yesteryear. Before, we thought we had no say in influencing events, and this inertia has been preserved to this day," she said. Mironova, undeterred, says it will simply take time to raise people's awareness of the issues and put green parties on the political map. "Your green movement (in the West) started 20 years ago, and ours took shape as a popular movement maybe three or four years ago. It will take us seven to 10 years, if not 15, to raise the level of understanding," she said. REUTERCOPYRIGHT 1993 Reuters Information Services, Inc. All rights reserved.

NUCLEAR POWER IN HOMES POSSIBLE BY 2000 - SCIENTISTS

RTna 11/28/93 5:50 AM By Yann Tessier ROME (Reuter) - Two scientists who sparked a furor with claims of nuclear fusion in a test-tube, promising unlimited, cheap energy, said Sunday a household powerplant using the method was possible by the year 2000. Professors Martin Fleischmann and Stanley Pons triggered worldwide controversy in 1990 by saying they had harnessed fusion -- the energy of the stars -- with a simple apparatus costing a few dollars. Their findings astounded nuclear scientists who have spent billions of dollars trying to harness nuclear fusion. Scientists were unable to reproduce the experiments, leading to claims the two had made a mistake. But Pons told Reuters Sunday: "The technology for a small device, enough for a household, is there." "I don't see why it couldn't be done in the next six years," Pons, in Italy to chair a conference on the subject. The two have developed an apparatus which they say produces enough energy to keep a household light bulb alight for 15 minutes, but Fleischmann said they wanted to double its capacity every year. "To get a reasonably large device, one is talking of a few years," said Fleischmann, a professor at Southampton University in Britain and a member of the country's respected Royal Institute. He also spoke to Reuters by telephone. For over 40 years physicists have pursued fusion as the answer to mankind's energy problems, a technology that would put present-day nuclear fission reactors on the scrapheap. In fission, atoms yield up their energy when they are split. In fusion, which powers the sun and hydrogen bombs, energy is released when atoms fuse together. But the process has yet to be taken beyond the realm of experimental reactors so expensive that countries have had to club together to afford them. Fleischmann and Pons aroused worldwide debate by saying their experiments showed nuclear fusion achieved with simple apparatus made up of the metal palladium and deuterium, a form of hydrogen found in seawater. Pons said increasing numbers of scientists were now able to reproduce the energy-generating experiments, although they were still at a loss to explain exactly what was happening. "We stand by the fact that it is a nuclear reaction," said Pons, who runs the IMRA research institute in southern France. Many conventional nuclear scientists have disputed their claims, saying that if the reaction was truly nuclear, anyone standing next to the scientists' apparatus would be turned to a cinder by the radiation it should produce. REUTERCOPYRIGHT 1993 Reuters Information Services, Inc. All rights reserved.

RUSSIA THREATENS TO STOP SERVICING UKRAINIAN ARMS

RTw 11/26/93 11:30 AM By Ralph Boulton MOSCOW, Nov 26 (Reuter) - Russia threatened Friday to halt maintenance of strategic nuclear missiles in Ukraine, citing the Kiev parliament's imposition of stiff conditions for ratification of the START-1 treaty. In Kiev, top parliamentarians dismissed the Russian warning. They said international nuclear safety depended on cooperation between Russian and Ukrainian authorities. A statement by the Russian cabinet said maintenance by Russian engineers of the 1,600 former Soviet warheads still on Ukrainian territory would constitute a violation of the 1968 Nuclear Non-Proliferation Treaty (NPT). "Ukraine is renegeing on all its obligations on nuclear arms, both on a bilateral and multilateral basis," the statement said. "With the adoption of the ... resolution, Russia was put in the position where it is unable to continue maintenance of the strategic offensive weapons." Russian engineers are responsible for maintenance of the missiles and silos. Officials have complained that Ukrainian representatives have denied them access to sites. They also accuse the Ukrainians of keeping the missiles in unsafe conditions. Ukraine's parliament ratified the START-1 treaty last week but declared the pact applied only to 36 percent of missiles and 42 percent of the warheads in Ukraine. It also made any moves towards disarmament contingent on security guarantees from other nuclear powers and substantial compensation. Russian Foreign Minister Andrei Kozyrev said the conditions were tantamount to seeing the emergence of a new nuclear power. He said it could badly disrupt international relations, particularly in Europe. The United States and NATO said they hoped Ukraine would follow through on pledges to become non-nuclear. Washington said it could "seriously delay" the pact's implementation. The Russian cabinet statement said Ukraine's parliament had undermined the commitment it took last year to abandon all weapons by signing START-1 and the appended Lisbon protocol. This protocol of May 1992 expanded the former Soviet-American agreement to cover not just Russia but also Ukraine, Belarus and Kazakhstan. "(The ratification) cannot be recognised on that basis since the reservations distort the treaty's aims," it said. The statement said Russia was ready for talks with Ukraine on solving disputes over nuclear weapons. REUTERCOPYRIGHT 1993 REUTERS INFORMATION SERVICES, INC. All rights reserved.

TEMPERATURES RISING AS NUKE WASTE PLANT AWAITS FATE

RTna 11/26/93 9:22 AM By Penny MacRae LONDON (Reuter) - Britain's Conservative government is expected to announce soon whether it will allow the start-up of a huge nuclear waste reprocessing plant that critics say could lead to the spread of nuclear weapons. The \$4.28 billion structure at the Sellafield nuclear site in northwest England is intended to recycle spent nuclear fuel. Its end product is deadly plutonium, used in making nuclear weapons, and uranium, of which there is already an oversupply. "Plutonium is a security risk and everyone wants to reduce it rather than increase it so starting the plant up makes no sense," William Walker, director of the science policy research unit at the University of Sussex, told Reuters. The government has already said it "is minded to approve" the plant, known as Thorp. Building was completed in March 1992 but the plant has been lying idle pending a decision on its fate. The reprocessing plant will be the second such facility to be built at Sellafield, on the edge of the Lake District tourist region. It will produce 50 to 70 tons of plutonium in the first 10 years of operation. That will add to 150 tons stockpiled worldwide, of which about 37 tons are stored at Sellafield. Ireland, Norway, Sweden, Iceland, Finland and Denmark have expressed concern about Thorp and Germany faces growing domestic pressure to make its utilities break their reprocessing deals with the plant. A U.S. Defense Department report said Thorp would increase the danger of terrorist groups obtaining nuclear arms and add to the risk of nuclear conflict. Construction of Thorp -- which stands for Thermal Oxide Reprocessing Plant -- was approved after oil prices shot up in the wake of the 1973 Middle East war, when it was believed nuclear power would expand rapidly and uranium fuel would be in short supply. The answer, it was argued, would be a new generation of reactors called fast breeders that could be fuelled by recycled uranium and plutonium produced by reprocessing uranium. Britain would be at the forefront of a profitable new technology, recycling nuclear fuel from other countries and returning it to them to use in their own fast breeders. Events such as the accident at the Three Mile Island nuclear power station in the United States in 1979 and the Chernobyl disaster in Ukraine in 1986 plus worries about the environmental effects of nuclear power put a brake on the industry's growth. Vast cheap deposits of uranium were also found, eliminating fears of a shortage. Now only Japan plans to build fast breeders using plutonium and those have been dogged by difficulties. "Every one of Thorp's justifications has now evaporated," said Rick Lecoyte, spokesman for the environmental group Greenpeace. Scientists say it is cheaper and safer to put nuclear waste into storage, containing it without further treatment. "Reprocessing is an exercise gone through for nothing. You have discharged radiation into the environment, you have increased the volume of

radioactive waste, you have created a greater security risk. What's the point?" asked Walker. British Nuclear Fuels Ltd, the state agency which owns Sellafield, rejects the claims and says it has a full order book for its first decade that will earn at least \$739.3 million in profit. "It would be economic madness not to proceed," a spokesman said. Thorp is "an excellent example of a safe and successful high-technology, export-orientated British business," it said. The deals were signed when nuclear industries believed reprocessing was the best way to treat the waste and had plans for their own fast breeders to use the plutonium, critics say. Critics say they fear Britain will become a dustbin for the world's nuclear waste if Thorp goes ahead. "Britain will be stuck with the stuff," said Greenpeace's Lecoyte. REUTERCOPYRIGHT 1993 Reuters Information Services, Inc. All rights reserved.

RADIOACTIVE CHAIR KILLS RUSSIAN BUSINESSMAN

UPn 11/26/93 9:07 AM MOSCOW (UPI) -- A Russian businessman who died recently of mysterious causes was apparently killed by his chair, which has been found to be highly radioactive. Investigators discovered that the deadly office chair contained 1.5 million times more radioactivity than normal background levels, causing fatal radiation poisoning in the man. Copyright 1993 The United Press International

BABBITT SHIFTS STANCE ON MOJAVE DUMP SITE

WP 11/25/93 11:00 PMLos Angeles Times In an abrupt change of policy toward a proposed nuclear waste dump in California's eastern Mojave desert, Interior Secretary Bruce Babbitt has bowed to the concerns of opponents of the dump by declaring on Wednesday he will not transfer federal land for the site until the courts have addressed environmental safety issues. Babbitt's decision could postpone final approval of the Ward Valley operation for at least a year, giving the opposition time to refine its arguments and raising the possibility that California Gov. Pete Wilson (R), the dump's most powerful supporter, could be out of office before the final showdown. In a letter to Wilson Wednesday, Babbitt indicated he was abandoning a course of action he had proposed only three months ago - to hold a limited administrative hearing on the environmental safety issues in time to make a decision on the land transfer by early next year. The the state must acquire the federally owned site before operations could begin. Babbitt's initial proposal last August for a speedy hearing process angered environmental and anti-nuclear groups. As lobbying by both sides in the Ward Valley debate intensified, Babbitt was bombarded by criticism that a limited hearing would not address the most vital safety questions: whether leaks of radioactive material from the dump could make their way to the nearby Colorado River, and whether U.S. Ecology, the company licensed to run the dump, is a qualified operator. Meanwhile, Babbitt and Wilson were unable to agree on who should preside over the administrative hearing. By early this week, sources close to Babbitt said he and the governor had reached an impasse in negotiations over the hearing officer. Aides to the secretary said he was working on "a new approach" to the problem. The biggest challenge, sources said, was for Babbitt to avoid looking like he had reneged on his August proposal to move quickly. Copyright 1993 The Washington Post

NUCLEAR WORKERS RUN HIGHER RISK OF PROSTATE CANCER

RTw 11/25/93 5:10 PM (Eds: release at 7:01 PM EST) LONDON, Nov 26 (Reuter) - Nuclear power plant workers exposed to certain radioactive agents are up to five times more likely to develop prostate cancer, according to a British study published Friday. Scientists from the London School of Hygiene and Tropical Medicine and the Imperial Cancer Research Fund compared prostate cancer rates among nuclear workers with the population at large and then studied possible radioactive causes of the tumours. Reporting in the British Medical Journal, the team said it had isolated five radioactive substances linked to increased risk -- tritium, chromium-51, iron-59, cobalt-60 and zinc-65. Men who worked in situations where they might be exposed to these agents were 2.5 times more likely to get prostate cancer, for which the normal lifetime risk is one in 60. Men known to have been contaminated had a fivefold risk increase. The possible carcinogenic effect of radiation is a contentious issue in Britain, where some studies have suggested a link between a nuclear plant at Sellafield, in northern England, and leukaemia in children of site workers. The prostate study found that other potentially hazardous substances, such as plutonium or uranium, carried no increased risk. Cancer of the prostate, a gland that secretes a fluid forming part of the semen, is one of the most common forms of fatal malignancy among elderly men. The researchers looked at 136 cases of prostate cancer diagnosed in British nuclear power workers between 1946 and 1986, about three quarters of whom were employed at a heavy-water reactor in southern England closed two years ago. "Prostate cancer is very common among older men but we found the age at diagnosis to be younger than usual. Six out of the 14 known to have been contaminated were in their 40s or 50s when they were diagnosed, which is unusual," said Dr Valerie

Beral, head of the cancer fund's Cancer Epidemiology Unit at Oxford and visiting professor at the London school. But Beral said the risk could be due to particular circumstances and might not apply throughout the nuclear industry. "It is not possible to isolate which one, or which combination of these five substances is responsible. That is something which needs further research," Beral said. The researchers found that 10 percent of the cancer sufferers had definite internal contamination by at least one of the five substances. The risk of cancer increased the longer a man had worked in a potentially contaminating environment. REUTERCopyright 1993 Reuters Information Services, Inc. All rights reserved.

