Russia-Radioactive Village

APn 1/30/95 4:26 PM By SERGEI SHARGORODSKY Associated Press Writer MUSLIUMOVO, Russia (AP) -- The shallow creek runs beneath an abandoned mill. Cows wander knee-deep in the water. In the summer, it is where the village's children swim. This pastoral scene is deceptive, however. The Techa River is radioactive and has been for almost half a century. The nearby Mayak nuclear complex, also known as Chelyabinsk-65, began dumping raw nuclear waste into the Ural Mountains river in 1949, when it built the Soviet Union's first reactor to produce plutonium for atomic bombs. By the mid-1950s, radiation at the top-secret plant affected 124,000 people living along the Techa, which flows through a pretty forest and lake region. About 20 villages around Musliumovo, with their 8,000 to 9,000 residents, were evacuated because radiation levels were considered too dangerous. Musliumovo was not, even though radiation in the village often exceeded that at the evacuated sites. Many villagers suspect they were left behind as human guinea pigs. "For 40 years, they've been checking how a living being can survive in a radiation zone," said Valentina Kaidaneyeva, a teacher. "A lot of professors studying us must be dead by now, but we are still alive," she told a visiting group of foreign scientists, politicians and reporters this fall. Officials are at a loss to explain why Musliumovo, 930 miles east of Moscow, was not relocated. A senior scientist said he saw the evacuation order with his own eyes. "I don't think it was done on purpose, but probably because the village was too big and too expensive to evacuate," said Mira Kosenko, an expert on radiation medicine from Chelyabinsk, the regional capital. Whatever the case, thousands of people remained in Musliumovo, using the river water for their households and letting cattle graze in contaminated fields, unaware of the poison creeping into their bones. The former Soviet Union zealously guarded its nuclear secrets, and public health hardly mattered. So the villagers were not told anything about strontium-90 and cesium-137. Instead, they were told to keep out of the river because it was dirty. The mostly Bashkir-Tatar people of Musliumovo did not listen. For them, the Techa was a source of life. If they fell sick, medical personnel were under orders to keep silent about radiation, Kosenko said. The revelation came in 1989, when the Russian government first mentioned Mayak's legacy of nuclear accidents and radioactive pollution. Detailed reports later brought more knowledge and more despair. The village's people learned that the level of radiation accumulated in their bodies greatly exceeded permissible amounts, that scientists had found traces of even deadlier plutonium in the area, and that the river was so contaminated its silt could be classified as solid nuclear waste. Doctors began to speak of the region's problems with immune deficiencies, bone pains, blood disorders, chronic radiation sickness and cancers. Infant mortality is said to be high. But scientific studies of the village are only just starting, so there are no reliable figures on health problems. While radiation is clearly a danger, some physicians are cautious about attributing its effects. They say the heavily industrialized Chelyabinsk region also has health problems from general pollution. "As people learn more about the health effects, they begin to insist on leaving this place. They're very much concerned," said Gennady Gabitov, the head of the district administration in nearby Kunashak. Plans to resettle the 4,378 people in Musliumovo and the adjacent train stop found no government approval. However, the government did start to pump money into the areas affected by the Soviet nuclear program and in 1993 adopted a special rehabilitation plan for disaster zones. Given Russia's economic woes, the program began to collapse almost as soon as it was introduced. The Finance Ministry slashed planned spending. In 1993, the region got about 52 percent of the money allocated and even less in 1994, said Vladimir Panteleyev, who oversees the distribution of funds in the area. In Musliumovo, construction was halted on dozens of housing projects that could allow evacuation of the most dangerous homes close to the river. Government compensation to some radiation victims has not been paid for months. "The people live very poorly. They don't have any good food to improve their health, just enough to survive," said Kaidaneyeva, a mother of three. Kaidaneyeva now teaches her pupils about radiation. "While the state is thinking about resettling us, we must educate our children so they decide to leave this place. But I'm afraid some of us will perish before we achieve this goal," she said.

Chernobyl reactor shut down

UPn 1/30/95 11:40 AM By MARTA KOLOMAYETS KIEV, Jan. 30 (UPI) -- One of the remaining nuclear reactors at the notorious Chernobyl power station was shut down Monday after sensors detected a pressure problem in the emergency cooling system, a spokeswoman at the plant said. Workers trying to adjust the water levels in the emergency cooling system may have somehow triggered the automatic shutdown system. The reactor received erroneous signals and automatically shut down, said Tatiana Hryhorivna Yahysh of the Ukrainian State Committee on Nuclear Energy. "There was no release of radiation into the atmosphere, but an investigation into workers'

conduct and plant procedures will be held," said Yahysh, an engineer in the nuclear agency's public relations department. She said the incident, which occurred in the third reactor at 10:04 p.m. Sunday, caused no danger to plant workers or to the environment. The reactor is set to go back into service Wednesday. Engineer Serhiy Parashin, speaking from Chernobyl, said the automatic shutdown was caused by a pressure difference in the hydro-cooling cylinders, which hold water for the safety system. He said it was unclear whether the problem resulted from a technical problem or because "somebody turned a wrong knob." Russian officials at Kurchatov Institute speculated that a defective sensor may have caused the shutdown, saying there had been more than 10 such incidents at Russian nuclear plants over the past year. Chernobyl is the site of the world's worst civilian nuclear accident, which was linked to operator error and design flaws. Reactor No. 4 exploded April 26, 1986, releasing a cloud of radioactive particles. The explosion and fire killed at least 32 people, but thousands more were exposed to toxic radiation. Parashin said that if the "April 1986 (accident) can be compared to a car crash in which everybosy perished, then yesterday's incident was like putting your key into the ignition and it won't turn on the first try." In 1993, the Ukrainian parliament reversed an earlier decision to shut down the three remaining operational reactors at Chernobyl, arguing that the plant generates 7 percent of the country's energy. Last year, the International Atomic Energy Agency issued a report saying the plant did not meet international safety standards. Western countries have been pressuring Ukraine to shut down Chernobyl, located 80 miles (130 km) north of the capital Kiev, just south of the Belarus border. The Ukrainian government has said that it does not have enough money to finish new plants to provide nuclear energy for this country of 52 million.

Lithuanian N-plant to deactivate smugglers' truck

RTw 1/29/95 10:10 AM VILNIUS, Jan 29 (Reuter) - A truck that triggered radiation alarms on the border between Belarus and Lithuania has been taken to the Baltics' only nuclear power plant for investigation and decontamination, Lithuanian radio reported on Sunday. High radiation levels were detected inside the Zil 131 truck, a type used extensively by the former Soviet military, when it crossed into Lithuania last week, and it was found to be carrying two tonnes of tungsten metal under a false floor. At first authorities, unsure what to do with the vehicle, kept it near the border post. Later, Lithuanian police decided to move it this weekend some 200 km (120 miles) to the Ignalina nuclear plant, the radio said. The daily Respublika reported on Thursday that two men had been arrested for attempted smuggling when the truck was detained trying to cross the border at Medininkai, about 30 km (18 miles) east of the Lithuanian capital Vilnius. The newspaper quoted border guards as saying the rate of radioactive emission was about 3,600 microroentgens per hour inside the truck and between 800 and 1,000 outside it. A level of 15 to 20 microroentgens is considered safe. Sunday's radio report said it was still unclear whether it was the truck or the cargo which was radioactive. However, the event was the latest in a steady stream of scares linked to the scrap metal trade which has flourished in the region since the collapse of the former Soviet Union. Tungsten is not naturally radioactive and either the truck had been used to carry active material in the past or the latest cargo had picked up the radioactivity in prior storage, the report added. REUTER

Hong Kong nuclear worries said due to lack of data

RTw 1/28/95 2:43 AM HONG KONG, Jan 28 (Reuter) - The Hong Kong government on Saturday called concerns about the irradiation of two workers in a nearby Chinese nuclear power plant a tempest in a teapot, but agreed that more communication might help quell unneeded fears. Hong Kong legislators queried government officials on Saturday after the Friends of the Earth environmental group in Hong Kong said an incident had taken place but had not been reported as required at the Daya Bay plant just over the border from Hong Kong. The Hong Kong Nuclear Investment Company (HKNIC) said in a statement on Friday that two French maintenance workers were very slightly contaminated on January 6 in an event not serious enough to be classified as an incident and reported. Deputy Secretary for Economic Services Elizabeth Bosher said the amount of radiation exposure was well below the threshhold where government should have been informed. But she agreed that better communication and public education might be needed. "We ought to try and find a way of ensuring that very minor incidents of this sort do not develop into issues that cause public concern," she told legislators. Legislator Fung Chi-wood, spokesman on the environment for the Democratic Party, agreed that this particular event appeared to be trivial, but called it a classic case of the

way the plant operators' poor communications fed outside concerns. "This incident may not have implication or any interest for the company, but certainly the public has a different view," he said in a telephone interview. REUTER

ARMENIAN NUCLEAR PLANT TO REOPEN SOON - MINISTER

RTw 1/27/95 12:31 PM YEREVAN, Jan 27 (Reuter) - Armenia's energy minister announced plans on Friday to reopen a Chernobyl-style nuclear power station it says will alleviate acute power shortages, but which some Western experts believe could be unsafe. Miron Shishmanyan told a group of parliamentary committee members that Armenia's only nuclear plant would restart in June or July, allowing the transcaucasian state to supply electricity for 10-12 hours a day instead of one hour at present. The station was closed in 1989 after an earthquake which killed 25,000 people but did not hit the plant -- even though the tremor's epicentre was only 120 km (75 miles) to the north. Armenia argues the Metzamor plant about 25 km (16 miles) outside the capital, Yerevan, is safe. Leading industrialised countries in the Group of Seven (G7) and the European Union have made it clear that, while they may sympathise with Armenia's power plight, they are against recommissioning a plant where safety standards would always be in doubt. Nuclear experts say there are design problems with Metzamor's two Soviet-made reactors, which are similar to those at the Chernobyl plant in Ukraine, where an explosion in 1986 spread radioactive contamination across much of Europe. The experts have expressed concern about Metzamor's vulnerability to future earthquakes in the region. Armenia's energy shortage is mainly attributable to a conflict with neighbouring Azerbaijan which began in 1988 and led to severe disruptions in gas supplies. REUTER

RUSSIA FACES $270 BLN NUCLEAR CLEAN-UP -OFFICIAL

RTw 1/25/95 11:19 AM BRUSSELS, Jan 25 (Reuter) - Cleaning up Russia's vast stockpile of military and civilian nuclear waste will cost up to $270 billion over 50 years, a senior Russian official said on Wednesday. "The full clean-up programme for nuclear waste and nuclear weapons will take 50 or 60 years. The expected cost for this will be between $230 billion and $270 billion over the next 50 years," Vladimir Karassev told a two-day conference on marine pollution in the Arctic and Barents Sea. "This work will require a tremendous amount of money which Russia does not have right now," said Karassev, an environmental adviser to the Russian government. Karassev's remarks came after aid calls to the European Union made on Tuesday by Serguei Chetagurov, Russia's Vice-Minister for Civil Defence. Chetagurov told nuclear and chemical weapons waste experts at the conference that his ministry was to establish a research centre to monitor marine radioactivity. He appealed to the European Union for help in identifying "affordable and safe nuclear storage options and to prevent major disasters while we can." REUTER

``AWESOME'' TASK TO BREAK UP RUSSIAN NUCLEAR FLEET

RTw 1/24/95 11:09 AM By Patrick Chalmers BRUSSELS, Jan 24 (Reuter) - Decommissioning Moscow's nuclear naval ships presents the world with an "awesome problem," a Russian minister said on Tuesday. "Before the year 2000 (there) will be 150 ships demanding decommissioning," Russian Vice-Minister for Civil Defence Sergei Chetagurov told an international conference. "Some of these ships have two nuclear reactors on board, with varying degrees of burnt-up nuclear fuel. We must find adequate solutions to this awesome problem," he told an audience of 70 nuclear and chemical weapons waste experts. The two-day conference is intended to tackle environmental problems in the Arctic and Barents Seas arising from wrecks such as Russia's nuclear submarine Komsomolets and dumped radioactive waste and chemical weapons. Forty-two people were killed in 1989 when the Komsomolets caught fire and sank in Arctic waters after explosions blew a hole in its side. Chetagurov said there were "large quantities of chemical weapons in unidentified parts of the Atlantic Ocean and the western part of the English Channel." Dump sites also included the Irish Sea, off Scotland's Hebrides islands and off the west coast of Canada, he said. "Other major and direct worries concern the civil nuclear fleet. The icebreaker Lenin is an example but by far the most mind-boggling is the Lepse, a nuclear support vessel in the harbour waters of Murmansk," Chetagurov said. The Lepse had one million curies of radioactive nuclear materials aboard, the Russian vice-minister said. In

comparison, 100 million curies were released into the environment as a result of the 1986 Chernobyl reactor fire in Ukraine. Chetagurov said that, "last but not least," 10,000 crates filled with nuclear waste and 17 nuclear reactors had been dumped off the Russian island of Novaya Zemlya in the Barents Sea. He said his ministry would establish a research centre to monitor marine radioactivity and appealed to the European Union for help in identifying "affordable and safe nuclear storage options and to prevent major disasters while we can." REUTER

Nuclear-Free Caribbean

APn 1/14/95 3:34 PM By TONY FRASER Associated Press Writer PORT OF SPAIN, Trinidad (AP) -- A 13-nation Caribbean group wants to block a possible French shipment of nuclear waste by having the region declared a U.N. nuclear-free zone, Trinidad's foreign minister says. The environmental group Greenpeace says a ship carrying the waste is to leave Cherbourg, France, in mid-February and travel through the Panama Canal to Japan in the first of many such shipments. Japan has sent 2,900 tons of nuclear waste to France for reprocessing into fuel for nuclear reactors. A shipment of 1.7 tons of plutonium back to Japan in 1993 provoked protests about safety from nations along the ship's route. The Caribbean Community believes it has a "strong scientific and moral case to have the region declared a nuclear-free zone, and we intend pressing that case at the United Nations," Foreign Minister Ralph Maraj told The Associated Press late Thursday. The Caribbean Community, known as Caricom, adopted a resolution in 1992 against shipments of hazardous materials through the region. A nuclear waste shipment scheduled for later that year avoided the Caribbean. The waste is a by-product of the nuclear reprocessing in France, according to Greenpeace. Greenpeace intends to "demonstrate in the strongest possible way against the shipment being moved from France to Japan," Clements said. The Greenpeace ship Rainbow Warrior has gone to the Caribbean to organize opposition to the shipments. But Clements and Rainbow Warrior Capt. Joel Stewart said they would do nothing to endanger the transport vessel. The radioactive waste is mixed with glass, hardened and stored in casks. According to Greenpeace, the shipment to Japan is expected to include 28 blocks of waste from a 3,000-block stockpile in France. "The waste is so deadly that a person within one meter (3.3 feet) of a single unshielded block would receive a fatal does of radiation in less than one minute," a Greenpeace brochure says. Clements said Greenpeace supported a proposal by six members of Congress to have U.S. warships guard the shipment to reduce the risk of collision or sabotage.

Murkowski-Energy

APn 1/12/95 1:22 PM By H. JOSEF HEBERT Associated Press Writer WASHINGTON (AP) -- A Senate committee will move quickly on a broad review of national energy policies including the repeal of a ban on exporting Alaska oil, the panel's new chairman said Thursday. But Sen. Frank Murkowski, R-Alaska, rejected suggestions that the Energy Department might be dismembered, as some Republicans have suggested, saying "it's far too early to discuss demolishing the ... department." Murkowski, who is expected to bring a more pro-development philosophy to the Energy and Natural Resources Committee than his Democratic predecessor, promised a review that "looks at all aspects of domestic oil and gas (development) relative to alternative renewable sources." The Alaska senator has been one of Congress' most vocal supporters of opening the Arctic National Wildlife Refuge in far northeastern Alaska to oil drilling. The energy review is widely seen as a forerunner for pushing legislation to allow such drilling. "We're going to look at every aspect of (energy) resource development including ANWR," said Murkowski at a news conference. Murkowski said repealing the ban on exports of Alaska oil is among his top priorities. The Clinton administration has also indicated that it would support such a move, but has not formally proposed an end to the ban because of concern over how it would affect trade agreements involving the shipment of Alaska oil on U.S. tankers. Alaska officials have urged an end to the ban, which was part of the agreement that created the Alaska oil pipeline. Lawmakers at the time wanted to assure that the North Slope oil was for domestic use. But Murkowski said the export ban is costing the United States 25,000 jobs and $180 million a year in federal revenue. plus additional millions for Alaska. Alaska oil is sent to West Coast refineries or east through the Panama Canal, an expensive route. On other matters, Murkowski, in his first news conference since taking over the Senate's panel that deals with energy and public lands issues, said: --It is time to examine a variety of approaches to dealing with high-level nuclear wastes, including the possibility of entering into agreements with other nations to reprocess wastes. The Clinton administration has opposed reprocessing, arguing it would add to nuclear proliferation risks.

--He plans hearings into the mounting maintenance costs at national parks and has not ruled out consideration of turning some parks over to private entities as has been discussed by some House Republicans. --The committee plans hearings next week on the U.S. agreement with North Korea to supply that country with two light-water reactors and more than 500,000 tons of petroleum. The reactors would replace those capable of producing material that could be used to make nuclear weapons. He said Congress is expected to support the agreement, but he wants the hearing because "there are a lot of unknown questions." The Energy Department is involved in implementing the agreement. Murkowski also said the committee intends to examine a broad range of public-lands issues including implementation of wetlands regulations, management of federal forests and logging restrictions, the impact of the Endangered Species Act, nuclear waste cleanup at federal weapons facilities, and whether the 1872 mining law should be revised.