WARD VALLEY HEARING PUT ON HOLD

UPwe 11/24/93 5:36 PM WASHINGTON, D.C. (UPI) -- Interior Secretary Bruce Babbitt said Wednesday he is postponing a hearing on the transfer of federal lands in Southern California's Ward Valley for a proposed low-level nuclear waste dump, putting the future of the project once again in doubt. In a letter to Gov. Pete Wilson, Babbitt said he was shelving plans for a hearing pending the outcome of a lawsuit challenging the state's decision to license an operator for the Mojave Desert site. Environmental groups filed suit in Los Angeles County Superior Court against the state in September after the Wilson administration licensed US Ecology to run the proposed dump. The suit argued that the state was required to hold a full hearing on the issue before licensing someone to operate the dump. "Because the court is now being asked to order a hearing at least as comprehensive as (the federal government's), it seems to me the proper course is to await the outcome of the state court litigation, which might shed further light on the issues in dispute," Babbitt wrote. Jennifer Nelson, a special assistant in the state Health and Welfare Agency, called the announcement "disappointing" and said the lawsuit could drag on for two years, placing the entire project in jeopardy. "This makes it very difficult for California as we try to deal with a critical public policy issue," Nelson said. "We need to sit down now and review our options." Nelson said the decision "didn't make a lot of legal sense" since a state appeals court ruled last year that California law did not require the Wilson administration to hold a hearing on the proposed dump. The administration has argued the site is safe and that eight years of review and hearings have addressed all lingering questions about the dump, which would accept low-level nuclear waste from four states. Opponents of the proposed dump contend the nuclear waste could leak into the groundwater, reach the nearby Colorado River and contaminate drinking water for the Los Angeles area. Sen. Barbara Boxer, D-Calif., one of the most outspoken critics of the proposed dump in recent months, hailed Babbitt's decision. "This is a huge victory for those of us who have serious and deep reservations about the suitability of Ward Valley as a nuclear waste site," Boxer said. While Babbitt said he was putting off his demand for a hearing, the secretary said he would renew his call for a full review of the matter if the court ruled against the Ward Valley opponents. "That commitment remains firm," Babbitt wrote. "There should be a comprehensive and fair evidentiary hearing before an impartial hearing officer before I will consider whether to transfer this land for this purpose." If a land transfer was approved, the 1,000-acre site would accept low-level nuclear waste from Arizona, North Dakota, South Dakota and California. The site would remain open for 30 years and then be monitored for another century. Copyright 1993 The United Press International

CULT TRIES TO STAGE SECOND APOCALYPSE IN UKRAINE

RTw 11/23/93 5:19 PM By Ron Popeski KIEV, Nov 24 (Reuter) - A doomsday cult that prophesied an apocalypse earlier this month, its leaders now in jail and its followers under close police scrutiny, was preparing for a second "day of judgment" on Wednesday. Ukraine's interior ministry, which has expended huge amounts of time and money keeping track of the White Brotherhood, said they believed only a few dozen people at most would gather outside St Sofia Cathedral in central Kiev. "Certainly the event will be much quieter than the first end of the world," spokesman Viktor Vasilkov said on Wednesday. The square outside the 11th century cathedral, deemed the "closest point to the cosmos" by the cult, was deserted on Tuesday. A lone police car stood on patrol. About 300 people turned out for the cult's anti-climactic first "judgment day" on November 14, mainly journalists, police and parents looking for children they said were enticed away by the Brotherhood. The group has since kept police on the hop with bomb threats demanding the release of its two leaders -- "living god" Marina Tsvygun and her husband, "prophet" Yuri Krivonogov. On Monday police searched another imposing Kiev Cathedral, St Volodymyr, after a caller said the cult had planted explosives inside, but nothing was found. A Kiev radio station reported a threat to blow up thermal and nuclear power stations, including the Chernobyl plant, where the world's worst nuclear accident occurred in 1986. Tsvygun, a former journalist, and Krivonogov, a scientist, were arrested after they led followers into St Sofia and damaged priceless icons in a brawl with police. They have been charged with fraud, embezzlement and corrupting minors. Police have detained about five activists per day in the past

week. A Reuters photographer saw a bearded man picked up at Kiev's railway station on Tuesday after he told police he had come from Vladivostok in Russia's far east for the promised spectacle. Cult literature had predicted that 144,000 followers would witness the death and take part in the "resurrection" of Tsvygun, who calls herself Maria Devi Khristos. The cataclysm had originally been scheduled for Nov 24, then rescheduled for Nov 14 on the pretext that the cult had miscalculated the number of "Biblical days" since its founding. Its latest pamphlet denounced Ukraine's leadership and said the event was on again for Wednesday. The cult's activities have preoccupied Kiev residents, particularly parents worried about its effects on children disoriented by the rapid changes in post-Soviet society. Rumours sweeping the city even blamed the cult for a five-day electricity cut in Obolon suburb in some of the coldest weather seen in Kiev for 50 years. "Only someone very foolish could link this with the White Brotherhood," Leonid Sosyukin, head of Kiev's electricity utility, told the daily Kievskiyi Vedomosti. "The cut occurred because of badly laid cables and overloaded lines." REUTERCOPYRIGHT 1993 Reuters Information Services, Inc. All rights reserved.

CLINTON, KIM SET CONDITIONS FOR TALKS WITH NORTH KOREA

UPn 11/23/93 3:58 PM By LORI SANTOS WASHINGTON (UPI) -- President Clinton said Tuesday that before the United States will discuss any concessions, North Korea must resume talks with South Korea and allow international nuclear inspections. Adopting a firm line after additional talks with South Korean President Kim Young Sam, Clinton said continued intransigence will mean North Korea risks "facing the increased opposition of the entire international community." He held out only a small olive branch by promising the United States would discuss a "wide range of issues" with North Korea if that country took the two steps. But in doing so, he clearly retreated from earlier suggestions he would offer a new package of incentives, including the possible cancellation of joint military exercises, should Pyongyang forswear nuclear weapons. Clinton appeared to have been influenced by Kim, who said in recent days he opposed any concessions to North Korea until direct talks were reopened and the inspections resumed. But Clinton said there was no dispute between them. "We're not divided at all," he told reporters. Communist North Korea now faces "a simple choice," said Clinton. "If it abandons its nuclear option and honors its international non-proliferation commitment, the door will be open on a wide range of issues, not only with the United States but with the rest of the world. "If it does not, it risks facing the increased opposition of the entire international community. We are prepared to discuss with North Korea a thorough, broad approach to the issues that divide us and once and for all, to resolve the nuclear issue. "But we cannot do that in the absence of a dialogue between North and South Korea and while there is still growing doubt about the continuity of IAEA safeguards," he said. Kim told reporters no deadline had been set for North Korea to comply but said, "We will not wait endlessly." Clinton also allowed that there was little support now in the United Nations for sanctions against North Korea, another approach he had pursued in searching for ways to convince Pyongyang to allow the inspections. He said he was moved to reaffirm the U.S. commitment to South Korea's security in light of North Korea's recent massing of troops near the demilitarized zone that divides the two countries, as well as its refusal to allow the inspectors of the International Atomic Energy Agency into two suspected nuclear facilities. And he said he had no immediate plans to cancel scheduled military exercises between the United States and South Korea, as North Korea has demanded. Secretary of State Warren Christopher said later Tuesday that "the commitment of the United States to the security of the Republic of Korea remains rock solid." The discussions were dominated by the controversy over North Korea's nuclear policy, which has consumed a good deal of Clinton's time in recent weeks. He consulted on the subject last weekend with Kim and the leaders of Japan and China at the Seattle meeting of Asia-Pacific leaders and had appeared ready to pursue a new tack with North Korea by discussing incentives. But it was back to the tough talk of recent months, with Clinton alluding again, as he did during a trip to Seoul in July, to a devastating North Korean defeat should it contemplate military provocation. "I know no one who seriously believes that the United States and Republic of Korea would be defeated in a war of aggression with North Korea if they were to attack," he said. "If they were to do that, they would pay a price so great that the nation would probably not survive as it is known today." Christopher and South Korean Foreign Minister Han Sung Joo signed treaties at the State Department in which the two nations agreed to share evidence in criminal investigations and to reaffirm Seoul's financial support for U.S. troops deployed on the peninsula. Copyright 1993 The United Press International

GERMAN PROTESTERS CLASH WITH POLICE OVER NUCLEAR RODS

RTw 11/22/93 7:07 AM BRUNSBUETTEL, Germany, Nov 22 (Reuter) - German police in the northern city of Brunsbuettel clashed on Monday with around 150 demonstrators who were trying to prevent the transport of burnt

nuclear fuels to a reprocessing plant in Britain. Eyewitnesses said police used water cannon to disperse protesters who blocked the exit from the Brokdorf nuclear plant. The demonstrators failed to prevent the removal of six nuclear rods for shipment to British Nuclear Fuel's Sellafield plant. German environmental groups are against the transport of nuclear materials and also oppose the reprocessing of nuclear waste. Germany, which gets about one third of its electricity from nuclear energy, sends all of its used nuclear rods to Britain and France for reprocessing as it has no such facilities. REUTERCopyright 1993 Reuters Information Services, Inc. All rights reserved.

EP APPROVES RESOLUTION ON NUCLEAR FUEL PROCESSING

RTec 11/19/93 6:54 AM EUROPEAN PARLIAMENT SESSION NEWS PRESS RELEASE DOCUMENT
DATE: NOVEMBER 18, 1993 + The processing of nuclear fuel + Thursday, 18 November - A resolution welcoming the decision of the US administration to repatriate used nuclear fuel elements from Mol in Belgium and to store them on its territory was approved after amendment. Another joint motion put down by the Green and Rainbow groups rejecting any reprocessing of nuclear fuel rods was rejected. Winnie Ewing (Highlands and Islands, RBW) complained that there were plans to transport the nuclear fuel rods from Mol to the processing plant at Dounreay in Scotland. Any such plan to reprocess these rods at Dounreay would be illegal, she claimed, as Dounreay was only entitled to deal with its own nuclear waste. Such transport would also be dangerous, she added. END OF DOCUMENTCopyright 1993 Reuters Information Services, Inc. All rights reserved.

RUSSIA-STALIN

APn 11/17/93 11:38 AMCopyright 1993 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 portrait of Josef Stalin continued a life of its own long after the Soviet dictator's death, emanating glowing radioactivity, officials said Wednesday. The engraving of Stalin on a metal plate was covered by a layer of radium with a radioactive level of 200,000 micro-roentgens, about 10,000 times higher than the normal level, according to nuclear safety officials. The engraving was presented as a gift to Stalin from collective farmers of Soviet central Asia in 1944 and was stored in the Revolution Museum. The radioactive substance was used to make the portrait glow. The portrait was recently buried at a special dump site near Moscow when the danger was detected. It was not known when the portrait was last on display.

GORE SAYS NUCLEAR REACTORS STILL CARRY RISKS

RTw 12/6/93 5:10 PM BOSTON, Dec 6 (Reuter) - Vice President Al Gore, an ardent environmentalist, said Monday that today's nuclear reactors still carry risks but future technology may create a safe variety. "I think that the current generation of reactors presents enormous problems," Gore told a questioner at Harvard University's John F. Kennedy School of Government. "I don't exclude the possibility that a new generation of passively safe reactors may be far more attractive in the future." Gore said he will leave Saturday for Khazhakistan, Kurdistan and Russia, where he will discuss with officials of those nations the former Soviet Union's nuclear problems. Among the topics will be the Chernobyl class of power plant and the disposal of nuclear waste. Speaking on community empowerment at the Kennedy School, Gore outlined a new Clinton administration neighbourhood improvement proposal. The programme is aimed at setting up demonstration projects in nine American cities to show how federal and private enterprise resources can rejuvenate decaying areas. Citing the administration's National Service and Community Policing programmes as prototypes, Gore said, "Our community empowerment agenda offers an assortment of services that every community in America can choose, and then shape to meet their own goals." Gore said President Clinton will announce in January criteria for urban communities to apply to be named one of nine "empowerment zones" or 95 "enterprise zones" authorised by Congress under a \$3.5 billion programme of investments and tax credits. REUTERCopyright 1993 Reuters Information Services, Inc. All rights reserved.

BRITON WINS COMPENSATION IN RADIATION CASE

RTw 12/6/93 10:07 AM LONDON, Dec 6 (Reuter) - A former nuclear submarine worker who contracted leukaemia won compensation from Britain's Ministry of Defence on Monday in a landmark court case. Rudy Molinari, who said he was exposed to ionising radiation while working at Chatham dockyard, southeast England, between 1970 and 1983, was awarded 167,154 pounds (\$249,600) in damages by the High Court in London. As an engine fitter, he worked in submarine reactor compartments where his job involved cutting into cooler pipes which had been

coated with radioactive deposits from reactors. It was the first time damages have been assessed against an employer for an employee contracting leukaemia at work. The amount was less than the 250,000 pounds (\$373,500) Molinari had been seeking. "I'm glad it's all over but no amount of money will ever be enough to compensate what myself and my family have gone through," Molinari, 39, told reporters after the judgement. The Ministry of Defence had accepted liability and agreed to pay damages but had denied negligence. Molinari developed acute leukaemia and was admitted to hospital in 1990. He has not been able to work since then. Molinari said the ministry had failed to achieve adequate safety standards or comply with international regulations, and training was wholly inadequate. Explaining the reduced size of the award, the judge said if Molinari's current period of remission ends and the disease recurs within five years then he or his family would be entitled to return to court for a further sum. Monday's judgment will have implications for about 120 other workers who are considering claims for radiation exposure against the Ministry of Defence. REUTERCOPYRIGHT 1993 Reuters Information Services, Inc. All rights reserved.

DALAI LAMA SAYS CHINA HAS DEPLOYED NUCLEAR WEAPONS ...

UPn 12/4/93 7:23 AM Dalai Lama says China has deployed nuclear weapons in Tibet BOMBAY (UPI) -- The Dalai Lama renewed charges Saturday that China has deployed nuclear weapons in Tibet and is dumping nuclear waste in the Himalayan plateau which it annexed in 1951. The exiled Tibetan leader said there was growing evidence that China was engaged in nuclear activities in his homeland. "An air of secrecy pervades northeastern Tibet where the Chinese have set up a nuclear armament factory," the Dalai Lama said. He said there were nuclear warheads on Tibetan soil and that atomic waste, including some from Taiwan, was being dumped on the plateau. "This, coupled with deforestation and excessive exploitation of local minerals, is adversely affecting Tibet's ecology," the Tibetan leader told a news conference in the Indian city of Poona, close to Bombay. He appealed to Beijing to lift the "cloak of secrecy" over its nuclear activities in the region. He said there was a danger that major rivers which originate in Tibet and flow into South Asia and the Chinese heartland might get contaminated. In a report published last summer, Tibet's government-in-exile said China has deployed at least 90 nuclear warheads, some fitted on intercontinental ballistic missiles, in Tibet. The report echoed the findings of a Washington-based group, the International Campaign for Tibet, which said earlier this year that China has stepped up nuclear activities on the world's highest plateau. Copyright 1993 The United Press International

FRANCE-MELTDOWN TEST

APn 12/3/93 6:46 PM Copyright 1993 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 CHRISTOPHER BURNS Associated Press Writer PARIS (AP) -- Nuclear scientists collected radioactive gases Friday that had been released in a reactor meltdown staged to test safety measures. Thursday's test at the Phebus research reactor in southern France was the first time scientists monitored the effects of a meltdown on the reactor's cooling system and the potential for radioactive fallout. The test, a small-scale recreation of the 1979 Three Mile Island accident, will help determine whether calculations of how much radioactivity could escape in a meltdown are correct, researchers said. Critics protested that the meltdown, in which water was drained from the reactor's core and the uranium fuel allowed to reach its melting point, as a dangerous and costly experiment that cannot be compared to a real accident. Maurice Haessler, one of the researchers who directed the Institute for Nuclear Protection and Safety experiment, said there had been "no problems or surprises." The institute said no radioactive materials had been released outside the reactor at Cadarache, 30 miles northeast of Aix-en-Provence. Scientists will test air and water samples from the reactor for radioactive iodine, cesium and any other radioactive substances. The uranium in part of the reactor reached a temperature of 5,000 degrees Fahrenheit during the experiment. By noon Friday, the reactor had cooled to 750 degrees, the institute said. The test was supposed to melt about 20 percent of the reactor's 22 pounds of uranium fuel, but officials said they won't know how much melted for several months. The test was financed by the United States, the European Community, Canada, Japan and South Korea. The results may affect evacuation plans around nuclear reactors. Eric Beckjord, research director at the U.S. Nuclear Regulatory Commission, said 30-year-old standards likely overestimated the potential for radioactive fallout. Critics said it was impossible to compare the test at Phebus, one-five-thousandth the size of a commercial reactor, with a full-scale accident. Environmentalists said the \$185 million cost of six planned meltdown tests at Phebus could be better spent on alternative energy development. The president of the Group of Scientists for Information on Nuclear Energy, a French watchdog group, said she doesn't oppose nuclear power but is skeptical of the Phebus tests. "They are far from the real thing, and they have to make a lot of extrapolations," said Monique Sene, a physics researcher at the

University of Paris at Jussieu. The Phebus test simulated a rupture in the reactor's primary cooling system. In the Three Mile Island accident near Harrisburg, Pa., the worst commercial nuclear accident in U.S. history, a loss of cooling water triggered a partial meltdown that crippled the reactor and released radiation.