FRENCH FAST-BREEDER REACTOR SHUT DOWN AGAIN

RTw 1/12/95 8:46 AM GRENOBLE, France, Jan 12 (Reuter) - France's incident-prone Superphenix fast-breeder nuclear reactor has been shut down again less than three weeks after it was restarted, a spokesman for the plant said on Thursday. He said the 18-year-old reactor at Creys-Malville, near the Alpine town of Grenoble, was stopped at Christmas as experts wanted to investigate a leak of argon gas in its cooling system. Plagued by expensive faults, Superphenix has functioned normally for only six months since it was built in 1976 and many ecologists want it closed for good. The 1,200-megawatt reactor had been restarted on December 7 after a steam leak from one of its four generators had forced a shut-down the previous month. The government last year authorised it to operate at up to 30 percent of capacity as a research unit for recycling nuclear waste, well short of its original design as a fast-breeder producing more plutonium than it burns when generating electricity. REUTER

URANIUM HUNGARY SEIZED NOT WEAPONS-GRADE-SCIENTIST

RTw 1/12/95 8:27 AM BUDAPEST, Jan 12 (Reuter) - The 1.7 kg (3.75 lbs) of uranium captured by Hungarian border guards last month is useless for making weapons, the scientist who studied the haul said on Thursday. About one-third of the metal was reactor fuel grade, while the rest was depleted uranium used to make containers to hold radioactive elements, Laszlo Sztanyik of the National Frederic Joliot-Curie Institute of Radiation Biology told Reuters. Neither are of any use for making weapons without enrichment, a costly and difficult process that only a handful of nations in the world are capable of, he added. Sztanyik said the uranium was certain not to have originated in Hungary, but declined to speculate about where it had come from. The official MTI news agency reported on Wednesday that border guards seized the uranium on the Hungarian-Austrian frontier on December 10 and arrested four Slovak citizens in connection with the case. Officials in the West have warned that nuclear material could be smuggled out of the former Soviet Union because of the poor state of security there and sold to Third World states or to terrorists to develop nuclear arms. Alleged nuclear smugglers have been caught throughout the former Soviet bloc and in Germany, but most turned out to be trying to sell material which would be useless for making weapons. REUTER

PRESIDENT'S COUNCIL-O'LEARY

APn 1/11/95 10:48 PM CHATTANOOGA, Tenn. (AP) -- The United States is obligated to accept nearly half a ton of nuclear waste from Kazakhstan, Energy Secretary Hazel O'Leary said Wednesday. "The U.S. had produced that material and had promised 13 or 14 years ago to take back the waste, and we had not lived up to that agreement," O'Leary said. "We had to take the waste in order to get them to agree to more difficult conditions we felt were important." The material was transferred in November to a storage facility operated by the Energy Department at Oak Ridge, about 100 miles northeast of Chattanooga. A large share of the former Soviet Union's nuclear testing took place in Kazakhstan. The newly independent state inherited the highly enriched uranium when the Soviet empire dissolved in 1991. O'Leary said the material, almost pure U-235 uranium, would be diluted and taken to commercial reactors for use. Since the Soviet collapse, one of the West's top priorities has been to ensure the security of the former Soviet Union's nuclear arsenal and its large stockpile of uranium and plutonium in the civilian and military sectors.

Hungarian nuclear waste to be sent to Russia

RTw 1/11/95 2:08 PM BUDAPEST, Jan 11 (Reuter) - A train carrying about 55 tonnes of used fuel from Hungary's Paks Nuclear Plant to Russia for reprocessing will soon depart, the plant said on Wednesday. It will be the first transport since Russia stopped such shipments nearly three years ago because of environmental concerns, a plant spokesman said. The spokesman would not disclose when the transport leaves Paks nor its exact route, other than saying Ukraine will be the only country it transits. As part of its ambitious programme to harness nuclear energy for electricity generation throughout its empire in the 1960s and 70s, the former Soviet Union built Paks and accepted its spent fuel for nearly two decades under a 1966 agreement. Spurred by popular concerns over the damage communist heavy industry inflected on its country's environment, the Russian legislature accepted a law in 1992 that banned the import of nuclear waste, Kovats said. From then on, Paks kept the used rods at a storage facility at the plant. Other former Soviet satellites have also had difficulties sending used nuclear fuel to Russia. Bulgaria has not done so since 1990 and is trying to negotiate an agreement with Russia. The Czech Republic recently signed such a deal. REUTER

China shifts nuclear technology

UPn 1/10/95 3:05 AM BEIJING, Jan. 10 (UPI) -- Although it has rebuffed calls for a ban on nuclear weapons testing, China is shifting the focus of its nuclear program away from military toward civilian use, an industry official said Tuesday. According to You Deliang, spokesman for the China National Nuclear Corp., civilian applications of nuclear technology now account for 80 percent of China's total output compared with 5.2 percent in 1979, when the country first began to explore non-military uses, the official China Daily reported. You said with the restructuring of China's defense industry, production value for civilian use in power, manufacturing, medicine and resources development has grown at an annual 27 percent during the past few years. Since 1980, the government has expanded it atomic energy industry by investing more than 6 billion yuan ($705 million) in 400 civilian nuclear projects. The output value of those projects at 1990 prices reached 3.6 billion yuan ($423 million) by the end of 1994, he said. The focus of the industry has been to develop isotopes and radiation technology and new applications, especially in agriculture and medicine. Radiation technology, You said, had led to enormous growth in the creation of new varieties of rice, cotton and soybeans, reaping China an additional 4 billion yuan ($470 million) in profits every year. Some 1,200 hospitals treat 22 million people annually using advanced isotope technology. The massive demands on China's power network have forced it to turn to nuclear energy for civilian use. The country now has two nuclear power stations -- a 1.8 megawatt station at Daya Bay, near Hong Kong, and a 300,000 kilowatt generator at Qinshan in eastern Zhejiang province -- and has plans for 15 more. China is believed to have the smallest nuclear arsenal of the world's five declared nuclear superpowers, including the United States, Britain, Russia and France. Although it acceded to the Nuclear Nonproliferation Treaty in March 1992, it has refused to sign on to a two-year moratorium on nuclear weapons testing adopted by the world's other declared nuclear powers. Beijing says its military and civilian nuclear programs are entirely peaceful. However stepped up nuclear technology exports have raised doubts it intends to live up to international covenants. Western governments have accused China of blurring the distinction between peaceful and military applications by exporting nuclear technology capable of making weapons under the guise of so-called "commercial contracts," a criticism China rejects. The United States claims Beijing is helping incipient nuclear weapons programs in at least four countries, including India, Pakistan, Algeria and Iran. China has concluded deals to export nuclear reactors to Pakistan and Algeria. It has agreed to help Iran build two nuclear power plants at a cost of $1.2 billion in the southern Iranian city of Bushehr, and has similar contracts pending with Bangladesh and Egypt. Such technology, critics say, gives the countries, especially Iran, the capability of making fissile material for a nuclear bomb. Last week, India purchased the first shipment in a consignment of enriched uranium from China to fuel its U.S.-built Tarapur power plant near Bombay. Last September China said 300,000 industry employees had been transferred "on state orders" from desert and mountain regions to cities and coastal areas as a result of the shift to an expansion in peaceful civilian use of nuclear technology. An industry spokesman did not disclose any cutbacks in China's nuclear weapons program and admitted it would "keep a task force of nuclear scientists and engineers as is commensurate with the status of a nuclear power."

ESTONIA-RADIATION

APn 1/4/95 1:22 PM By MICHAEL TARM Associated Press Writer KIISA, Estonia (AP) -- Children no longer play behind the picket fence around the yellow house at 4 Manni Lane -- and police shot the family dogs. After receiving massive doses of radiation from a piece of cesium found inside the home, one former resident is dead and others are hospitalized. But the next-door neighbors still live in their house just 10 yards away, frightened and confused. "This is our Chernobyl," says Kaie Nurk, a 35-year-old mother with piercing blue eyes. "Like at Chernobyl, we're being told there's no danger. But it's only later that everyone starts dying, isn't it?" When the radioactive cylinder was found in this sleepy village, 22 miles from Estonia's capital, Tallinn, some officials pointed the finger at recently withdrawn Russian troops. Estonia now concedes its own lax storage procedures were to blame for the worst nuclear scare here since a cloud from the blast at the Chernobyl nuclear power plant in Ukraine passed over this small Baltic nation in 1986. Hundreds of nuclear dumps, production plants and secret nuclear facilities are scattered around the former Soviet Union. Once strict, security measures have vanished. Guards are ill-paid and easily bribed, and workers have been known to steal nuclear material and sell it. The metal found in Kiisa most likely came from the nearby Saku Nuclear Waste Facility, a run-down installation circled by a flimsy fence and rusty signs that read: "Radioactivity! Prohibited Area!" Police say Riho Hiiob, who lived at 4 Manni Lane, probably hopped the wire fence and pocketed a small, shiny piece of cesium 137, which he apparently intended to hawk on the black market. It eventually ended up in his kitchen cupboard. Authorities aren't sure how long the deadly metal was in the house. When rescuers in lead-lined suits and gas masks finally descended on the kitchen on Nov. 10, radiation levels were 130 roentgens, 50 million times higher than normal background radiation. Estonian health officials have expressed shock at the apparent ease with which a civilian got hold of the cesium 137, which is used in chemotherapy. "Nobody can claim for sure that there are no other sources of danger lying around Estonia right now," said Jaan Saar, a radiation specialist at the Environment Ministry. The Estonian government said it wants to take control of nuclear waste away from cash-strapped regional authorities. Additional guards have been posted at the Saku facility, and the government is studying other security measures. In the meantime, the stray piece of cesium has already taken its toll. On Nov. 2, Riho Hiiob died from radiation poisoning. An autopsy showed he had accumulated some 1,500 roentgens of radiation, far beyond lethal doses. Hiiob's girlfriend and her son also lived in the house and are still hospitalized with radiation sickness. Doctors say the boy, 14-year-old Rain Tubli, has deep burns on his body and may have to undergo a bone marrow transplant to prevent leukemia. "Even at Chernobyl, people didn't get burns so serious as this boy," said Peeter Mardna, a doctor treating the radiation victims. Around 100 people in Kiisa, which has a population of 350, have also had medical checkups. None has signs of illness, but experts say health damage from radiation may not show up for years. The family at 2 Manni Lane, who regularly visited their neighbors, has already concluded they're in mortal danger. Kaie Nurk's husband suffers from headaches and fatigue. For the rest of her life, she says she'll have to worry whether her loved ones might suddenly contract cancer because of their neighbor's stupidity. Throwing an anxious glance at her blonde daughter, Mrs. Nurk conjures up potential dangers for generations to come. "Who's to say her children won't be born with deformities as a result of all this," she said. "And if not her children, then maybe her children's children."

RUSSIAN NUCLEAR POWER STATION SHUTS DOWN REACTOR

RTw 1/4/95 4:02 AM MOSCOW, Jan 4 (Reuter) - A Russian nuclear power station near St Petersburg shut down one of its four reactors on Wednesday after a short-circuit knocked out monitoring equipment, Itar-Tass news agency said. Tass quoted officials at the state nuclear inspectorate as saying the incident at the Sosnovy Bor station posed no danger and no radioactive material had leaked out. The plant's automatic protection system shut down the number two reactor at 7.09 a.m. (0409 GMT) after a simple short-circuit stopped equipment which monitored the flow of energy from the station, 100 km (60 miles) west of St Petersburg. The reactor would be started up within the next 48 hours. Two of the four reactors were working normally while the remaining unit was undergoing a major overhaul, Tass said. In February last year, one of the station's reactors was shut down after a minor leak of water. Sosnovy Bor was the scene of a major incident in March 1992 when radioactive iodine and inert gases escaped after a loss of pressure in a reactor channel, triggering international concern. The reactors at the plant are of the same type as those at the Chernobyl station in Ukraine, scene of the world's worst nuclear accident in 1986.

BRF--RADIOACTIVE POOL

APn 1/3/95 10:17 PM TONAWANDA, N.Y. (AP) -- Everybody out of the pool -- it's radioactive. The state Health Department said Tuesday someone swiped a radiation-contaminated swimming pool from an industrial site in this Buffalo suburb. The 4-foot-deep, above-ground pool was used as a reservoir for water tainted with the radioactive chemical americium, said Lloyd Novick, director of the state Office of Public Health. It had been dismantled and stored behind a fence after the cleanup and was to be removed to a permanent dump site. Then someone took it over the Christmas weekend. "If their idea was to set it up in their back yard, that is a problem," said Health Department spokesman William Fagel. "You couldn't tell by looking at it that it's radioactive, but it is. It's not glowing in the dark or anything." Novick said the radiation level in the pool liner is low and does not pose a serious risk. "However, we believe the pool should not be used for swimming," Novick said. The Health Department said it would not press charges if the pool is returned.

This appeared in sci.environment recently. I encourage readers to submit their comments to lpoulin at nickel.laurentian.ca. My comments are appended.

>From lpoulin at nickel.laurentian.ca Mon Jan 30 13:14:55 EST 1995

To: All concerned about Nuclear Waste Disposal Process From: lpoulin at nickel.laurentian.ca Background AECL is about to start touring Canada with a display to inform the public on their concept for disposing of nuclear waste in the Canadian Shield. We, in Sudbury, are trying to prepare a backgrounder sheet on some unresolved concerns regarding the process and concept... Here is a draft of our handouts. Do you have any comments to add more credibility to it? Please feel free to download and use in your own part of the world at your closest AECL public information session. The handout fits on both sides of a 8.5 x 11 page if you reduce the font with a software package... Send all comments to lpoulin at nickel.laurentian.ca START OF DRAFT AECL HANDOUT...note this is a draft and it is up to you to finalize it if you plan to use it in your area.... UNRESOLVED PUBLIC CONCERNS REGARDING NUCLEAR WASTE DISPOSAL CANDU ACCIDENT IN ARGENTINA?: Cordova, Argentina. Apparently there was a CANDU accident which, at the time, was the largest nuclear accident ever....There was a cover up locally in Argentina and the locals only found out about the accident in the international press. We need more references about this one.... ARE EXPENSIVE TECHNOLOGICAL PROPOSALS REALLY FOOLPROOF?: Pickering: a recent unexpected nuclear accident at Pickering Power Station, Sudbury: a 'hard to find' water leak in a new $6 million water reservoir built in full view on top of a hill; Kobe Japan, buldings built to withstand strong earthquatkes crumbled to the ground. What makes this multi-million dollar AECL technological solution so trustworthy? Remember that AECL's disposal concepts will be more difficult and more expensive (publid dollars again) to repair if and when something does go wrong. INADEQUATE FUNDING FOR PROPER PUBLIC REVIEW OF DISPOSAL CONCEPT: The Federal Environment Review of the nuclear disposal concept is a national review which is for all residents of Canada. On the one hand, millions of public dollars and over 10 years of research were spent to research the disposal concept. AECL and the Federal Government are mandated by law to help finance the public review of the report. However, only $700,000 were put aside for financing public assistance during this review. This works out to less than 5 cents for each Canadian ($700,000 / 33,000,000 Canadians) despite the government's statements that the disposal of nuclear waste was one of the most important environmental problems today. The actual amount available to the general public is closer to $300,000 since almost half of the total is going to fund more scientific reviews of the nuclear waste disposal concept. ENVIRONMENTAL REVIEW PROCESS USES NEGATIVE OPTION MARKETING TECHNIQUES TO GET APPROVAL: The funding and review process does not give each and every Canadian the time and tools they need to properly review this disposal concept. In this process, no news from the general public is taken to mean approval and acceptance of the project's concept. Because of the lack of funds available and the confusing timelines of the review, it is up to individual Canadians to finance their own participation in the review while the Canadian government has spent many millions of public dollars subsidizing the development of the nuclear industry knowing that there was no approved concept to dispose of the high level radioactive waste. WHO CHARTED US ON A NUCLEAR COURSE WITHOUT FIRST HAVING A SOLUTION FOR HIGH LEVEL NUCLEAR WASTE? Why did Ontario Hydro's Board of Directors and the province of Ontario allow the proliferation of nuclear power in the province without a defined solution for the treatment of high level radioactive waste? Now this financial and environmental burden is passed on to future generations and the high cost of nuclear is taking money out of circulation from the province's economy. IS CANADA GOING TO

IMPORT NUCLEAR WASTE ? There has been talk that once the nuclear waste disposal concept is approved that Canada will take back the nuclear waste from nuclear generators Canada has sold abroad. Is there such an arrangement made during the recent CANDU sales to China? Will the sales of future nuclear reactors be tied in with our obligation to take back high level radioactive waste? LARGE VOLUMES OF AECL MATERIAL MAKE IT DIFFICULT FOR GENERAL PUBLIC TO ASSIMILATE AND CRITIQUE IT. In a democratic process, citizens are given all the tools they need to fully understand and participate in the review process. Will your 5-10 minute visit at the AECL display be seen as a rubber stamping of the AECL concept? How is the public supposed to understand and review what has cost millions of dollars and years of research to develop? THE TERM 'DISPOSAL' HAS NOT YET BEEN SCIENTIFICALLY DEFINED. In Sweden, Swedish law prohibits licensing of any new reactor until disposal has been demonstrated as do-able. On the other hand, our government is actively promoting sale of reactors abroad. CALIFORNIA SAID NO TO DEEP ROCK BURRIAL: In California where ONLY the concept of deep rock disposal was recently addressed, the conclusion was NO to deep rock disposal. Deep rock disposal is not currently sound. PROCESS HAS SEPERATED THE NUCLEAR WASTE DISPOSAL CONCEPT APPROVAL FROM SITE APPROVAL PROCESS: If this concept is approved, then the public will no longer be able to critique the concept and AECL could use concept approval to force a disposal site somewhere, since, in their mind, approval of the concept means there is no problem with their proposed solution. NAFTA PERMITS THE IMPORT OF HIGH LEVEL RADIOACTIVE WASTE ACROSS THE CANADA-US BORDER? What does this mean for nuclear imports in the future? CAN AECL STATE CLEARLY WHAT ITS PLANS ARE FOR REPROCESSING HIGH LEVEL RADIOACTIVE WASTE FOR PLUTONIUM? A seperate and properly funded set of hearings should address this concern. Does the Canadian government want to become involved in weapons grade uranium processing? Plutonium production has long been a part of the nuclear arms race....Do we want to participate in this? LOCAL SUDBURY ISSUE: HOW MUCH MONEY IS SCIENCE NORTH MAKING (AND HAS MADE IN THE PAST) TO PRESENT THE AECL CONCEPT TO THE PUBLIC?: How do financial contributions from AECL to Science North (an agency of the Provincial government located in Sudbury) affect the arms length relationship between the provincial and federal governments and the Federal Environmental Review Process under way. How objective is Science North as a result of this financial compensation, and, will the Ontario and federal governments be as thorough in the FEARO review on behalf of the people of Ontario during the time which AECL is contributing financially to a provincial agency dependant on external funding for survival. WHAT YOU CAN DO GET YOUR OWN COPIES OF THE AECL DISPOSAL CONCEPT by contacting Joan Commerford, Collect at 819- CONTACT DURHAM NUCLEAR AWARENESS PROJECT: A grassroots public awareness group in Oshawa dedicated to offereing you alternative information on the nuclear industry. They are particularly familiar with Ontario Hydro's nuclear facilities and safety records. Contact them at 905-725-1565 or at email:nucaware at web.apc.org INFORM YOURSELF ON THE JARGON OF THE NUCLEAR INDUSTRY: Get a copy of SCIENCE FOR DEMOCRATIC ACTION, a newsletter published by the Institute for Energy and Environmental Research, dedicated to helping the general public better understand the jargon used by the nuclear industry. Contact IEER, 6935 Laurel Ave., Takoma Park, MD 20912 USA tel:301-270-5500 fax:301-270-3029 email:ieer at igc.org WRITE YOU MP AND MPPS AND ASK THEM: - To evaluate if the public wants to continue using nuclear power - for greater financial assistance and objective resources to help the general public fully understand how the nuclear industry works and the proposed disposal concept, - To establish conflict of interest guidelines so that the financial arrangements between AECL and other public institutions to ensure a transparent and objective and balanced review of the AECL high level nuclear waste disposal concept. CONTACT PROJECT PLOUGHSHARES SUDBURY to find out more about the connection between the nuclear industry and the nuclear arms race. Contact 566-1842 (PUT YOUR LOCAL PEACE GROUP NUMBER HERE). END OF AECL HANDOUT PLEASE SEND ANY COMMENTS to lpoulin at nickel.laurentian.ca ---------- >From whitlock at mcmail.cis.mcmaster.ca Mon Jan 30 18:03:05 EST 1995 To the creators of this "info sheet": This really is a poor attempt at shedding light on this very important issue. It wouldn't even merit comment, were it not posted to the entire globe. It is disconcerting to think that this will pass for valid info in the minds of many. In any case, here are some comments: Ken Toews <lpoulin at nickel.laurentian.ca> wrote: To: All concerned about Nuclear Waste Disposal Process [...] UNRESOLVED PUBLIC CONCERNS REGARDING NUCLEAR WASTE DISPOSAL [...] CANDU ACCIDENT IN ARGENTINA?: Cordova, Argentina. Apparently there was a CANDU accident which, at the time, was the largest nuclear accident ever....There was a cover up locally in Argentina and the locals only found out about the accident in the international press. We need more references about this one.... "More" references? How about starting by suppying us with those that supplied you with the above. [...] What makes this multi-million dollar AECL technological solution so trustworthy? Remember that AECL's disposal concepts will be more difficult and more expensive (publid dollars again) to repair if and when something does go wrong. The "trustworthiness" comes from scholarly study of the concept, and careful review by a competent