FRANCE-FAST-BREEDER

APn 12/3/93 11:48 AM Copyright 1993 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 ELIZABETH KLIESCH Associated Press Writer PARIS (AP) -- Two American Nobel laureates have joined other prominent scientists petitioning against a proposal to reopen a trouble-plagued nuclear reactor in southeastern France. The petition, to be released Monday, says reopening of Superphenix, the world's first and costliest commercial fast-breeder nuclear reactor, would be "costly, dangerous and useless." The \$5 billion reactor was shut down as a potential fire hazard in 1990. Americans Linus Pauling, a two-time Nobel Prize winner for chemistry and peace, and George Wald, a co-recipient of the award for medicine, are among 112 nuclear physicists, doctors and other scientists who signed the petition, according to Europeans Against Superphenix, which organized the campaign. State-run Electricite de France, which owns the reactor in Creys-Malville near the Alps, proposed in December that it be reopened. The government said it will decide on the project by mid-1994, after plant inspections are completed. Opponents claim that even if the government deems the plant safe, the project is economically and environmentally unsound. There are two proposed uses for the reactor: plutonium production for nuclear power -- the plant's original purpose -- and transformation of the plant into a nuclear waste incinerator. In a letter last August, American physicist Jack Steinberger, a Nobel laureate and member of the European Center for Nuclear Research, told the government that neither plan would be worthwhile. The government "is not likely to get its money back out of Creys-Malville," Steinberger said in a telephone interview from his office in Geneva. "It is better off to dump the project." Superphenix was started in 1985 when availability of uranium, a source of nuclear power, was considered limited. Now uranium is so cheap, Steinberger said, that using the plant to produce plutonium as a substitute could double the cost of electricity. Seventy-five percent of France's electricity comes from nuclear power, the highest percentage of any country. Cooled with liquid sodium instead of pressurized water or helium gas, the Superphenix plant may be more of a danger than other nuclear power plants, Steinberger said.

BELARUS ASKS UKRAINE TO REVIEW CHERNOBYL DECISION

RTw 12/3/93 9:54 AM MINSK, Dec 3 (Reuter) - The Belarussian parliament appealed to neighbouring Ukraine on Friday to review a decision to keep the Chernobyl nuclear power station open more than seven years after the world's worst nuclear accident. The appeal, adopted after two ballots, said Belarus feared for its future if the station remained open with a stricken fourth reactor. "About 20 percent of our state budget is allocated to items associated with Chernobyl," it said. "We appeal to the parliament of Ukraine to return again to the question of the Chernobyl station and consult with Belarus to find an acceptable way forward. Another such tragedy could destroy our people." The explosion and fire at Chernobyl in April 1986 contaminated vast stretches of territory in Belarus, Ukraine and Russia and is held responsible for 8,000 deaths in Ukraine alone. Belarus absorbed some 70 percent of the radiation. Some deputies suggested issuing such a request was out of place when Ukraine was facing an acute energy crisis. "Today Ukraine has a difficult energy situation," said Leonid Prokopov. "Is it moral for us to make such an appeal?" "Belarus is living near three nuclear power stations with the same type of reactor," said Viktor Kokovko, referring to Chernobyl and two plants in Russia and Lithuania. "Why are we appealing only to Ukraine? Especially after Russia has cut them off from a joint electricity grid." The Ukrainian parliament, facing drastic energy shortages, voted overwhelmingly in October to reverse a two-year-old decision to close the plant by the end of 1993. The decision prompted protests from several European countries but Ukrainian authorities said power from the station's two reactors still in operation was vital to ensure electricity needs. They said technical improvements introduced since the accident made its operation perfectly safe. REUTERCOPYRIGHT 1993 REUTERS INFORMATION SERVICES, INC. All rights reserved.

COUNCIL TO TRY TO BEAT CLOCK ON RESEARCH FUNDING

RTec 12/3/93 7:58 AM By Suzanne Perry BRUSSELS, Dec 3 (Reuter) - The Research Council will try for the third time on Monday to decide how much to spend on the 1994-98 Fourth Framework Programme for research and development. Officials and diplomats said the outcome was uncertain because member states had not yet tipped their hand. Britain, France and Germany said at October's Council that the European Commission's proposal for

13.1 billion Ecus was too high, but no budget discussions have taken place since then. Most of the debate on the Fourth Framework Programme in COREPER, the Committee of EC Permanent Representatives, has focused on how to reform the Joint Research Centre (JRC). The pressure will be on ministers to resolve the budget question and adopt a common position this time around because of the need to keep ahead of next June's European Parliament elections, an EC official said. If the Fourth Framework Programme is not finally adopted before then, the Council could be forced to renegotiate -- under the new "co-decision-making procedures" -- with a new parliament, she said. In addition to fixing an overall budget, the ministers must decide how to divvy up the money. They had diverging priorities at October's meeting and the question has not been discussed since then. But diplomats said the JRC debate will be equally tough to resolve. All EC states agree it should be reformed, but they are divided over how quick and how drastic the changes should be. Britain, Denmark, France, Germany, Ireland and the Netherlands are pushing for a more radical approach, while Italy and Portugal are more protective of the centre's traditional role, officials said. Member states have agreed to adopt conclusions calling for the centre to become progressively more competitive -- that is, to compete with other research institutes for EC contracts, officials said. That would not happen in areas where its independence and neutrality were essential to its role of supporting Community policies or in sectors where it had developed unique competences, the text says. Member states generally agree the JRC should continue to perform research in areas such as nuclear safety as first decreed by the Euratom Treaty, diplomats said. However, they must still decide how quickly to implement the reforms, which JRC activities are essential and thus not open to competition, and how much money to earmark for them. A key goal of the JRC reforms is to integrate the centre more in European research networks by getting it to join with other laboratories to compete for EC contracts, a German diplomat said. Ministers must also work out language on how EC research policy can promote economic and social cohesion between richer and poorer regions. The "cohesion" countries -- Greece, Ireland, Portugal and Spain -- want to ensure that research money is used to supplement, rather than replace, other cohesion funds, the EC official said. REUTERCopyright 1993 Reuters Information Services, Inc. All rights reserved.

BRITON IN RADIATION CASE MAY NEVER WORK AGAIN

RTw 12/2/93 1:17 PM LONDON, Dec 2 (Reuters) - A former nuclear submarine worker who is suing the British government after contracting leukaemia may never work again, the English High Court heard on Thursday. Rudolph Molinari, 39, worked at Chatham dockyard, southeast England, from 1970 to 1983. He is claiming damages of 250,000 pounds (\$370,000), saying he was exposed to ionising radiation. The case against the defence ministry is believed to be the first of its kind. The ministry has accepted liability and agreed to pay damages but has denied negligence. The amount of damages has not been decided. Ray Powles, a leukaemia physician at London's Royal Marsden Hospital who has been treating Molinari for three years, said: "I consider it unlikely that he would ever return to work again. Molinari has not worked since he developed acute leukaemia and was admitted to hospital in 1990. An engine fitter, he worked in submarine reactor compartments. His job involved cutting into cooler pipes coated inside with radiation deposits from reactors. He says the ministry did not achieve adequate safety standards, failed to comply with international regulations, and gave wholly inadequate training. REUTERCopyright 1993 Reuters Information Services, Inc. All rights reserved.

FIRE PUT OUT AT BULGARIAN NUCLEAR PLANT

RTw 12/2/93 1:16 PM SOFIA, Dec 2 (Reuters) - A fire broke out at Bulgaria's Kozloduy nuclear power plant on Thursday, but it was put out and did not cause a radiation leak, the Interior Ministry said. It said the fire was in two 18-metre (18-yard) deep shafts used to dump disposable overalls worn in radioactive conditions. "The 18 gauges installed and controlled by the International Atomic Energy Agency did not show any changes in levels of radioactivity," the ministry said. Energy Committee chairman Nikita Shervashidze said the shafts were outside Kozloduy's two 1,000-megawatt reactors. "The fire did not involve any radioactive material and there is nothing to provoke any concern," Shervashidze said. A number of fires have broken out at Kozloduy, but after international concern the plant has undergone extensive repairs. REUTERCopyright 1993 Reuters Information Services, Inc. All rights reserved.

ITALIANS TO HELP MOSCOW DISARM NUCLEAR MISSILES

RTw 12/2/93 9:36 AM ROME, Dec 2 (Reuters) - Italy on Thursday agreed to provide technical help to ensure Russian experts dismantling Moscow's nuclear arsenal do not suffer from radiation and that the sites used are not

contaminated. A foreign ministry statement said Italy had agreed to provide Russia equipment worth 10 billion lire (\$5.8 million) over the next three years. The deal, signed by visiting Russian Foreign Minister Andrei Kozyrev and Italian Foreign Minister Beniamino Andreatta, must now be submitted to the Rome parliament. REUTERCopyright 1993 Reuters Information Services, Inc. All rights reserved.

U.S. DOCKERS OPPOSE PLAN TO IMPORT NUCLEAR WASTE

RTw 12/1/93 8:41 PM By Peter Gillins PORTLAND, Ore, Dec 1 (Reuter) - Oregon longshoremen told federal officials Wednesday they will refuse to unload spent nuclear fuel from foreign countries if the government tries to import it into the United States. "There is no safe method whereby these nuclear fuel rods can be transported across the seas and then unloaded here," said Douglas Getchell of the International Longshoremen's and Warehousemen's Union. Getchell told a packed Department of Energy hearing that longshoremen's union locals in Oregon and southern Washington had voted to oppose a plan to resume the import of spent nuclear fuel to prevent it from being used to make bombs. Suzanne Clark of the Department of Energy's office in Richland, Washington said the government hopes to prevent the proliferation of nuclear weapons by retrieving high-grade nuclear fuel given by the United States to foreign countries for research. Import of spent nuclear fuel was suspended in the late 1980s because of the lack of a proper environmental impact statement and because U.S. reprocessing facilities had been shut down, she said. Clark said the United States technically owns 15,000 spent nuclear fuel rods weighing a total of eight metric tons in research reactors in 28 countries including Iran, Pakistan, Israel, Taiwan, Japan and South Africa. Some of those fuel rods, which the United States began sending abroad in the 1950s under the "Atoms for Peace" programme, contain up to 93 percent Uranium 235, which can be used to make nuclear bombs. She said it is vital to import about 700 spent fuel rods from reactors in Belgium, Austria and Germany that have run out of room to store it. That material probably will be brought to a site in Georgia within several months, while the plan to import the rest of the nuclear waste would not be put into effect for several years. She said no final decisions have been made on where the spent fuel would be stored but said sites in Georgia, Idaho and Washington state have been identified as potential places for temporary storage. REUTERCopyright 1993 Reuters Information Services, Inc. All rights reserved.

NUCLEAR SUB WORKER SUES BRITISH GOVERNMENT

RTw 12/1/93 2:22 PM LONDON, Dec 1 (Reuter) - A former nuclear submarine worker initiated a 250,000-pound (\$370,000) damages claim against the British government on Wednesday saying he contracted leukaemia after exposure to radiation in his job. Rudolph Molinari, 39, worked at the Royal Dockyard at Chatham, southeast England, between 1970 and 1983 when he said he was exposed to ionising radiation. He developed acute leukaemia and was admitted to hospital in 1990. He has been unable to work since. The defence ministry said medical evidence backed Molinari's claim that his illness was linked to work on the submarines, but denied negligence. It agreed to pay damages but the judge has yet to decide how much he will get. Molinari, an engine fitter, worked in submarine reactor compartments. He said the ministry had failed to achieve adequate safety standards or comply with international regulations, and training was wholly inadequate. REUTERCopyright 1993 Reuters Information Services, Inc. All rights reserved.

GREENPEACE PROTESTS AT FRENCH ATOMIC MELTDOWN TEST

RTw 12/1/93 6:27 AM MARSEILLE, France, Dec 1 (Reuter) - Six Greenpeace activists climbed a nuclear plant cooling tower in southern France on Wednesday to protest against a mock atomic-reactor meltdown accident. The environmental pressure group denounced the long-planned experiment scheduled for Thursday as risky and said activists would not leave the plant, at Cadarache near Avignon, unless they had assurances that it would be cancelled. Witnesses said the six, from France, Belgium and Germany, unfurled a banner reading "Atomic Park, don't play with my life," a reference to the "Jurassic Park" film about a dinosaur theme park that goes wrong and turns into disaster. It was not clear how they managed to slip into the plant. "In the 30 years up to the (1986) Chernobyl disaster, authorities said nuclear accidents were a figment of the imagination. Now...they are so convinced that the risk is real that they seek to master the consequences of an accident rather than prevent it," Greenpeace spokeswoman Penelope Komites said. The French Nuclear Safety Board said scientists would melt 20 80-cm (31-inch) rods of nuclear fuel in a miniature reactor called Phoebus at Cadarache to analyse the consequences of a real nuclear accident. The controlled experiment is also to check the reliability of computer simulations in calculating nuclear safety. Greenpeace said the experiment, rather than improve safety, would give

an illusory feeling that a serious nuclear accident could be brought under control. REUTERCopyright 1993 Reuters Information Services, Inc. All rights reserved.