technical jury. Both of these are essentially complete. It certainly doesn't come from random comparisons to disasters around the world, or accusations about nuclear accidents made without factual backup. INADEQUATE FUNDING FOR PROPER PUBLIC REVIEW OF DISPOSAL CONCEPT: The Federal Environment Review of the nuclear disposal concept is a national review which is for all residents of Canada. On the one hand, millions of public dollars and over 10 years of research were spent to research the disposal concept. AECL and the Federal Government are mandated by law to help finance the public review of the report. However, only $700,000 were put aside for inancing public assistance during this review. The government is not supposed to fund a citizen's study of deep geological disposal -- that is the job for the country's experts on the subject, appointed by the government that the people of Canada voted in. It seems to me that $0.7 million is more than enough -- and if the recent challenge to the Nuclear Liability Act is any indication, a good fraction of that funding will likely be squandered on irrelevant challenges. ENVIRONMENTAL REVIEW PROCESS USES NEGATIVE OPTION MARKETING TECHNIQUES TO GET APPROVAL: The funding and review process does not give each and every Canadian the time and tools they need to properly review this disposal concept. Again, "each and every Canadian" is not expected to provide a review. It is the job of the government to do the analysis, present their solution to the people, and answer questions. WHO CHARTED US ON A NUCLEAR COURSE WITHOUT FIRST HAVING A SOLUTION FOR HIGH LEVEL NUCLEAR WASTE? Why did Ontario Hydro's Board of[...] This is completely irrelevant. IS CANADA GOING TO IMPORT NUCLEAR WASTE ? There has been talk that once the nuclear waste disposal concept is approved that Canada will take back the nuclear waste from nuclear generators Canada has sold abroad. This is very loose talk. Where did you hear this? it is certainly not the policy of Canada. LARGE VOLUMES OF AECL MATERIAL MAKE IT DIFFICULT FOR GENERAL PUBLIC TO ASSIMILATE AND CRITIQUE IT. In a democratic process, citizens are given all the tools they need to fully understand and participate in the review process. Same comments as above. CALIFORNIA SAID NO TO DEEP ROCK BURRIAL: In California where ONLY the concept of deep rock disposal was recently addressed, the conclusion was NO to deep rock disposal. Deep rock disposal is not currently sound. I wouldn't trust anything in the ground of California either. Neither would I sunbathe nude in Antarctica. PROCESS HAS SEPERATED THE NUCLEAR WASTE DISPOSAL CONCEPT APPROVAL FROM SITE APPROVAL PROCESS: If this concept is approved, then the public will no longer be able to critique the concept and AECL could use concept approval to force a disposal site somewhere, since, in their mind, approval of the concept means there is no problem with their proposed solution. The solution isn't complete until site verification is done. When a site is chosen, the appropriate specific review procedure will be followed. CAN AECL STATE CLEARLY WHAT ITS PLANS ARE FOR REPROCESSING HIGH LEVEL RADIOACTIVE WASTE FOR PLUTONIUM? A seperate and properly funded set of hearings should address this concern. Does the Canadian government want to become involved in weapons grade uranium processing? Plutonium production has long been a part of the nuclear arms race....Do we want to participate in this? Canada has nothing to do with the use of plutonium or uranium in weapons. This is completely irrelevant. -- Jeremy Whitlock "speaking personally" E-MAIL: whitlocj@candu.aecl.ca PHONE: (905) 823-9060 ext.4648 FAX: (905) 823-8006

CHERNOBYL BOSS INVITES WORLD LEADERS TO STATION

RTw 3/27/95 11:03 AM (Updates, expands with Parashin interview) By Yuri Kulikov KIEV, March 27 (Reuter) - The director of the Chernobyl nuclear power station on Monday denounced a British newspaper report suggesting a new disaster could occur there and invited world leaders to see the plant for themselves. Sergei Parashin, in a telephone interview, repeated his contention that Ukraine could not afford to close Chernobyl, site of the world's worst nuclear accident. He said the report in Sunday's Observer newspaper was part of a campaign in the West to intimidate the country's 52 million people -- starting with last year's decision by leading industrialised countries to press for Chernobyl's closure. "Now that G7 leaders have decided to close the station, it is surely not a bad idea to invite them to visit. We have to explain to the world the situation at the station and the problems linked with it," he said. "The Chernobyl station is working absolutely normally. The only real problem is huge psychological pressure on staff... There are no arguments today in favour of closing the10station." The Observer, quoting a report it said was suppressed by European Union officials, said pillars supporting Chernobyl's stricken fourth reactor were "in imminent danger of bursting." It said such a collapse could send debris crashing through a containment shell hurriedly erected around the reactor in 1986 or into the adjacent third reactor, still in operation. The report was issued this month by companies bidding to build a new "tomb." It concluded the existing shell could not withstand an earthquake or other natural disaster. In Brussels, the European Commission rejected the Observer's

allegations that it tried to cover up the report. A Commission spokesman described the report as preliminary and said it had held no news conference because of concern the companies would use the issue to give themselves publicity. The fire and explosion in the fourth reactor on April 26, 1986 sent radiation over most of Europe and Ukrainian officials say 8,000 people have since died as a result. More than 10 percent of the national budget is still devoted to the cleanup. Ukraine's five nuclear power stations provide more than a third of the country's electricity. The industry has increased salaries to prevent a mass departure of specialists and statistics showed a decline in technical incidents last year. But international experts have said continued operation of Chernobyl's first and third reactors is unsafe and Western nations have been pressing for its closure. Reactor number two was closed after a fire in 1991. Ukrainian leaders say they cannot shut Chernobyl until alternative sources are found for the seven percent of the country's electricity provided by the plant. They say between $4 billion and $6 billion in assistance is needed. Parashin denied there were serious structural problems with the encasement, but admitted "natural cracks" were being repaired. It would take 10 to 15 years to build a new "tomb." "We maintain it is impossible to close Chernobyl. If, for instance, we closed it within three years, the best specialists dealing with RBMK (Chernobyl-type) reactors would start leaving immediately," he said. "Ukraine would then be left on its own to deal with Chernobyl. It is totally irresponsible to link help from the world community to closure of our station." Ukrainian President Leonid Kuchma visited the station this month and said it was up to the international community to work out a plan to close Chernobyl, taking account of the former Soviet republic's economic crisis. Industrialised countries have offered several hundred million dollars in assistance to help close the station. But the EU last week made the provision of general financial aid contingent on a deal to shut Chernobyl. REUTER

Collins wants statement on Chernobyl

RTec 3/27/95 9:22 AM BRUSSELS, March 27 (Reuter) - European Parliament Deputy Ken Collins said on Monday he wanted the European Commission to tell the assembly more about its alleged supression of a report on the Chernobyl nuclear plant. He said in a statement that he had written to Commissioner Christos Papoutsis, responsible for EURATOM and nuclear energy issues, asking him to make a statement at next week's plenary session in Strasbourg. "Such an opportunity to inform the public about the current situation in Chernobyl is too important to be missed," said Collins, chairman of the Environment committee. The Commission was accused by a British newspaper on Sunday of having covered up a report on the dangers of Chernobyl. The Commission earlier dismissed the article (NUCLEAR-CIS-EUROPE). REUTER

Commission dismisses preport of Chernobyl cover up

RTw 3/27/95 6:55 AM BRUSSELS, March 27 (Reuter) - The European Commission on Monday dismissed as "unacceptable" accusations in a British newspaper that it suppressed a report warning of a second catastrophic explosion at the Chernobyl nuclear plant. Chief spokesman Nikolaus van der Pas said the Commission, the European Union's executive, had been at the forefront of attempts to close down the Ukrainian plant, site of the world's worst nuclear accident in 1986. The British Sunday newspaper The Observer said it had obtained a report which contained the warning about Chernobyl. "In a secret report...they say pillars supporting the damaged reactor building are in imminent danger of bursting," the paper said. It said the report was being suppressed by Commission officials battling with Ukrainian politicians over the site's future and the cost of a clean-up. Van der Pas said the report, drafted by a consortium of private companies from Britain, Germany and France, was an initial one and that a final, more detailed report would be finished in June. It had been submitted to a group of experts from the Commission, the Group of Seven industrial nations, Belgium, Spain, Ukraine and Russia, he said. Financing would be decided after the second report. Van der Pas said the consortium, working under the EU's TACIS programme of assistance to former Soviet republics, had asked for permission on March 16 to issue a press release and hold a series of news conferences concerning the initial report. Permission was granted for the release, but not for the news conferences, van der Pas said. He said the decision was taken not to allow news conferences because of concern that the companies would use the issue to give themselves publicity. "This is a serious activity. It is not advertising for private firms," he said. A fire and explosion at the Chernobyl nuclear plant in 1986 spewed radioactive particles into the atmosphere over much of Europe. Medical experts say the disaster has caused an

increase in the number of cases of cancer in children and physical deformities and Ukrainian officials say 8,000 people have died. The plant's second reactor was closed after a fire in 1991
REUTER

The Doomsday Bazaar I

APn 3/26/95 10:55 PM EDITOR'S NOTE -- A half-century into the nuclear age, the world finds it ever more difficult to keep the destructive power of the atom out of ever more hands. This is the first installment of a four-part series on nuclear trafficking and steps to curb proliferation. ------ By CHARLES J. HANLEY AP Special Correspondent PRAGUE, Czech Republic (AP) -- The matter-of-fact report from Prague -- an account of what police found in an old Saab on grimy Argentinska Street -- woke them up worldwide. "The world of intelligence services was turned upside down," a Czech official recalled. "There were lots of middle-of-the-night phone calls, lots of long faxes." What Czech police seized that day last December, along with three alleged smugglers, was a pair of metal canisters, crudely fashioned, wrapped in plastic, tossed in the Saab's back seat. They were loaded with six pounds of granulated doom -- 2.73 kilograms of nearly pure uranium 235, one-third a Hiroshima bomb's worth. Three months later, the investigation goes slowly. Where the enriched uranium was headed remains undetermined. But The Associated Press has learned that critical information points toward a major Russian nuclear institute as its possible source. And investigators suspect a wider multinational conspiracy. The case is only the most alarming in a wave of nuclear smuggling incidents in Europe, with Prague just one front in an escalating global struggle over the spread of nuclear weapons. On April 17 in New York, representatives of the world's nations gather to renew the Nuclear Non-Proliferation Treaty, the pact that commits governments to restrain atomic arms. But to head off new nuclear crises -- new Iraqs and North Koreas -- authorities must also stiffen their guard at borders and air terminals and around nuclear facilities in Russia and elsewhere, to stop smuggled batches of uranium and plutonium that could give some state or terrorist group an invaluable headstart toward the bomb. The director of the FBI, Louis Freeh, calls nuclear smuggling "the greatest long-term threat to the security of the United States." Rising concern, in Washington and elsewhere, is reflected in action. The CIA has formed a "non-proliferation center" to track the threat. The Interpol global police alliance is collecting data in search of trafficker networks. In Germany, a crossroads of the smugglers, the federal police established a 20-member "nuclear office" in November. The Germans have even deployed radiation detectors at major airports. The statistics are startling. In Germany alone, there were 182 cases involving illicit dealing in radioactive materials in 1994. Investigators believe the nuclear black market is, in many cases, a fools' bazaar, involving would-be brokers, often eastern Europeans, peddling material to each other or to police undercover agents. Ultimate buyers, end users, are never traced. The goods are mostly useless for weapons-making or anything else, although sometimes dangerously radioactive. But in a handful of reported cases the smugglers had weapons-usable plutonium or enriched uranium -- not enough to make a bomb by itself, but enough to trouble authorities, deeply. "In these cases, for this kind of material, there could be buyers. But we don't know who they are," a top German investigator conceded. Even more troubling, they do not know the "dark" statistic, as he put it -- the number who are not caught. "The thing I worry about at night is whether these interceptions are just a sampling of the problem," a senior Clinton administration official said in a Washington interview. If Prague is just a sample, the world's watchdogs are right to worry. Czech authorities clamped official secrecy on many details of the seizure and arrests, which they say resulted from a woman's anonymous telephone tip. But a picture has emerged of the lone Czech among the three suspects: a 53-year-old nuclear scientist named Jaroslav Vagner. "A playboy with no money," "highly intelligent," "a risk-taker" were descriptions from former colleagues and investigators. Three central facts: Vagner last worked at a nuclear facility in 1990; he had a bakery business that recently failed; he visited Russia last spring. Less has been released about his alleged accomplices, a Russian and Belarussian. But, from investigative sources, the AP learned a crucial bit of background about the Russian: His home is in Maloyaroslavets, an area 60 miles from Moscow that borders the Obninsk institute, a major research center where tons of highly enriched uranium are kept under less than rigidly secure conditions. In Moscow, a spokesman for Russia's counterintelligence service, FSK, in charge of investigating nuclear smuggling, would not comment on the Prague case. Russia's nuclear energy minister, Victor N. Mikhailov, was less inhibited. In an AP interview in the Russian capital, Mikhailov was asked whether he knew that a suspect in Prague was a neighbor of one of his institutes. "I don't know anything about this. ... It sounds like a fairy tale to me," he shot back. He then cut off discussion with a sharp "I'm not interested." At Obninsk, an institute spokesman said it had not been approached by Russian authorities regarding the Prague investigation. The Russians say the Germans and Americans exaggerate Russia's nuclear smuggling problem. Not one of the dozens of cases has been definitively traced to the former Soviet Union, they point out. But the Germans -- and now the Czechs -- grumble that the Russians cooperate only sporadically with their investigations.

"Unless we get close and open cooperation with the possible countries of origin, we will never be able to trace the material back," Joachim B. Fechner, a German government nuclear specialist, said in an interview in Bonn. Fechner, of the Ministry of Environment and Nuclear Safety, dismissed suggestions in Moscow that Russia may not be a source of smuggled material. "If you look at the protection at scientific institutes in Russia, anyone could take it," he said. "They don't even know how much they have." Circumstantial evidence clearly points east. Russian-language certificates are sometimes found with the material, as with the Prague uranium, attesting to its characteristics. Arrested couriers tell interrogators they have come from Russia. Even the metal containers have a rough, Russian finish, specialists say. The Prague case points west, too, toward Germany. Jan Subert of the Czech Interior Ministry said the investigation began in mid-1994, after German police in Bavaria seized a tiny amount of uranium of the same weapons-usable enrichment grade -- 87.7 percent fissionable U-235. A German woman and five Czech and Slovak men were arrested for llegedly trying to sell it. Information from that case led toward Prague, where the telephone tip and arrests Dec. 14 closed a circle, investigators said. Now Czech police are trying to follow still further leads, to other suspects and shipments in what a top investigator said "undoubtedly" is a wider conspiracy. A Prague newspaper said Friday that two more people had been detained in the Vagner case, including a city policeman. Authorities would not comment on the report. Police in Prague and Germany sense the hand of Russia's powerful organized-crime groups behind at least some smuggling cases. For that reason, they asked a reporter not to use the unpublished names of the Russian and Belarussian suspects. "Their families could be threatened by criminal gangs," said one investigator. "And after all, we don't know whether Russian officials themselves may be involved." ------

NEXT -- Part II: Nuclear Archipelago

The Doomsday Bazaar II

EDITOR'S NOTE -- European authorities reported dozens of cases of nuclear smuggling last year, and they suspect "leaky" Russian facilities as the source for most of them. This is the second report in a four-part series on the trafficking in nuclear materials that could be used in weapons. ------ By CHARLES J. HANLEY AP Special Correspondent OBNINSK, Russia (AP) -- The white-coated technician strode out of the reactor building, a tiny container of nuclear material dangling from his hand. Suddenly a red light flashed. An alarm screamed. The "smuggler" stopped in his tracks, caught by a radiation detector hidden at the research reactor's main exit. The doorway at this sensitive facility of the Obninsk institute may be well-protected. But it is just one control point in one building in a single complex in the vast archipelago of nuclear research, energy and weapons-making installations spread across Russia. On the day Obninsk scientists gave a visiting reporter their security demonstration, 60 miles away in Moscow the interior minister was informing the rest of the Russian Cabinet that 80 percent of the control points at Russia's nuclear facilities lack such detection equipment. A second doorway may be a better example, this one in the far north, at a naval storehouse in Severomorsk. In late 1993, a thief armed with a simple bolt-cutter snapped off that door's padlock, stepped inside and walked away with three fresh fuel elements for nuclear submarines -- highly enriched uranium, the stuff of atomic bombs. That haul was later recovered, but chief military investigator Mikhail Kulik despaired, "Even potatoes are guarded better than radioactive materials." The doorways are only one security failing in an ex-Soviet nuclear establishment that European and U.S. authorities say is leaking radioactive material -- often waste or common uranium, but sometimes the fissionable material at the core of today's doomsday weapons. Many Russians say the West exaggerates the "leakage." "I think it's more a political thing than a smuggling problem. ... It's to discredit Russia," complained Valery J. Poplavko, an engineer with security responsibilities at Obninsk. But President Boris Yeltsin hears otherwise from people like Valery Menshchikov. "Fissile materials have become a big commodity on the world market because we have not had the discipline or the money to create a system for protecting them," said Menshchikov, a science adviser to Yeltsin's Security Council. Creating the system will be a gigantic task, one on which the Russians are slowly getting U.S. help. Like many of today's Russian ills, nuclear smuggling was spawned by the Soviet Union's collapse. Once tight Soviet controls gave way to an "open" Russia, international black marketeering became a national industry. Nuclear workers, meanwhile, have often gone months without paychecks because of Russia's nonstop financial crises. If workers have a motive for nuclear trafficking, they also have the opportunity. The security is flimsier at some Russian nuclear centers, it seems, than at many ordinary office buildings in the United States. Menshchikov visited a warehouse holding nuclear weapon cores at the Tomsk complex in Siberia and found it protected by a single lock and a guard 50 yards away. "If someone bribed this person, he could get by," he said in an interview. Would a fistful of plutonium -- the two pounds needed for a bomb to destroy 40 city blocks -- even be missed? Western estimates put Russia's stocks of civil and military plutonium at 170 tons and of weapon-grade uranium at 1,000 tons. But a U.S. Congressional Research Service