SCIENTIST: CHERNOBYL RADIATION SEEPING INTO WATER S...

UPn 12/8/93 10:51 AM Scientist: Chernobyl radiation seeping into water supply By ROMA IHNATOWYCZ KIEV (UPI) -- A leading Russian geochemist warned Wednesday that radioactivity from the world's worst civilian nuclear accident at Chernobyl is seeping into water supplies. Valery Kopeykin said a news conference that traces of plutonium and another radioactive isotope have been found in the water beneath the power plant and will eventually seep into the Dneiper River that runs through the former Soviet republic. Kopeykin said the substances were leaking from the radioactive waste "graveyard" surrounding the Chernobyl plant. They have already reached the underground water supply 6 to 12 feet below ground and leached into evergreen forests within the 6-mile Chernobyl zone. "What's most unexpected is that the process is happening so quickly. No one expected this," said Kopeykin. "Never have I read about plutonium spreading so quickly." Kopeykin warned that the plutonium and the other isotope, americium, will eventually reach the Dneiper River and then the Black Sea, turning what had been a local environmental problem into an international issue. He said cancer rates would be higher where the radioactive substances spread. Kopeykin has been working in the Chernobyl zone since the infamous 1986 accident, in which one of the plant's four reactors exploded, spewing radiation over a vast area. He complained that his recent findings have met a wall of silence from officials and the republic's Academy of Sciences. Only the ministry that deals with Chernobyl's aftermath endorsed his research. Volodymyr Yavorivsky, who heads a special Chernobyl commission in the Ukrainian Parliament, appealed to the public to put pressure on the legislature to rescind its recent decision to keep the Chernobyl plant open. Copyright 1993 The United Press International

U.S. DISCLOSES SECRET NUCLEAR TESTS

RTw 12/7/93 8:07 PM (Eds: Adds information on human plutonium experiments) By Jim Wolf WASHINGTON, Dec 7 (Reuter) - The U.S. government said Tuesday it had concealed 204 nuclear blasts at its Nevada test site, more than one-fifth of its total tests, to keep the Soviet Union in the dark about the U.S. arsenal. Energy Secretary Hazel O'Leary disclosed the blasts as part of a huge declassification of secret U.S. nuclear records and promised details about radiation experiments on about 800 people in the late 1940s and early 1950s. She expressed concern about how much consent given for the experiments, made to test the effects of plutonium on the human body. The experiments were disclosed in a congressional report in 1986. She said experts were sifting the documents for details. The government concealed 204 nuclear blasts at its Nevada test site, more than one-fifth of its total tests, O'Leary said. The Energy Department, which manages the shrinking U.S. bomb-building complex, also disclosed that U.S. stockpiles of plutonium, the irradiated fuel used in modern nuclear weapons, now totalled 33.5 metric tons. That is far more than is likely to ever be used to make new nuclear weapons, experts said. Surplus plutonium can be stored or converted and recycled to nuclear power plants. "The Cold War is over ... We're coming clean," O'Leary told a news conference where once closely guarded secrets were scattered like autumn leaves. She urged other countries to follow suit and said the data made public Tuesday was just a "foot in the tub" with much more to come as a huge declassification effort picks up steam. "Release of this information should also encourage other nuclear weapons nations to declassify similar information," the Energy Department said in a written statement. She said about 800 experiments were carried out on people but declined to give full details at this stage, saying more may be made available when a further batch of secret documents is disclosed next June. "I'm ... attempting to balance out the clear needs of the families involved and the public's desire to know," she said. But she said, on the information she had so far, that in many cases "certainly by standards of today, it is apparent that informed consent could not have taken place." Asked about her reaction to the details she had seen so far, she said: "I'll have to tell you that my immediate reaction was that I was appalled and shocked and my, you know, it just gave me an ache in my gut and my heart." She said she wanted all the information made public. "We want to do this right, because what I suspect we're going to find is some fault..." O'Leary said the department was reviewing 32 million pages for possible release. The secrecy dates from the Manhattan Project, during which scientists built the atom bomb that devastated the Japanese cities of Hiroshima and Nagasaki at the end of World War II. The department said the United States had carried out 925 nuclear explosions at the Nevada site since 1951, of which 204 were unannounced. The total number of U.S. tests conducted worldwide, including at other U.S. sites as well as in the Pacific and the Atlantic Oceans, was 1,051. REUTERCopyright 1993 Reuters Information Services, Inc. All rights reserved.

KIEV ENERGY CRISIS COULD AFFECT CHERNOBYL RADIATION

RTw 12/7/93 12:43 PM KIEV, Dec 7 (Reuter) - Ukraine's deepening energy crisis could lead to an increase in the radiation level within the 30-km (18-mile) zone surrounding the Chernobyl nuclear power station, officials said on Tuesday. Much of the equipment used to monitor radioactive levels in the area and clean soil and water of radiation stands idle because of fuel shortages, said Volodymyr Kholosha, deputy Chernobyl minister. "The situation with fuel is critical," Kholosha said. "These are preventive measures, but if they are not conducted regularly there is a real danger the radiation level will increase." He said radiation levels currently remained normal at the plant, where a fire and explosion in April 1986 sent a radioactive cloud over much of Europe in the world's worst nuclear disaster. Ukraine's energy crisis stems from lack of funds to pay for fuel. The former Soviet republic owes Russia about 800 billion roubles (about \$680 million) for oil and gas supplies. Energy officials have repeatedly warned the country's leadership Ukraine must sharply limit its energy consumption or face running out of energy in the dead of winter. In other parts of Ukraine, the fuel shortage has resulted in at least 10 deaths, when home-made heaters attached to gas stoves malfunctioned and released poisonous gas, the Ukrinform news agency said at the weekend. The education ministry has issued recommendations that schools and universities double or treble the length of winter vacations, to save on fuel, Ukrinform said. So far, no schools or universities have been closed, a ministry spokesman said. REUTERCopyright 1993 Reuters Information Services, Inc. All rights reserved.

RUSSIAN SCIENTISTS SAY UKRAINE NUCLEAR ARMS UNSAFE

RTw 12/7/93 12:05 PM LONDON, Dec 7 (Reuter) - A group of Russian atomic scientists has called for Ukraine's nuclear munitions to be moved immediately to Russia, saying they are so unsafe they could cause a Chernobyl-style nuclear disaster. In a statement issued through the Russian embassy in London, the 11 scientists, all engaged in nuclear arms production, said recent inspections in Ukraine had revealed "serious violations" in the way the munitions were stored and serviced. The statement, issued on Tuesday, was the latest salvo in a war of words over Ukraine's decision to hold on to more than half the nuclear arms it inherited from the Soviet Union and to delay signing the nuclear Non-Proliferation Treaty. The decision has angered Russia and the Western powers. The Russian scientists said the violations included cramming too many munitions into storage facilities, failure to maintain them regularly, irregular replacement of expired components and infringement of transport rules. Protection and security of the arms were also inadequate, they said. "The above violations result in malfunctions, augment the danger when handling the nuclear munitions and could cause accidents whose impacts would be comparable to the Chernobyl accident," they said. Chernobyl, in Ukraine, was the site of the world's worst nuclear accident when a reactor blew up at a nuclear power station in 1986. Dozens of people died of radiation, which spread across much of Europe. The only correct decision to avert a "possible catastrophe" was to withdraw the munitions without delay to Russia to be dismantled and destroyed, the scientists said. The term "munitions" in the English-language statement appeared to refer to warheads rather than to complete missiles. Ukraine currently has more than 1,600 warheads mounted on long-range and cruise missiles. The signatories of the statement included the directors of Russia's formerly secret Arzamas-16 and Chelyabinsk-70 nuclear centres, as well as four academicians and five nuclear weapons designers. Russian engineers are responsible for maintenance of Ukraine's missiles and silos but have complained that the Ukrainians have denied them access to sites. The Ukraine government does not have the codes needed to launch the missiles, which are held by the strategic command in Moscow. In their statement, addressed to the peoples and governments of Russia, Ukraine, Europe, Asia and America, the scientists said that continuing to keep the munitions in Ukraine in their present condition was "absolutely impermissible." They said Ukraine had no qualified experts to dismantle the munitions and foreign experts could not be expected to deal with systems manufactured in Russia. Ukraine has called for cash compensation and security guarantees before it is prepared to hand over its nuclear weapons. It wants assurances that Russia will really dismantle the weapons and not hold on to them. REUTERCopyright 1993 Reuters Information Services, Inc. All rights reserved.

GORE TRIP

APn 12/11/93 3:34 PMCopyright 1993 The Associated Press. All rights reserved. By JOHN KING Associated Press Writer FRANKFURT, Germany (AP) -- Vice President Al Gore flew to Germany on Saturday en route to Kazakhstan for negotiations on U.S. assistance if the Central Asian nation agrees to dismantle its nuclear arsenal. Gore said he was optimistic the former Soviet republic would keep its pledge to embrace the Nuclear Nonproliferation Treaty by the end of the year. That step and an agreement on a timetable for dismantling nuclear

warheads would make Kazakhstan eligible for funds in a U.S. account established to help pay for the dismantling of much of the former Soviet nuclear stockpile. On his way to Kazakhstan, Gore spent Saturday night in Germany and attended a holiday party with Air Force personnel at the Rhein-Main airbase in Frankfurt. Troops there have been taking part in the airlift of humanitarian supplies to war-torn Sarajevo, Bosnia. "Our country owes you a great deal of gratitude," Gore told a small welcoming reception. "This airlift is for a good and worthy cause." Gore and his wife, Tipper, brought along a package of winter clothing to contribute to the airlift. Gore heads to Kazakhstan on Sunday and is there through Monday. Then the vice president is scheduled to visit neighboring Kyrgystan to salute its economic reforms, and then head to Russia to help lay the foundation for next month's Moscow summit between President Clinton and Russian President Boris Yeltsin. Missing from both Gore's itinerary this week and Clinton's next month is Ukraine -- a deliberate step because of the Kiev government's reluctance to embrace the nuclear arms reductions called for in the Start I treaty. "We mean no slight," Gore told reporters en route to Germany. "But the relationship has not advanced to the point where we can make as much progress on the new issues" of market and democratic reforms because of the standoff over nuclear policy. A senior administration official traveling with Gore said the progress in relations with Belarus and Kazakhstan, and the related international economic assistance, should be evidence to Ukraine that "hanging on to their nuclear weapons is not a net asset." Belarus was first among the former Soviet republics with nuclear weapons to embrace the Start treaty and take other steps toward denuclearization, and Clinton is scheduled to visit next month. Kazakhstan has pledged to follow Belarus but has been slower to act, and Gore's visit was designed to nudge that process along. "They want it driven by the economic agenda, which is fine with us," Gore said.

PRINCETON SCIENTISTS SET WORLD RECORD FOR FUSION POWER

UPf 12/10/93 8:06 PM PRINCETON, N.J. (UPI) -- Physicists at Princeton University said Friday they have set a world record for the production of fusion power and taken a giant step toward harnessing the forces that power the sun. Researchers at the Princeton Plasma Physics Laboratory said the experiment Thursday night produced at least 3 million watts of controlled fusion power, a goal they have been striving for since 1973. Just 18 years ago, lab experiments were producing just one-tenth of a watt of fusion power. U.S. Department of Energy Secretary Hazel O'Leary called it the "most significant achievement in fusion energy" in 20 years. She said fusion offers the hope of a safe and environmentally acceptable energy source. Nuclear fusion involves the joining of light atoms such as hydrogen to produce energy. It is the same chemical reaction that powers the sun and caused hydrogen bombs to explode. Fusion is the opposite of nuclear fission, in which heavier atoms, such as uranium, are split. All the world's commercial nuclear plants are powered by fission. But, unlike fission, fusion is comparatively safe and cheap. Fusion advocates say a commercial fusion plant could not melt down and would generate far less nuclear waste than a fission plant. Scientists said fusion power will be far cleaner and more productive than any existing method of generating energy. But scientists cautioned it will be decades before fusion technology is perfected, and it is unlikely a commercial fusion reactor will be up and running before the year 2025. "What people are doing here is not for themselves," said DOE spokesman John Willis. "It's not even for their children. It's for their children's children." In the Princeton experiments, scientists used a mixture of deuterium and tritium to fuel a fusion reaction inside a huge metal reactor. Deuterium can be found in ordinary drinking water and its supply is virtually inexhaustible, Davidson said. Lab Director Ronald Davidson said 28 million watts of energy were expended to produce the 3 million watts of fusion power. When the experiments are completed next September, scientists hope to have generated about 10 million watts of power, six times the existing record. The fusion process requires converting hydrogen atoms to an ionized gas by heating them at temperatures as high as 400 million degrees celsius until they fuse. The byproducts of fusion are inert helium gas and neutrons, which generate energy by creating heat. While the process generates some radioactivity, Davidson said, it is far easier to control than that generated by fission reactors. Since 1952, billions of dollars have been spent by various governments to develop fusion as a practical energy source. In the last 11 years, the U.S. Department of Energy has spent \$1.4 billion on fusion research at Princeton's Plasma Physics Lab. Copyright 1993 The United Press International

LASH-NUCLEAR ENERGY

APn 12/10/93 10:01 AM Copyright 1993 The Associated Press. All rights reserved. By TERRY MUTCHLER Associated Press Writer SPRINGFIELD, Ill. (AP) -- The Clinton administration's leading contender to head the Office of Nuclear Energy resigned as Illinois' nuclear safety director in 1990 amid allegations he misled lawmakers about the safety of a proposed low-level nuclear waste dump. Terry Lash, as head of the Illinois Department of Nuclear Safety, was trying to convince state lawmakers that Martinsville in Clark County was a good

spot to put the dump. Lash told a Senate committee that the proposed site was not located above an aquifer, an underground water supply. The day before he testified, however, Lash had seen a report showing that one and possibly two aquifers were under the proposed site, according the Chicago law firm of Arnstein and Lehr, brought in to help investigate his conduct. Lash also ordered that the word aquifer be deleted from a scientific study, the law firm found. He resigned before the law firm issued its report, which called his actions "dangerously irresponsible." Martinsville was the only town in the state ready to accept the dump. Plans to put a dump there were abandoned. Illinois Democrats and Republicans still bristle over the episode and warned against naming Lash to run the U.S. Energy Department's Office of Nuclear Energy. "My advice to (President Clinton) would be simple: Drop him like a hot potato," said Democratic Sen. Patrick Welch of Peru. A spokesman for U.S. Sen. Paul Simon, D-Ill., who endorsed Lash, said Thursday that Simon was unaware that Lash had resigned under fire. Simon spokesman David Carle said the senator has heard positive and negative comments about Lash and has passed both on to the White House. Lash did not return a telephone call to his Springfield home. A woman who answered the telephone said she would give him the message but said the Clinton administration really "doesn't want him discussing these things." JoAnn Johnson, a spokeswoman for the U.S. Department of Energy, confirmed that Lash was being considered for the post. "I wouldn't deny that," she said, but declined to provide further details. "What I can tell you is that Mr. Terry Lash is here at DOE and he is a consultant. He has an office."

EXPLOSION RISK

APn 12/10/93 12:15 AM Copyright 1993 The Associated Press. All rights reserved. By H. JOSEF HEBERT
Associated Press Writer WASHINGTON (AP) -- The Energy Department is being cautioned about the possibility of a chemical explosion at some of its nuclear waste processing sites, similar to a blast at a Russian nuclear facility in April. "The potential for explosions is widespread throughout the entire DOE weapons complex," Sen. John Glenn, D-Ohio, wrote Energy Secretary Hazel O'Leary on Thursday. Glenn emphasized that his concern was about the "potential" of a chemical explosion if proper precautions were not taken. He acknowledged he had no evidence that any of the government's nuclear waste tanks were about to explode. Investigators of Glenn's Senate Governmental Affairs Committee have closely studied the April 6 explosion at the Tomsk-7 weapons facility in Siberia and compared conditions at waste tanks and nuclear processing sites at U.S. weapons facilities. A report by the committee concluded that "the potential risk is real and widespread" at processing sites and waste tanks at a half dozen U.S. nuclear weapons facilities in Washington, South Carolina, Tennessee, New Mexico, Ohio and Idaho. The Russian waste tank explosion, caused by a chemical reaction when workers improperly poured nitric acid into the tank, caused radiation to spew across a 47-square-mile area, according to Energy Department officials who have visited the site. The extent of injuries is not known. U.S. officials have determined the processing tank contained plutonium nitrate and other fission products. A combination of chemicals in the tank created a compound scientists have called "red oil" -- a dense, organic material that decomposes spontaneously upon heating, releasing flammable gases. Organic nitrates are a basic component of some explosives. The Senate report said there was concern the same volatile situation could arise at U.S. weapons plants during the separation and processing of tons of highly radioactive wastes. Some of the compounds have been stored for decades and their exact composition isn't known. "There are a number of facilities in the DOE weapons complex where 'red oil' can be a problem," especially in the processing phase of dealing with the wastes, said Glenn. The facilities cited by the report as having a potential for an explosion during processing are: --Five separate facilities at the Hanford weapons complex near Richland, Wash. --A waste separation plant and waste tank farms at the Savannah River complex near Aiken, S.C. --The gaseous diffusion plant near Portsmouth, Ohio. --Waste tank farms at Oak Ridge, Tenn. --Waste tank farms at the Idaho Chemical Processing Plant near Idaho Falls. --A processing facility at Los Alamos National Laboratory in New Mexico. A Los Alamos spokesman said Thursday there was no potential for explosion at the lab site. "There is no red oil or potential for creating red oil at Los Alamos," Jim Danneskiold said. "We do not reprocess spent fuel rods. We have never reprocessed spent fuel rods." Energy Department officials were not immediately available to comment on the report. The study said department officials have been aware of the concerns about "red oil" and related organic nitrates and have established a task force to evaluate the risks of explosions at the U.S. facilities. "I urge Secretary O'Leary to take prompt action to resolve the 'red oil' problem," Glenn said.

U.N. SURVEYS GAMMA EMISSIONS TO CHECK NUCLEAR ARMS

RTw 12/16/93 4:59 PM UNITED NATIONS, Dec 16 (Reuter) - The United Nations said Thursday it tracked gamma emissions over Iraq in an effort to detect any remaining nuclear weapons materials and flew over Baghdad for the first time without Iraqi objections. A statement from the U.N. Special Commission, in charge of scrapping Iraq's weapons of mass destruction, said the recent aerial surveys were to verify Iraq's declarations of its nuclear weapons programme, which has been largely eliminated. A recent helicopter survey plotted the location of the electromagnetic radiation, particularly that above normal levels, and included five new sites in and around municipal Baghdad and in central and northwestern Iraq. Iraqi authorities in the past had objected to overflights in and around Baghdad but there was no sign of protest for this flight. The survey was to verify current knowledge of radioactive materials, investigate new sites and periodically check any change in the level of radiation. "Major changes in emission levels might be indicative of movements of radioactive materials which should be subject to monitoring and verification," the statement said. The commission is about to embark on a long-term monitoring programme to make sure Iraq does not reacquire nuclear, chemical biological and ballistic weapons. It estimated at least six months were needed to test and implement the programme before reporting to the Security Council it is satisfied Iraq no longer possesses its most dangerous weapons, banned since the Gulf War. The council then must decide whether to lift the oil embargo, in place since Iraq's troops invaded Kuwaiti in August 1990. U.S. Ambassador Madeleine Albright believes the commission should take up to a year to test the monitoring programme. REUTERCOPYRIGHT 1993 Reuters Information Services, Inc. All rights reserved.

EP ADOPTS PROPOSAL ON NUCLEAR POWER STATIONS SAFETY

RTec 12/16/93 1:54 PM EUROPEAN PARLIAMENT SESSION NEWS PRESS RELEASE DOCUMENT DATE: DECEMBER 15, 1993 + Safety of nuclear power stations in Eastern Europe (A3-401/93 - Herve) + Wednesday, 15 December - The Commission's proposal was adopted, together with amendments from the energy committee and some from the Greens. Parliament is anxious to ensure that the unsafe power stations in Eastern Europe are shut down and that the 1.1bn ECU envisaged in Euratom loans is conditional on the countries concerned responding to these requirements. As Michel Herve (F, PES) was not completely satisfied with the Commission's response to the amendments he proposed that the report be referred back to committee for further discussion and this was agreed. Another resolution calling on the Commission to submit a long term strategy to improve nuclear safety in Eastern Europe was adopted. A third resolution tabled by the PES and expressing the view that nuclear safety standards in Eastern Europe should be brought up to those in the West was adopted with two amendments. One seeks a commitment to phasing out the most dangerous power stations in Eastern Europe. The other amendments concerns nuclear energy exports. All the other amendments, including those seeking to bring the Thorp reprocessing plant at Sellafield under the ambit of Euratom was rejected. END OF DOCUMENTCOPYRIGHT 1993 Reuters Information Services, Inc. All rights reserved.

THORP NUCLEAR PLANT DRAWS EC ATTENTION

RTw 12/16/93 12:19 PM BRUSSELS, Dec 16 (Reuter) - The European Commission said on Thursday it was looking into complaints against the start-up of the THORP nuclear waste recycling plant in Britain but that the installation had already been cleared on safety grounds. The British government authorised the opening of the controversial plant on Wednesday despite expressions of concern from several northern European countries as well as protests and a threat of court action by the environment group Greenpeace. It was not clear what, if anything, the Commission could do. "The question of whether an impact assessment study in relation to the start-up authorisation is needed is currently under consideration," a Commission statement said. The Commission has clashed with Britain in the past over a European Community law on assessing the environmental impact of major construction works but EC sources noted that the THORP plant was commissioned before that 1985 EC law went into force. A Commission spokesman said Greenpeace had made an official complaint under the law but declined to elaborate on what follow-up steps could be taken other than noting that the examination of the complaint would be finished quickly. On Wednesday, British Environment Secretary John Gummer said the government, after careful study of the environmental and economic impact, had allowed the start-up of the 2.8 billion pound (\$4.2 billion) THORP plant in northwest England. "I have come to a judgment that there is a sufficient balance of advantage in favour of the operation of Thorp," he told parliament. THORP, which stands for Thermal Oxide Reprocessing Plant, will recycle nuclear waste into uranium fuel, of which there is a glut worldwide, and deadly

plutonium, which is used in making nuclear weapons. Ireland, Norway, Sweden, Iceland, Finland and Denmark have all expressed concern about THORP and Germany is facing growing domestic pressure to make its utilities break their reprocessing deals with the plant. Irish Energy Minister Brian Cowen said on Wednesday he was "considering what further action, if any, could be taken" in the wake of Gummer's move and that the Irish Radiological Protection Institute would evaluate the possible risks for the country. Dutch Environment Minister Hans Alders said the same day he had raised the issue with British junior environment minister Tim Yeo at a meeting of EC environment ministers in Brussels. Alders told reporters he had criticised Yeo for Britain's failure to consult or at least provide more advance information to its European partners and the public. A U.S. Defence Department report said THORP would increase the danger of terrorist groups obtaining nuclear arms and add to the risk of nuclear conflict. Construction was approved in 1977 when oil prices were soaring and policy makers feared that uranium fuel for nuclear power stations -- now abundant-- would be in short supply. Greenpeace plans to launch a legal challenge in the British High Court on the grounds that the government has no legal right to license the plant without holding a full and independent public inquiry. REUTERCOPYRIGHT 1993 Reuters Information Services, Inc. All rights reserved.

INDIA TO UPGRADE GENERATORS AFTER NUCLEAR PLANT FIRE

UPn 12/16/93 8:37 AM NEW DELHI (UPI) -- India's government Thursday acknowledged deficiencies in turbine generators at nuclear power stations and pledged to upgrade their technology after the country experienced its worst atomic-related accident. A fire that swept through the turbine generator unit of Narora Atomic Power Station last spring caused \$8 million worth of damage and forced plant authorities to declare a local emergency. Authorities said no one was injured and no radiation escaped. Minister of State Bhuvanesh Chaturvedi said "certain deficiencies" had been found in the turbine-generator technology currently in use. Chaturvedi said the government has asked the state-owned Bharat Heavy Electricals Ltd., which manufactures turbine generators for the Indian Nuclear Power Corp., to upgrade its technology and bring it "on par with the best available in the world." The minister said the government was currently reviewing the report of a panel that probed the fire accident at the twin-reactor Narora plant, 250 miles (400 km) southeast of New Delhi. The official contended that although the blaze was "serious, it was not a major accident." The first electricity-producing reactor shut down automatically when the blaze began. The second reactor had been shut earlier for refueling. The accident was the worst to ever occur in India, whose broad-based nuclear program dates back to the 1940s, according to the Atomic Energy Regulatory Board (AERB), an autonomous watchdog. Copyright 1993 The United Press International

EURO-PARLIAMENT SENDS BACK NUCLEAR SAFETY REPORT

RTw 12/15/93 4:05 PM STRASBOURG, Dec 15 (Reuter) - The European Parliament on Wednesday deferred action on a proposal to authorize financing to improve the efficiency and safety of nuclear power stations in Eastern Europe and the ex-Soviet Union. The parliament sent the issue back to a committee after the European Commission indicated that it could not accept many of the 45 amendments proposed by deputies. The Commission then accused the parliament of blocking urgent financing, a parliament official said. The report by French Socialist Michel Herve would provide nuclear safety loans under the Euratom Treaty. A variety of conditions would have to be met before funds could be disbursed. It asked that European aid be subject to the definition of a "strategic safety plan" with the countries concerned. It also called for countries receiving aid to first observe the main international safety agreements and conventions on the civil liability of operators. The Commission and the parliament's Energy Committee must now seek compromise amendments before the report can go before another plenary session. However, the assembly adopted a related own-initiative resolution on nuclear safety in Eastern Europe and the Commonwealth of Independent States. It aims to reinforce the message of the Herve report that stricter conditions should be attached to EC funds. REUTERCOPYRIGHT 1993 Reuters Information Services, Inc. All rights reserved.