study concluded that "nobody knows for sure," including the Russians, who have barely begun to computerize their paper accounts of nuclear material. Wanting to show what could be done, the U.S. government targeted one nuclear installation -- Moscow's Kurchatov Institute -- for a security makeover with American aid money. A key building at the research center now has rings of fences equipped with sensors; surveillance cameras everywhere; a computerized pass card system that, in sensitive rooms, requires the presence of at least two people; and computerized tracking of nuclear materials. But Kurchatov is small, with perhaps 200 pounds of weapon-grade uranium on hand, compared with tons at Obninsk, where scientists work with bomb-usable material in developing advanced reactors. And the U.S. aid program, more than $1 billion so far, goes almost exclusively to dismantling Russian nuclear warheads under arms-control agreements, not to security for research centers, fuel storehouses and other locations with bomb-grade material. Yeltsin tried to tighten controls by giving a new watchdog agency, Gosatomnadzor, supreme authority over the nuclear archipelago. But the agency's 1,500 staff members are still often ignored by the 1 million-employee Nuclear Power Ministry, which operates everything from weapons design labs to power plants, and they are frozen out completely from the Defense Ministry's nuclear sites. "It's impossible at this point to take everything under control," Yuri N. Zubkov, Gosatomnadzor vice chairman, conceded in an interview. The inspectors are waging bureaucratic war against the Russian navy. Since mid-1994, they have denied all licenses to civilian nuclear plants for shipping fuel elements to the submarine fleets. "The navy has no way out. They'll have to come to us and submit to inspection," said Gosatomnadzor's Nikolai Z. Bizovka, a retired admiral clearly pleased at outflanking his former comrades. But the U.S. experience shows that the way to nuclear security will be difficult and costly. The Energy Department spent $7 billion overhauling security at U.S. nuclear installations in recent years. Here at Obninsk, in the rolling woodlands south of Moscow, they put a lot of faith in new friends they have found in the New Mexican hills -- at the U.S. nuclear weapons lab at Los Alamos. The two institutions, worlds apart during the Cold War, now exchange visitors and have signed a cooperative agreement. "They have vast experience. They'll help us reach international standards on security," said Obninsk's Poplavko. But first the Russians will have to walk a long road, in an insecure world where some governments would pay a fortune for that fistful of radioactive doom. ------

NEXT -- Part III: Nuclear Ambitions

Experts warn of new Chernobyl peril - British paper

RTec 3/26/95 7:55 AM LONDON, March 26 (Reuter) - Western scientists have warned that a second catastrophic explosion at the Chernobyl nuclear plant in the Ukraine could occur at any time, The Observer newspaper said on Sunday. The British weekly said it obtained a report, suppressed by European Commission officials, which contained the warning about Chernobyl, site of the world's worst nuclear accident in 1986. "In a secret report...they say pillars supporting the damaged reactor building are in imminent danger of bursting," the paper said. "Their collapse could send debris crashing through the concrete sarcophagus built round the irradiated, burnt-out remains of Chernobyl's Reactor number 4; or rubble could plunge into Reactor 3 immediately next to it, which is still fully operational, triggering another core meltdown." The paper said the report was being suppressed by European Commission officials battling with Ukrainian politicians over the site's future and pricetag of a cleanup. In Brussels, the Commission said it could not immediately comment on the allegations. "There is no comment available," a Commission spokesperson said. Western governments and the scientists say the whole plant should be shut down immediately. But Ukrainian officials are refusing until Western cash and expertise are available to help build replacements. "It's a scandal that this is being shrouded in secrecy when the safety of Europe's public is at risk," a source close to the investigation told The Observer. A fire and explosion at the Chernobyl nuclear plant in 1986 sent radioactive particles flying the atmosphere over much of Europe. Medical experts say the disaster has caused an increase in the number of cases of cancer in children and physical deformities and Ukrainian officials say 8,000 people have since died as a result. The plant's second reactor was closed after a fire in 1991. President Leonid Kuchma said earlier this month the world community had to work out how to close down Chernobyl but had to take account of Ukraine's economic troubles. In Paris last week the World Bank said rich nations should offer enough cash to plug a hole in Ukraine's funding needs for this year, but the European Union was holding out for a deal on closing down Chernobyl. REUTER

West experts said to warn of new Chernobyl peril

RTw 3/26/95 5:01 AM LONDON, March 26 (Reuter) - Western scientists have warned that a second catastrophic explosion at the Chernobyl nuclear plant in the Ukraine could happen at any time, The Observer newspaper said on Sunday. The British weekly said it obtained a report, suppressed by European Commission officials, which contained the warning about Chernobyl, site of the world's worst nuclear accident in 1986. "In a secret report...they say pillars supporting the damaged reactor building are in imminent danger of bursting," The Observer said. "Their collapse could send debris crashing through the concrete sarcophagus built round the irradiated, burnt-out remains of Chernobyl's Reactor number 4; or rubble could plunge into Reactor 3 immediately next to it, which is still fully operational, triggering another core meltdown." The newspaper said the report was being suppressed by European Commission officials battling with Ukrainian politicians over the site's future and pricetag of a cleanup. Western governments and the scientists say the whole plant should be shut down immediately. But Ukrainian officials are refusing until Western cash and expertise are available to help build replacements. "It's a scandal that this is being shrouded in secrecy when the safety of Europe's public is at risk," a source near the investigation told The Observer. An explosion at the Chernobyl nuclear plant in 1986 contaminated much of the continent. Medical experts say the disaster has caused an increase in the number of cases of cancer in children and physical deformities. Fire and the blast in Chernobyl's fourth reactor spewed radiation over most of Europe and Ukrainian officials say 8,000 people have since died as a result. The plant's second reactor was closed after a fire in 1991. President Leonid Kuchma said earlier this month the world community had to work out how to close down Chernobyl but had to take account of Ukraine's economic troubles. In Paris last week the World Bank said rich nations should offer enough cash to plug a hole in Ukraine's funding needs for this year, but the European Union was holding out for a deal on closing down Chernobyl.
REUTER

BAD MARKS FOR RUSSIAN NUCLEAR SAFETY

UPn 3/24/95 1:26 PM MOSCOW, March 24 (UPI) -- A Russian government report released Friday said there was a decrease in safety incidents at nuclear plants in 1994 but also said that aging equipment and poorly trained staff pose a potential danger. The annual report by the Federal Inspectorate for Nuclear and Radioactive Security, or Gosatomnadzor, documents increasing carelessness and lack of training among workers in the nuclear industry and says safety systems guarding nuclear materials are often inadequate. The 18-page document was distributed in the State Duma, Russia's lower house of parliament, in answer to an appeal by lawmakers for documentation of the nuclear safety supervisory body's activities. The report covers questions of safety and security at 7,897 locations throughout Russia that come under the surveillance of Gosatomnadzor, including nuclear power plants, research institutes equipped with reactors or materials, and military nuclear installations. The report describes a decrease in safety incidents at nuclear power plants from 1993 to 1994, but indicates aging equipment and poorly trained staff created a potential danger at the plants and said safety of nuclear materials remained poor at institutes and other nuclear locations. Gosatomnadzor registered 38,599 safety violations in 1994 and found more than five percent of staff lacked adequate knowledge of proper safety procedures, saying that out of 17,528 staff members tested on proper use of instruments required by their jobs, 1,296 displayed "unsatisfactory knowledge." While potentially dangerous incidents at nuclear research institutes decreased slightly last year from the year before, the report says "the amount of violations caused by personnel sharply increased." It also indicated institute staff, inured to secrecy from the close- mouthed Soviet days, were loathe to report incidents, saying "violations causing safe limits of use to be exceeded were not registered, but there were 46 incidents in which emergency systems were set into action." In the wake of a rash of reported nuclear smuggling from Russia last year, military, intelligence and atomic energy industry officials have sought to dispel fears of lax safety at the nation's nuclear facilities. A Russian Foreign Intelligence Service official said Thursday that there had been no cases of theft of weapons-grade uranium from Russian stocks. Gosatomnadzor documented 19 cases that occurred last year, in which uranium was stolen, both natural and enriched to various degrees. It also reported 12 thefts of sources containing radioactive Cesium-137, Iridium-192 and Cobalt-60. The thefts resulted from decreased discipline, outdated security systems and in many cases the simple lack of a system that check people leaving a facility for possession of radioactive materials, the report said adding that "the main motive was profit." In the report, Gosatomnadzor called for an improved system of inventory and control over nuclear materials, saying the lack of such a network made it difficult to account for missing or stolen items. The supervisory body also took the Defense Ministry to task for failing to comply with a decree from President Boris Yeltsin ordering it to report last year on safety and security at military nuclear installations and on ships and submarines equipped with nuclear reactors.