NUCLEAR SAFETY

APn 12/15/93 2:39 PM Copyright 1993 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) -- Government reviews of nuclear power plants routinely fail to consider safety problems known privately within the industry, giving a false public perception of safety, contends a private group citing secret industry documents. Public Citizen disclosed Wednesday the contents

of internal and previously confidential critiques of 56 nuclear power plants that widely differed from evaluations made public by the Nuclear Regulatory Commission during the same periods. The industry documents cover the operation of about 80 percent of the country's nuclear reactors. The reports represent inspections from 1990 to early this year. The organization, which acknowledged its general opposition to nuclear power, said it obtained the industry documents surreptitiously about three months ago. "The NRC consistently failed to address issues raised ... by the (industry) reports," said Matt Freedman, a member of Public Citizen who evaluated the industry files and public NRC documents. The problems raised by the industry evaluations involved a broad range of issues from training and plant management to equipment maintenance, operations and radiation protection. Nuclear industry and NRC spokesmen immediately challenged the advocacy group's analysis. They said the Institute of Nuclear Power Operation (INPO) reports, whose release the industry has successfully fought in court, are not meant to be compared with the NRC evaluations. "We focus our reactor inspections on reactor safety. INPO looks at a wider range of operations," said NRC spokesman Joe Fouchard. "We are confident that our inspection system provides a good overview of safety matters." Steve Unglesbee, a spokesman for the U.S. Council for Energy Awareness, the nuclear industry's public relations arm, said the industry's approach to plant inspections is different from the NRC's "so it is reasonable to expect their results would be different." "The NRC's mission is to regulate the industry. INPO's mission is to be painfully candid ... come into a plant and lay it bare," he said. Unglesbee defended the practice of keeping the INPO reevaluations confidential, saying they are the result of "a white glove inspection" to provide senior management information about their plant. NRC field inspectors are supposed to routinely review the industry reports. Unglesbee said if they were made public the industry reviews likely would be less candid. But Joan Claybrook, president of Public Citizen, accused the NRC of "protecting industry from the public rather than the public from industry" by not revealing all of the information contained in the industry reviews. Public Citizen said that of 463 problems cited in the industry evaluations at the 56 plants, only about one-third showed up in the NRC's "systematic assessment of license performance" reports as being a matter of concern. It said that 185 of the references to specific plant problems by INPO were never addressed in the NRC reviews, while in an additional 115 cases -- about a fourth of the total -- the NRC contradicted the industry findings by praising plant performance. Public Citizen cited as examples of alleged NRC laxness: --Industry reports warned of poor maintenance and aging equipment at the Browns Ferry nuclear plant in Alabama; the NRC's characterization of equipment at the plant was "good" and its maintenance described as "very effective." --A concern by industry inspectors of "weakness" in radiation protection procedures at the Braidwood plant in Illinois; the NRC evaluation called the plant's radiation management plan "good." --Industry reviews detailing worker training problems at the Kewaunee plant in Wisconsin, including "inconsistent adherence to procedures" during simulated emergencies; none of the concerns were cited in NRC reports which gave the plant a top rating for operations. INPO was created by the industry after the 1979 nuclear accident at Three Mile Island in Pennsylvania to help utilities detect and resolve safety problems. Public Citizen, a nonprofit research and advocacy group, in 1984 filed a lawsuit asking that the INPO reports be made public under the Freedom of Information Act, but a federal court ruled the documents confidential because they were being made voluntarily.

U.S. MADE 12 SECRET RADIATION TESTS IN 40'S, 50'S

RTw 12/15/93 2:30 PM WASHINGTON, Dec 15 (Reuter) - The United States secretly released radiation into the air 12 times during the 1940's and 1950's, according to a congressional report Wednesday. The report by the General Accounting Office, the congressional investigating agency, was released by Senator John Glenn. He called on the Defence and Energy departments to release all the data on the tests. "It is important to make sure that people know what happened 40 years ago. The government owes its citizens that much," said Glenn, an Ohio Democrat and chairman of the Governmental Affairs Committee. The GAO said two of the tests took place at the Atomic Energy Commission's site in Oak Ridge, Tennessee in 1949, six were at the Army's Dugway, Utah site from 1949 to 1952 and four were in 1950 at the Los Alamos National Laboratory in New Mexico, where the first atomic bomb was developed. It said the first eight tests were part of the U.S. radiation warfare programme and the remainder were part of atmospheric radiation tracking research. Radiation from one of the four Los Alamos tests was tracked as far as the town of Watrous, New Mexico, 70 miles (120 km) away, but the GAO said there were no reports of health problems. "The Cold War frenzy which gripped our nation immediately after World War Two created a climate where tests such as these were deemed necessary. Twenty-twenty hindsight gives us a much different view," Glenn said in a statement. "There is no justification for the government to keep this information secret - and there is no justification, except possibly in extreme wartime conditions, for the principle of informed consent to be abandoned." The GAO uncovered the 12 tests while investigating a previously known 1949 test at

the Hanford nuclear facility in Washington state. Radiation from that test was released over large areas of Washington and Oregon. REUTERCopyright 1993 Reuters Information Services, Inc. All rights reserved.

EP DEBATES NUCLEAR SAFETY IN EASTERN EUROPE

RTec 12/15/93 4:08 AM EUROPEAN PARLIAMENT SESSION NEWS PRESS RELEASE DOCUMENT
DATE: DECEMBER 14, 1993 + Tuesday, 14 December - Resuming the debate, Gordon Adam (Northumbria, PES) said everyone had an interest in making sure that the nuclear installations in Eastern Europe were as safe as possible. For Mr Adam there were four aspects to the problem which had to be dealt with: operational safety, design, the existence of regulatory authorities, and facilities for dealing with the full nuclear cycle. He felt it was misleading to make generalised statements about nuclear sites in Eastern Europe as each should be approached separately. Also the progress already made should not be undervalued, he said. The need for action to promote safety was backed by Carlos Robles Piquer (S, EPP), but Carlos Pimenta (P, LDR) was more cautious. He was very concerned that countries belonging to the CIS had still not signed an international agreement on nuclear safety and that there was no timetable for shutting down dangerous plants. The approach was also criticised by Virginio Bettini (I, Greens) who said it was tantamount to maintaining nuclear energy at all costs. The debate then focused on plans for the Thorp nuclear reprocessing plant in the UK. A decision on its future is expected very soon from the British government. Neil Blaney (Connacht/ULster, RBW) was the first of a number of Irish MEPs to condemn the scheme. He said the British government seemed to care nothing for safety or its illegal obligations. He claimed that the go-ahead for Thorp would be a blatant breach of the Euratom Treaty and criticised the Commission for not enforcing respect for the rules. Des Geraghty (Dublin, Ind) said the apparent determination of the UK government to proceed with Thorp, in spite of 83,000 objections, was reckless and an absolute disgrace. 'This is a Frankenstein without purpose a man-made monster', he said. He, too, felt that Britain was in breach of Euratom obligations which required a justification for the plant in advance. Calling on the Commission to take action, he added that no single member of the Community had the right to treat citizens with such contempt. While nuclear safety in Eastern Europe was important, Alex Smith (South of Scotland, PES) felt the same concerns should hold good within the Community. He challenged the Commission to say if the UK had fulfilled all the legal requirements regarding Thorp. Fearful that the UK government was about to announce its decision on Thorp, he said it should not proceed without a thorough, comprehensive examination and a public inquiry. Reminding the House that the debate was about nuclear safety in Eastern Europe, Madron Seligman (Sussex West, EPP) sounded a note of caution about giving further aid to Russia in view of the election results. He advised waiting to see how things developed before lending any more money. As far as Thorp was concerned, he contended that there was no environmental risk. The only question, he said, was whether it was still needed. But with ten year contracts with Germany and Japan for reprocessing, he thought these should be met. For Winnie Ewing (Highlands and Islands, RBW) reprocessing involved an enormous multiplication of waste for which there was no long term solution. As the Community owned the plutonium, she said, the Commission had the power to prevent Thorp from opening. Mary Banotti (Dublin, EPP) urged the Commission to ask the UK government today to delay its decision on Thorp until the many concerns and legal issues were addressed. She also called on the Commission to face up to its obligations in view of the fact that legally the Community owned the spent fuel. Lord Inglewood (Cumbria and Lancashire North, EPP) wondered why Thorp was being debated. Cumbria, he pointed out, was not in Eastern Europe but on the Atlantic Arc. Every step in Thorp's development was in accord with UK and Euratom legislation, he said, adding that it had been given a clean bill of health. Replying for the Commission Henning Christopher underlined the efforts that had been made by the European Union to improve nuclear safety. The Phare and Tacis programmes had been strengthened and there was stricter monitoring of the nuclear industry. In principle he accepted the idea of tying funding to progress but warned against setting up too many bureaucratic procedures. There was, he added, a multiannual nuclear safety plan in preparation. He accepted the need to streamline the Commission's organisation. But he emphasised that the Commission could not question the cost/benefit aspect of programmes merely the safety angle. The Commission would be looking closely at the plans for 'Super-phenix' and, he added, had objected to plans in the past. Otherwise, he emphasised the need to upgrade plants in Eastern Europe, adding that it was unrealistic to expect these countries to come up with a contribution of 10m ECU themselves. He would, however, agree to some of Parliament's amendments. Vote: Wednesday, 12 noon. END OF DOCUMENTCopyright 1993 Reuters Information Services, Inc. All rights reserved.

ZHIRINOVSKY THREATENS GERMANY WITH ATOMIC DISASTER

RTw 12/14/93 6:52 AM BONN, Dec 14 (Reuter) - Russian right-wing leader Vladimir Zhirinovsky has threatened Germany with nuclear disaster if it tries to interfere in Russia's internal affairs. Zhirinovsky told North German Radio in Hamburg that he would not hesitate to "create new Hiroshimas and Nagasakis" or a "Chernobyl in Germany" to keep the Germans away from Russia. "The Germans are interfering in Russia now, but if a German looks at Russia the wrong way when I'm in the Kremlin, you Germans will pay for all that we Russians have built up in Germany," he told the radio on Monday. "We Russians saved you," he said in the rambling interview. "But the third time will be the last," he said, referring to Germany's battles with Russia in World War One and Hitler's World War Two invasion of the Soviet Union. Zhirinovsky did not make clear how Germany was interfering. Bonn has been the West's strongest advocate of the economic and political reforms that he opposes, supporting them to the tune of 80 billion deutschmarks (\$50 billion) since 1990. "The same goes for the Japanese," the nationalist leader went on. "They already experienced Hiroshima and Nagasaki, 50 years have gone by and maybe they've already forgotten this. "We will create new Hiroshimas and Nagasakis. I will not hesitate to deploy atomic weapons. "You know what Chernobyl meant for our country," he added, referring to the 1986 nuclear accident in what was then Soviet Ukraine. "You will get your own Chernobyl in Germany." REUTERCopyright 1993 Reuters Information Services, Inc. All rights reserved.

HEALTH FEARS HAUNT RUSSIAN TOWN DOWNSTREAM FROM ...

RTw 12/12/93 8:29 PM By Mark Trevelyan MUSLYUMOVO, Russia, Dec 13 (Reuter) - As small boys, Gusman Kabirov and his friends liked to dodge the policeman, sneak under the barbed wire fence and go down to the river to play. It was 30 years before they learned that the water where they swam and caught fish was contaminated with nuclear waste -- and by then it was too late for some of them. Six thousand people still live in Muslyumovo, 50 km (30 miles) downstream from a secret plutonium plant in the Urals where a series of nuclear disasters was hushed up for decades by the Soviet government. After living beside the poisoned River Techa for four decades, many fear for their health and their children's safety. They feel angry and betrayed by the Russian authorities, who have so far refused to evacuate them. "When we went to the river, the police would chase us away, but we'd run away and come back," said Kabirov, 36, a "green" activist who has lost four classmates to cancer. "I remember we rolled around in the mud or sunbathed on the bank as kids... "If you lie on that beach for 10 hours you get the equivalent of the yearly radiation norm for an employee at a nuclear power station. But we have grandmothers who sit on that bank 10 hours a day looking after their geese." Officials say that in the first seven years of its operation, from 1949 to 1956, the Mayak plutonium plant poured 76 million cubic metres (2.68 billion cubic feet) of liquid radioactive waste straight into the Techa. They say it happened through sheer ignorance of the risks, at a time when nuclear science was in its infancy and Mayak was a key part of a Soviet weapons programme in fierce competition with that of the United States. "At the time it was thought that this waste would be diluted like normal effluent and carried eventually into the ocean," said Vladislav Yachmenyov, head of the Committee for Emergency Situations in Chelyabinsk, 1,500 km (950 miles) east of Moscow. "A year or two after the dumping, when they took measurements, it turned out that on the river bank where people were living there were very high doses of radiation. People were drinking this water, swimming in it, eating fish." Worse was to follow. In 1957 -- the year Kabirov was born -- a huge explosion at a reservoir containing nuclear waste blasted 20 million curies of radiation over the Urals, about a third as much as was released in the 1986 Chernobyl disaster in Ukraine. More than 20,000 square km (7,723 sq miles) of this scenic lakeland region were contaminated. In the spring of 1967, another wide area was polluted when strong winds whipped radioactive dust from the shores of Lake Karachai, a natural reservoir into which some medium-level waste is still being dumped to this day. Official figures released only last January showed some 450,000 people had been subjected to abnormally high levels of radiation from Mayak in its four decades of operation, of whom about 1,000 developed chronic radiation sickness. Two small radiation leaks were reported only last summer at Mayak, where more than a billion curies of nuclear waste are stored. Over the years, some 18,000 people were moved from polluted areas, including some further downstream along the Techa. But Muslyumovo's people were never resettled. Residents say that despite living for years with the police guard and the barbed wire along the river, they had no inkling that contact with the water could harm them. Gulfarida Galimova, a doctor who started working here in 1981, said she soon became worried by the high rate of abnormal pregnancies, but officials gave her no clue as to the reason. "I had some women who had had three or four pregnancies and couldn't give birth to their first child -- they kept having miscarriages. People started criticising for having such results...my helplessness started to worry me," she said. Soon Galimova encountered other problems. Birth defects appeared, such as extra or missing fingers and toes. In 1986, a woman produced a stillborn child with its legs joined together. Galimova said as many as a third of her patients suffer from anaemia. Some complain of lethargy and pains in their joints. Deaths from cancer surged above the level considered normal

for a rural community, although Galimova said exact figures were unavailable because other causes of death were often noted in official records. While the real cause remained secret, authorities scolded residents, accusing them of heavy drinking and having a poor diet. "For a long time, information was withheld. People were dying but no one knew why. It was said they were dying from drinking or smoking," said environmentalist Natalya Mironova. "No one mentioned that they could be dying from dirty water, polluted air, contaminated food." Tanzilya Abdrakhmanova, 34, says her husband Ansar is in hospital for the third time with acute pains in his hands and feet. He suffers physical weakness, cold sweats and chest pains. The couple live right on the bank of the Techa, frozen over and snow-covered at this time of year. Their garden ends in barbed wire, but this would not stop their two sons, aged four and five, from getting down to the water if left unsupervised. "At the moment, I keep watch on them, but when they get older it will probably be impossible to hold them back," Abdrakhmanova said. "They don't understand. I frighten them by telling them there's a big fish there that eats people." For a time, the family stopped eating the vegetables they grow in their garden, only a few metres (yards) from the river. Now, for financial reasons, they can no longer afford not to. "You have to eat something," Abdrakhmanova said. She is furious with the authorities for keeping people in ignorance of the dangers for so long. "They are worse than fascists, knowing what had happened and letting us live here like a testing ground." The anger of the local people extends to Kremlin chief Boris Yeltsin, who visited Muslyumovo in 1991 during his presidential campaign but is seen as having broken his promises to help. Chelyabinsk regional officials firmly reject the widespread accusation that people have been left here in a kind of macabre experiment to examine the effects of radiation. Yachmenyov said that, as long as people stayed away from the river, levels of radiation in Muslyumovo were not so high as to require compulsory evacuation. He acknowledged that in practice, some people would always ignore the restrictions and go near the water. Authorities are considering plans to clean up the river bank, for example by scattering layers of treated soil. "We are working out a plan to rehabilitate the Techa River but it is a colossal task," Yachmenyov said. He said work was proceeding to map the type and amount of radiation suffered by each region and identify people eligible for compensation under a newly-passed law. Russian scientists would work with their Western colleagues to assess the information received, to build a more accurate picture of the dangers posed by radiation and help to judge the risks of atomic power against the benefits. While acknowledging the need for a quick decision on whether to evacuate the people of Muslyumovo, Yachmenyov said the question was in the hands of federal authorities in Moscow, which is funding a major programme to help the entire region. "They created a nuclear monster at that time, and now it is impossible to destroy it just like that," he said. "In a year or two, you can't sort out what's built up over 35 years. REUTERCopyright 1993 Reuters Information Services, Inc. All rights reserved.

BRITAIN SAYS VETERANS UNHARMED IN NUCLEAR TESTS

RTw 12/9/93 11:20 AM (Eds: Adds news conference, details, reaction) By Robert Woodward LONDON, Dec 9 (Reuter) - Thousands of British servicemen exposed to nuclear weapons tests during the 1950s and 1960s suffered no long-term health risk, a medical study commissioned by the Ministry of Defence said on Thursday. The study destroys hopes of compensation for veterans who say they were given little or no protection against nuclear fall-out when witnessing the explosions. "This is the very last thing we hoped to get," said Tom Armstrong, secretary of the British Atomic Test Veterans' Association. "I think we have been hoodwinked on this." The government said it accepted the findings of the report. "I believe that this new...study confirms that there is no evidence to suggest that any cancer or other fatal disease was caused by exposure to ionising radiation from the tests," Armed Forces minister Jeremy Hanley said in a statement. A study in 1988 suggested participants might have had a greater risk of two blood cancers, leukaemia and myelomatosis, but not of other diseases. The government set up another survey to clear up the doubts. Researchers studied 21,400 servicemen and civilians, around 85 percent of those who took part in the tests in Australia and the Christmas Islands in the South Pacific from 1952 to 1967. They compared cancer rates of this group against a control group of 22,300 service personnel who had not participated. Veterans complain they were used as guinea pigs in the tests. The new study, carried out by eight cancer specialists, found mortality rates from myelomatosis and leukaemia were lower in test veterans than in the control group. The authors dismissed the earlier survey's findings as being caused by "chance occurrences." "Participation in nuclear weapon tests had no detectable effect on expectation of life or on subsequent risk of developing cancer or other fatal diseases," said the authors of the seven-year study. But, in an article to be published in the British Medical Journal on Friday, they said there was a chance veterans had had a higher risk of leukaemia in the years after the tests. "The possibility that test participants experienced a small excess risk of leukaemia in the first 25 years after participation cannot be ruled out," it said. Sir Richard Doll, one of the cancer specialists who wrote the new study, said he hoped veterans would accept its findings. "The results to me are completely reassuring. I hope the participants in the tests find the results as reassuring as we do," Doll told reporters.

"I hope they will accept our results." Doll said he believed the veterans were unscathed because of the distance they had been from the nuclear explosions. "Radiation does not spread out very far from where a bomb explodes. Air acts as a shield," he told Reuters. But Armstrong was angry. "I have been fighting this for 10 years and seen hundreds of my fellow servicemen get cancer and, of course, some have died," he said. In June, Australia accepted 20 million pounds (US\$29.86 million) in compensation from Britain for contamination of a huge area around the main British test site at Maralinga, northwest of Adelaide. REUTERCopyright 1993

LAUNCHING OF THE EUROPEAN ENVIRONMENT AGENCY ...

RTec 12/22/93 9:13 AM LAUNCHING OF THE EUROPEAN ENVIRONMENT AGENCY (PAGE 3/3) +
Network - Work is underway to develop a network architecture for the EEA to ensure inter-operability of the various elements of the 'European environment information and observation network'. This is taking into account issues of security, secrecy and legality, in line with common rules developed through the DG III programme, IDA (Interchange of Data between Administrations), whose aim is to encourage and stimulate such data exchange. The approach focusses on the requirements for communication and the exchange and access to data and information systems. Data Bases - A 'data-model' is being prepared to serve the needs of current and expected future data holdings, including, in particular, those arising out of European environmental legislation. Development of a strategy for coding data, and standards needed to improve and facilitate data exchange, are included. Catalogue of Data Sources - A report has been completed on the needs and possible solutions for a 'meta-database' for the EEA. This is a system that records details of data holdings, data sources, institutions, activities and other environmental related information needed for the EEA's work. The main characteristics of the system have now been defined and a standard 'data-model' is being developed. Plans are also being laid for the preparation of a multi-lingual thesaurus of environmental terms to use in connection with the catalogue. Updating and completing CORINE data bases Land Cover - The cartography of Land Cover on the scale of 1:100 000 has been completed for almost half of the territory of the European Community. This is continuing with the support of Community regional policy, with a view to completion of the inventory in 1994-95. In addition, the application of Community methodology has begun in the PHARE (3) countries, as well as in several EFTA member states and in countries in the southern part of the Mediterranean basin with LIFE (10)/MEDSPA (11) support. Biotopes - The data base has been updated and supplemented to serve the needs of Community nature conservation policy, and in particular the application of the 'Habitats' Directive. The PHARE countries and certain EFTA member states are carrying out the inventory according to the Community methodology. Work continues in collaboration with the Council of Europe and the principal international nature conservancy organisations. Corinair 1990 - An inventory of pollutant emissions is being carried out for 1990 as an update of the 1985 inventory. The work is being performed in cooperation with the United Nations' Economic Commission for Europe (UNECE), all of whose European member states currently apply the Community methodology 'Corinair'. The inventory includes greenhouse gases, and the results will provide the European contribution to the OECD-IPCC (Intergovernmental Panel on Climate Change) programme in this field. The inventory also meets the needs for the supply of data connected with the Council Directive on large combustion plants. A feasibility study has been completed which confirms that the Corinair methodology should be extendible to other environmental media to build an integrated multi-media inventory of emissions. (3) Countries of Central and Eastern Europe in receipt of EC economic aid according to the terms of Council Regulation 89/3906/EEC (10) Council Regulation 92/1973/EEC of 21 May 1992 establishing a financial instrument for the environment (LIFE). OJ No L 206, 22.7.92, p. 1. (11) Council Regulation 91/563/EEC of 4 March 1991 on action by the Community for the protection of the environment in the Mediterranean region (Medspa). OJ No L 63, 9.3.1991. p. 1. Preparation of the Report Europe's Environment 1993 At the European environment ministers' conference at Dobris Castle in the former Czechoslovakia (21-23 June 1991), the Commission received a mandate to prepare the first report on the state of the environment for the whole of Europe (including EC, EFTA and Central and Eastern European countries). The report will facilitate the development of an 'Environmental Programme for Europe' in the lead-up to the next ministerial conference to be held in Sofia in 1995. It will be equally useful as a tool to inform the public and raise awareness about environmental problems. The report is being prepared by the EEA Task Force in collaboration with the UNECE and other international bodies (Council of Europe, IUCN, OECD, UNEP, WHO). The report is an assessment of the state of the whole European environment and of the pressures caused by human activities, and provides an analysis of prominent environmental problems of concern for Europe. Publication is scheduled for early 1994. The report will be accompanied by a joint data compendium, being prepared with EUROSTAT, OECD, UNECE and WHO. Other products are also envisaged including, for example, an environmental atlas and a popular version. The preparation of the report has proved a unique opportunity to explore the possibilities for cooperation with non-EC countries and other bodies - international organisations and

non-governmental organisations. The work has contributed to building a framework for environmental monitoring and assessment at a pan-European scale. Lessons learnt during the course of this project will be useful for preparing the tasks of the EEA. Particularly valuable has been the experience of collecting, processing and interpreting data under conditions where much relevant data is missing and with problems of accessibility and comparability for the data which does exist. The constitution and use of expert networks has been especially important for helping to resolve these problems. Furthermore, the exercise has contributed to bringing together the statistical activities of EUROSTAT, OECD, UNECE and WHO. The need for regular reporting on the environment at the pan-European level is confirmed by the results of this work. For further information contact: Commission of the European Communities DG XI Environment, Nuclear Safety and Civil Protection European Environment Agency Task Force rue de la Loi 200 B-1049 Brussels Tel: +32.2.29.68811 Fax: +32.2.29.69562 END OF DOCUMENT Copyright 1993 Reuters Information Services, Inc. All rights reserved.

BABY RADIATION

APn 12/21/93 10:13 PM Copyright 1993 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. MEMPHIS, Tenn. (AP) -- Seven newborn infants were injected with radioactive iodine in 1953 in hopes of finding a medical test for thyroid disease, said a scientist who lost track of the children a few years later. Lester Van Middlesworth, a doctor and researcher at the University of Tennessee, Memphis, said he felt the infants were in no danger, though thyroid cancer or other thyroid disease can result from overexposure to iodine-131, the substance used in the study. Van Middlesworth, who conducted the study, said the Atomic Energy Commission -- predecessor of the federal Energy Department -- financed it. He said the babies' mothers gave permission for the injections. The study was inconclusive, and he ended it. "Since the use of radio-iodine to study thyroid function was a standard procedure at the time in adults, we figured let's try this in newborn infants," Van Middlesworth said. Robert Summitt, dean of the state medical school, said current review standards for research on humans would likely prevent such studies. "We followed federal guidelines then, and we follow federal guidelines now. Federal guidelines have changed in the interim," Summitt said. The injections were given at John Gaston Hospital, a public hospital which drew a large number of low-income patients and was staffed by doctors from the medical school. Van Middlesworth said he has lost his study records and no longer knows the names of his subjects. He said the injected iodine should have broken down in 30 to 40 days. He said similar studies, some using orally administered iodine, also were conducted in the 1950s and 1960s in Detroit; Omaha, Neb.; Little Rock, Ark.; and Iowa City, Iowa. Van Middlesworth said he and other researchers were looking for a test for thyroid disease in infants. The thyroid gland traps radioactive iodine. Blood tests, not involving radiation, are now used for such purposes. If treated early, thyroid malfunction can be treated in infants. If not, it can cause severe mental retardation. The federal Energy Department said last week it will declassify evidence of a dozen secret radiation experiments conducted over New Mexico, Tennessee and Utah in 1948 to 1952. It was reported over the weekend that 751 pregnant women at Vanderbilt University in Nashville were given iron pills containing radiation in the 1940s to trace absorption of iron. Summitt said the Memphis study subjects will be offered medical exams if located. John Gaston Hospital is now closed and its maternity services have been taken over by The Regional Medical Center at Memphis. Stuart Polly, the center's medical director, said locating the study subjects through hospital records is unlikely.

GERMAN MINISTER ISSUES ULTIMATUM TO START NUCLEAR ...

RTw 12/21/93 10:17 AM GERMAN MINISTER ISSUES ULTIMATUM TO START NUCLEAR PLANT BONN, Dec 21 (Reuter) - German Environment Minister Klaus Toepfer said on Tuesday he had given regional authorities a December 23 deadline to license a nuclear power plant for operation or be taken to the Supreme Court. Toepfer said Chancellor Helmut Kohl's cabinet backed the ultimatum in a meeting late on Monday to press Rhineland-Palatinate state into dropping a refusal to licence the plant in Muelheim-Kaerlich. Toepfer accused the Social Democrats (SPD), the main opposition party in Bonn but head of the state government in Rhineland-Palatinate, of using local resistance to force an end to nuclear power in Germany. "Acting the state government. Toepfer has ordered the state government to seek approval from the federal government before making any decisions on Muehleim-Kaerlich, but the state disputes Bonn's rights. That issue may now have to settled before the Supreme Court in Karlsruhe. The SPD earlier this year quit talks with Kohl's coalition and the power industry that had aimed to revive a national consensus in support of nuclear power, a technology deeply unpopuland Hesse. He demanded Lower Saxony show him their files on the slow progress towards a early stage

of the construction of Germany's first nuclear disposal pit for highly-radioactive nuclear waste in a salt cavern in Gorleben. nging that ruling. REUTERCopyright 1993 Reuters Information Services, Inc. All rights reserved.

HK PUBLISHES CONTINGENCY PLAN FOR NUCLEAR DISASTER

RTw 12/21/93 4:42 AM HONG KONG, Dec 21 (Reuter) - Hong Kong published its contingency plan on Tuesday for coping with a disaster at a soon-to-be completed nuclear power plant just over the border in southern China. In July 1986, shortly after the Chernobyl disaster, more than one million people in the British colony signed a petition protesting against the building of the plant at Daya Bay in Guangdong province. The 14-page booklet details evacuation plans for the inhabitants of sparsely populated islands and coastal areas within a 20-km (12-mile) range of the plant at Daya Bay. "International experts on nuclear safety have advised that sheltering and evacuation will not be required elsewhere in Hong Kong," said the booklet, distributed free. "When a nuclear emergency has been declared by the Guangdong authorities, the Hong Kong Government Information Services Department will keep people fully informed of developments to avoid panic caused by exaggerated fears and rumours," it added. The Guangdong Nuclear Power Station, utilising French-designed pressurised water reactors, is due to open early next year. REUTERCopyright 1993 Reuters Information Services, Inc. All rights reserved.

RADIATION TESTS-PREGNANCY

APn 12/20/93 2:19 PM Copyright 1993 NASHVILLE, Tenn. (AP) -- Researchers at Vanderbilt University gave radioactive pills to pregnant women during the 1940s. A follow-up study during the 1960s concluded that three children born to women who took the pills likely died because of the research. The Department of Energy is looking for information on the experiments at Vanderbilt or other radiation research performed on civilians during the Cold War, said department spokeswoman Mary Ann Freeman. Researchers gave radioactive pills to 751 pregnant women seeking free care at a prenatal clinic run by Vanderbilt University. The pills exposed the women and their fetuses to radiation 30 times higher than natural radiation, about the same as an X-ray. The doses given were not considered unsafe at the time. In a March 1951 report in the American Journal of Obstetrics and Gynecology, researchers said they wanted to study iron absorption in pregnant women. The article does not mention monitoring the long-term effects of radiation on pregnant women or their children. But a follow-up study in the 1960s shifted its focus to that subject. A study published in 1969 in the American Journal of Epidemiology concluded that three children likely died because of the radiation exposure: an 11-year-old girl who died of a tumor, an 11-year-old boy who died of cancer and a 5-year-old boy who died of lymphatic leukemia. Vanderbilt officials said researchers kept documents of the study until they were destroyed in the 1970s. "The researchers who were working on that maintained their own files," said Vanderbilt spokesman Wayne Wood. "They were not Vanderbilt property. They belonged to the researchers themselves." Vanderbilt officials said they don't know if the women were told of the possible effects of radiation or even if they knew they were being given radioactive pills. Sen. Jim Sasser, D-Tenn., asked DOE Secretary Hazel O'Leary for an expanded report on the radiation experiments and called the Vanderbilt study "deeply disturbing" in a statement Saturday. "If they did not give consent, I would like to know why the experiments were performed without the knowledge of the subjects. I would also like to know whether DOE continued to monitor the health of these women and their children," the statement said. The Energy Department promised last week to find and declassify evidence of a dozen top-secret radiation experiments conducted over New Mexico, Tennessee and Utah from 1948 to 1952. A General Accounting Office report on those experiments did not evaluate the potential health effects of the release of radioactive materials because investigators couldn't find enough details, said Sen. John Glenn, D-Ohio.

RUSSIA WANTS TO START DUMPING WASTE AGAIN

RTw 12/20/93 1:48 PM MOSCOW, Dec 20 (Reuter) - Russia's Pacific Fleet said on Monday it wanted to resume the dumping of low-level nuclear waste at sea because of a catastrophic lack of storage facilities, Itar-Tass news agency reported. Yevgeny Romanov, head of the fleet's technical directorate, told a meeting there was no space left on board two tankers which were storing the waste, produced by nuclear submarines. "He said that given the extreme seriousness of the situation the fleet intended to ask the government for permission to carry out controlled dumping of liquid radioactive waste in Russia's Far Eastern territorial waters," Tass said. Moscow cancelled plans to dump 800 cubic metres of waste in the Sea of Japan in October after an international outcry following the "burial" of a first load of 900 cubic metres. Though it cancelled that operation, the Russian government made it clear it would resume sea dumping if a land disposal site cannot be prepared quickly, preferably with foreign aid. Russia

wants Japan to help pay for building the onshore storage units. But Japanese officials have said Moscow should pick up the bill itself. Romanov said unless urgent measure were taken the ageing tankers could spill their loads in the bay where they were stored, thus sparking an ecological catastrophe. The fleet's commander said in late October he was ready to resume dumping and hinted operations could restart soon. The dumping in the Sea of Japan provoked protests from Japan, South Korea and the United States. Russian officials hit back by saying that Tokyo and Washington themselves had authorised similar operations. REUTERCOPYRIGHT 1993 Reuters Information Services, Inc. All rights reserved.

IRT CORP. SIGNS AGREEMENT WITH SANDIA NATIONAL ...

OTC 12/20/93 11:50 AMSAN DIEGO (DEC. 20) BUSINESS WIRE - IRT Corporation (ASE:IX) Monday announced that it has signed a Cooperative Research and Development Agreement (CRADA) with Sandia National Laboratories to develop software systems that will further automate the contraband detection capabilities of the company's SECURE 1000 personnel scanner. Sandia, which is operated for the Department of Energy by Martin Marietta Corp., is a world-renowned research and development laboratory with headquarters in Albuquerque, N.M. IRT's SECURE 1000 personnel security scanning system utilizes a patented x-ray backscatter technology to detect metallic and nonmetallic objects concealed on individuals. Under the research and development agreement valued in excess of \$400,000, IRT's patented technology will be integrated with pattern recognition and image analysis software developed by Sandia. Sandia previously conducted tests on the safety and effectiveness of the SECURE 1000 in conjunction with the U.S. Customs Service and the Federal Aviation Administration. IRT submitted the results to the U.S. Food and Drug Administration (FDA) for review which subsequently cleared the SECURE 1000 for sale in the United States. "The cooperative effort with Sandia is expected to result in development of a more automated system that will greater assist the operator in detecting contraband such as weapons, plastic explosives, drugs and small amounts of precious metals," said Vicki L. Marion, senior vice president. "The enhanced software should simplify the contraband detection, making the SECURE 1000 less reliant on operator interpretation and could open the door to its use in Department of Energy facilities as well as other government sites, nuclear power plants, mining and precious metal processing companies, high-security checkpoints and even airports," she added. The Agreement reinforces the continuing commitment IRT and Sandia both have to R&D efforts to advance security technology in the United States and abroad. IRT's state-of-the-art x-ray systems and radiation services serve three growing markets: -0- T -- Manufacturing Inspection (automated process control and quality assurance inspection for miniaturized integrated circuits, circuit-board assemblies and air-bag components) -- Radiation Processing (principally medical products sterilization, gemstone colorization and semiconductor enhancement) -- Security Systems (personnel scanners which detect metallic and nonmetallic objects; i.e., plastic explosives, weapons and drugs) T Major customers include Delco Electronics (General Motors), IBM, NEC, Eli Lilly, Northern Telecom and Morton-Bendix. --30--GPN/la CONTACT: IRT Corp., San Diego Nicholas J. Virca, 619/622-8812 or Vicki L. Marion, 619/622-8815 KEYWORD: CALIFORNIA NEW MEXICO INDUSTRY KEYWORD: COMPUTERS/ELECTRONICS COMMED Z REPEATS: New York 212-575-8822 or 800-221-2462; Boston 617-330-5311 or 800-225-2030; SF 415-986-4422 or 800-227-0845; LA 310-820-9473 Copyright 1993

UKRAINE TAKES 17 MODERN SS-24 MISSILES OFF ALERT

RTna 12/20/93 9:46 AM KIEV, Ukraine (Reuter) - Ukraine has taken its most sophisticated former Soviet nuclear weapons, the 17 SS-24 missiles, off military alert on its territory, Deputy Prime Minister Valery Shmarov said Monday. "Seventeen (SS-24) missiles have been deactivated. There will be 20 by the end of the year," he told reporters. "This means lowering the level of military alert. The warheads have been moved away from the launchers." Shmarov said over the weekend that talks in Kiev with Russia and the United States had achieved agreement in principle on providing Ukraine with compensation for giving up the 1,600 former Soviet nuclear warheads on its territory. He mentioned no figures and consultations were to continue. Parliament in Kiev last month ratified the 1991 START-1 pact subject to 13 conditions -- mainly Ukraine receiving security guarantees and substantial compensation, put by some Ukrainian experts at up to \$2.8 billion. "Is this not a serious declaration of intention about Ukraine's non-nuclear policy?" he asked? "We are prepared to remove all SS24s from military alert, but only if conditions discussed at these talks are fulfilled." REUTERCOPYRIGHT 1993 Reuters Information Services, Inc. All rights reserved.

ARMS-CIS-UKRAINE -2 KIEV

RTw 12/20/93 8:47 AM Shmarov said at the weekend that talks in Kiev with Russia and the United States had achieved agreement in principle on providing Ukraine with compensation for giving up the 1,600 former Soviet nuclear warheads on its territory. He mentioned no figures and consultations were to continue. Parliament in Kiev last month ratified the 1991 START-1 pact subject to 13 conditions -- mainly Ukraine receiving security guarantees and substantial compensation, put by some Ukrainian experts at up to \$2.8 billion. "Is this not a serious declaration of intention about Ukraine's non-nuclear policy?" he asked? "We are prepared to remove all SS24s from military alert, but only if conditions discussed at these talks are fulfilled." REUTERCopyright 1993 Reuters Information Services, Inc. All rights reserved.

PRACTICAL USE OF FUSION SEEN WITHIN 35 YEARS; ...

WP 12/19/93 11:00 PM Practical Use of Fusion Seen Within 35 Years; Researchers Say Record Test Was a Giant Step By Boyce Rensberger Washington Post Staff Writer Shortly after 1958, when work on controlled nuclear fusion was declassified, some physicists predicted that their research could lead to a practical power plant in 25 years. Ten days ago, when Princeton University scored a major advance in fusion research and moved dramatically toward that goal, scientists said a practical power plant was just 30 to 35 years away. More than three decades of fusion research, it might seem, has left us further from the goal than ever. In fact, researchers say, the Princeton feat is a giant step toward fulfillment of the original goal. Fusion power has long tantalized scientists because it can tap the powerful sources of energy that lie within the nuclei of atoms (literally converting some of the matter to energy), whereas the burning of organic compounds in coal or oil releases only some of the energy that binds the nuclei to their surrounding electrons. For each pound of fuel, fusion power extracts about a million times more energy than does ordinary combustion. **Minimizing Drawbacks** And fusion power would produce no pollutants, nor even any carbon dioxide or other "greenhouse gas." Moreover, fusion avoids two of the large drawbacks of nuclear fission, the process that sustains existing nuclear power plants. Fusion produces only tiny amounts of radioactive waste and, unlike fission's waste, it decays quickly. And whereas fission fuels - uranium and plutonium - will run out in the foreseeable future, fusion fuels - two isotopes of hydrogen - are essentially inexhaustible. One, deuterium, can be extracted from water; the other, tritium, can be produced by the fusion reactor itself. Following the success of Princeton's Tokamak Fusion Test Reactor (TFTR) - which has so far produced a world-record 6 million watts of power in brief pulses and is expected to reach 10 million watts in 1994 - scientists hope to build two more experimental reactors. Those would be followed with the completion of a working power station around 2025. If all goes as planned, it would crank out 1 billion watts of sustained power and crown what is already one of the most difficult technological efforts ever undertaken. "Between now and then, we don't see any technical problems that look like show-stoppers," said Robert W. Conn, a fusion power engineer at the University of California at Los Angeles and chairman of the Energy Department's Fusion Advisory Committee. Conn said the Princeton achievements, which fit predictions made when TFTR was designed in the 1970s, "were real confidence builders. The machine behaved the way it was predicted to behave." Still, in fusion's earliest days there was too much confidence. The over-optimism was based partly on an assumption that the government would continue to fund nuclear science in the manner to which it had become accustomed during the Manhattan Project. Instead, funding dropped to far more modest levels, hovering around \$330 million in recent years. In addition, optimists just plain underestimated some technical hurdles. The process that powers the sun turned out to be a lot harder to control on Earth than most early experts assumed. The biggest problems were in learning how to confine and control the plasma - the hot gas in the reactor's doughnut-shaped chamber in which fusion takes place. It reaches temperatures as high as 400 million degrees Celsius, which means the atomic nuclei are moving very fast and "trying" to fly away. Powerful magnets surround the chamber, producing an invisible magnetic container inside the solid wall that resists this fly-away tendency. Moreover, the early plasmas would develop instabilities. Instead of calmly floating in the reaction chamber, the plasma would start to undulate and throw itself into kinks that could escape the magnetic container. When these touched the solid wall, they lost their energy and the plasma collapsed. "We've learned to handle a lot of the technical problems that showed up in the early days," said Ronald C. Davidson, director of the Princeton Plasma Physics Laboratory, which operates the TFTR. "We could move to a practical power station faster, but we work on a budget-driven schedule." During 1994, Princeton scientists will put TFTR through about a thousand more "shots." The goal is to learn more about how to control plasmas. In the process TFTR will also come closer to "breakeven," the point at which a reactor puts out as much energy as it consumes. At its best the reactor should put out one watt for every three it takes in, which fusion researchers consider "in the ballpark of breakeven." Then the reactor will be left alone for a year while the radioactivity of its internal parts, induced by neutron bombardment, decays. (This is the only radioactivity created by fusion reactors.) Then

technicians will enter the reactor, dismantle it and ship the pieces off to a low-level nuclear waste repository. In its place, Princeton physicists hope to build a very different kind of experimental reactor. Called the Tokamak Physics Experiment (TPX), its goal will not be higher power but more efficient power (more watts per dollar of cost) and continuous power. So far, all tokamaks - a Russian acronym for the doughnut-shaped design - release energy only in bursts lasting about a second. This is because it has been neither practical nor scientifically necessary to sustain the massive energy inputs needed to keep the plasma at fusion temperatures longer. Scaling Down for Efficiency TPX is being designed to sustain fusion indefinitely but in a smaller reactor, with containment provided by superconducting magnets. This will allow scientists to learn better how to control plasmas for longer periods and how to modify the plasma to get more power back from a given energy input. The practical goal is to make working power stations smaller and cheaper to build than would otherwise be the case. If TPX is fully funded at an estimated \$600 million, it could be in operation at Princeton by 2000, Davidson said. A far bigger experimental reactor now being designed with the goal of starting operation in 2010 is the \$10 billion International Thermonuclear Experimental Reactor (ITER, which physicists pronounce "eater"). Its goal would be to achieve the long-sought "ignition" - the moment when the fusing plasma creates enough energy of its own to keep fusion going without the need to put in any more outside energy. Once ignition starts, ITER would theoretically be able to put out 1 billion watts of sustained power. Unlike other big engineering projects in which the United States has led the way and then hoped to persuade other countries to contribute, ITER has been international from the start - an equal partnership among the United States, Europe, Russia (the Soviet Union when the first agreements were negotiated) and Japan. Various elements of ITER planning and design have been divvied up among the partners and a decision on where to build the facility is to come later. Copyright 1993 The Washington Post Reuters Information Services, Inc. All rights reserved.

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