Birth defects up in Russia - environment official

RTw 3/24/95 11:37 AM MOSCOW, March 24 (Reuter) - Pollution has pushed Russia to the edge of an ecological catastrophe, increasing the incidence of congenital birth defects and reducing life expectancy in some areas, a senior environment official said on Friday. Alexei Yablokov, head of the environment commission of President Boris Yeltsin's Security Council, said in a newspaper interview deformities among new-born babies had risen by between one and three percent a year for the last few years. Yablokov, former head of the Soviet branch of the Greenpeace environmental group, told the daily Nezavisimaya Gazeta that industrial pollution was to blame. "For the last three to four years, we have seen a stable growth of one to three percent each year in the number of congenital deformities in new-born babies," he said. "This means we have passed a fateful point and are falling into the abyss of ecological catastrophe." Yablokov did not say where he had obtained the data or how many babies were born each year with deformities. He said life expectancy had fallen in some areas, most of them industrial regions, to two years less than the retirement age. In Russia, women retire at 55 and men at 60. "For example, in the town of Nikel on the Kola peninsula (in northern Russia), average life expectancy is less than 50 years. This is a disgrace not seen in any civilised country," he said. Other badly polluted towns or cities were Prokopyevsk, Bratsk and Kemerevo in Siberia, and Nizhny Tagil in the Ural mountains. He called for urgent measures to be taken, saying it was too late just to talk. Yablokov was named adviser to Yeltsin on the environment in August 1992 but quit after a few months. He now advises Russia's Security Council, an inner circle of leaders headed by Yeltsin. Also on Friday, the World Health Organisation (WHO) and researchers from Russia, Belarus and Ukraine said the Chernobyl nuclear disaster in 1986 had caused a significant increase in the number of cases of cancer in children in their countries -- all of which were then part of the Soviet Union. The scientists, who screened 70,000 children, told the British Medical Journal their findings called for an immediate international response.

REUTER

BRF--Japan-Nuclear Accident

APn 3/24/95 11:34 AM TOKYO (AP) -- Four workers were badly burned Friday in a fire at Tomari nuclear power plant on Japan's northernmost main island of Hokkaido, but no radioactivity was released, police said. The four men were hospitalized and doctors found no traces of excess levels of radioactivity on their bodies, Hokkaido police said. Two of the workers were in serious condition. The four were inspecting and cleaning a tank at a radioactive waste disposal facility when it caught fire, officials said. Highly flammable cleaning solvent may have caused the fire, which was quickly put under control, officials said. The tank was part of equipment used to consolidate radioactive waste with asphalt, they said. The Tomari plant near Iwanai belongs to Hokkaido Electric Power Co.

Migrant workers blamed for cancers near n-plants

RTw 3/23/95 11:48 PM (Release at 2359 GMT, March 23) LONDON, March 24 (Reuter) - An influx of migrant workers and not radiation could be the cause of pockets of cancer around nuclear power plants, British researchers reported on Friday. In a report in the British Medical Journal, Dr Leo Kinlen of the Cancer Research Campaign said he had found similar clusters of leukaemia and non-Hodgkin's lymphoma near other construction sites such as oil refineries and non-nuclear power stations. Scientists have long been mystified by a higher incidence of leukaemia among children living near nuclear power plants, especially the Sellafield plant in northern England. But a series of studies in Britain, the United States, Denmark and Canada have found no link between radiation and cancer in these cases. Kinlen reported in November that childhood leukaemia could be caused by an infection and was definitely linked to mixing people from the city and the countryside. He has been working on the theory that groups of isolated people may be especially susceptible to infections brought in by outsiders. Other links have been made between cancers and infections -- notably between the common stomach bacteria Helicobacter pylori and stomach cancer. In Friday's report, Kinlen said he had found increases of up to 72 percent in childhood leukaemia and another form of cancer, non-Hodgkin's lymphoma, in rural areas undergoing large-scale construction work over the past 50 years.

"Large construction projects in rural districts produce unaccustomed mixing of people, as the limited local resources of labour require recruitment of workers from outside," he said. "This study found a significantly increased incidence of leukaemia and non-Hodgkin's lymphoma in children living near large rural industrial sites...while construction was under way." There could be many reasons, Kinlen added. "Certain aspects of the lifestyle of construction workers may have particular relevance for the transmission of infection," he wrote. "Many live an itinerant life far from home with much time spent, both at work and in leisure, in crowded conditions in which hygiene is not a priority." Kinlen said his findings were only possible because people were afraid of radiation and had started looking for problems. No one would normally have looked for clusters of disease around industrial sites.
REUTER

Child cancer cases on increase after Chernobyl

RTw 3/23/95 10:33 PM (Release at 2359 GMT Thursday, March 23) LONDON, March 24 (Reuter) - The Chernobyl nuclear disaster has caused a significant increase in the number of cases of cancer in children, doctors reported on Friday. The World Health Organisation (WHO) and researchers from Belarus, Russia and Ukraine had found "a substantial and continuing increase" in childhood thyroid cancer in the three countries following the nuclear reactor accident in 1986." The scientists, who screened 70,000 children, told the British Medical Journal their findings called for an immediate international response. "In the five years before the accident, an annual incidence of thyroid cancer of less than one per million was observed in children living in the vicinity of Chernobyl," they wrote. "Since 1991, the annual incidence in the Gomel region of Belarus has been close to 100 per million in children under the age of 15 at diagnosis. "In comparison, the annual incidence of thyroid cancer in children under 15 in the United Kingdom in the period 1962 to 1992 was about 0.5 per million; 154 cases were reported in this period." Radioactive iodine was probably to blame, they added. "Although a definitive link remains to be made, the probability seems overwhelming that the isotopes of iodine released at the time of the Chernobyl accident have made a major contribution to the increase. "When uranium undergoes fission, as it does in a nuclear reactor, several radioactive isotopes or iodine are produced, with half-lives ranging from a few hours to several days." People inhaled some right after the accident, and ingested the longer-lived isotopes in food such as the meat and milk of animals exposed to radiation. WHO said it was launching a project to help people living in the area and asked for funds.
REUTER

Japan offers fresh aid to Ukraine

RTw 3/23/95 9:11 AM TOKYO, March 23 (Reuter) - Japan pledged fresh aid to Ukraine in talks between Prime Minister Tomiichi Murayama and visiting Ukrainian President Leonid Kuchma held on Thursday. The latest aid package was described by a senior Japanese Foreign Ministry official close to the talks as "the first genuine" aid package to Ukraine. Murayama told Kuchma Japan would provide a maximum of $150 million in untied loans through the Export-Import Bank of Japan, the Foreign Ministry official told reporters. The loan is to be offered to Ukraine on condition that the International Monetary Fund's board gives final approval on a $1.5 billion stand-by loan for Ukraine. Japan also pledged export credits worth $50 million to be used to purchase pesticides. Japan has so far provided Ukraine with altogether $10 million in financial assistance, mostly to help the former Soviet republic dismantle its nuclear weapons, the Foreign Ministry official said. Other past aid has involved technical assistance. Kuchma, in Japan since Wednesday on a four-day visit, is making his first trip to Asia since his election last July. In a joint statement released on Thursday, Kuchma said Ukraine backed the indefinite extension of the Nuclear Non-Proliferation Treaty. Ukraine joined the 1970 treaty aimed at preventing the spread of nuclear arms last December. The future of the treaty, which is due to be reviewed at a conference in New York next month, is uncertain because of disputes over whether and how to extend the pact. Ukrainian officials also announced on the eve of the president's visit that Japan had agreed to grant the former Soviet republic $200 million to help it close down the Chernobyl nuclear power station. In their joint statement, the two leaders affirmed the need to cooperate in working on tasks in the aftermath of the Chernobyl nuclear disaster. "Both sides also affirmed that it was a task of global importance to prevent the repetition of disasters of the type of Chernobyl and to work for the complex restructuring of the energy sector of the Ukraine," the statement said. However, Thursday's meeting did

not discuss the issue of closing down the Chernobyl plant. Kuchma will also talk to Japanese business leaders during his visit. He leaves Japan on Saturday.
REUTER

Oslo urges West to help Russia clear nuclear waste

RTw 3/23/95 8:04 AM By Rolf Soderlind OSLO, March 23 (Reuter) - Norway on Thursday urged the United States and the European Union to help Russia clean up nuclear waste on the Kola peninsula, home to the world's biggest military fleet. "The main problem is financing," Foreign Minister Bjoern Tore Godal told reporters. "Russia cannot handle it alone." He said Oslo was stepping up its campaign to draw Western attention to the environmental threat posed by unsafe nuclear sites in northwest Russia, which borders on Norway. He said the nuclear waste problems uncovered on the Kola peninsula after the Cold War ended "are so big they call for broad international cooperation." The peninsula is bristling with storage sites for spent nuclear fuel as well as nuclear missiles and atomic reactors propelling strategic submarines. Godal and Environment Minister Thorbjoern Berntsen said they were dissatisfied with the Western response to what has become a major plank of NATO member Norway's post-Cold War foreign policy. "If we are to get anything done we will have to convince the EU and the United States that this is a joint international responsibility," Berntsen said. "It is not Norway that bears the historical responsibility for the Cold War, which led to northwest Russia becoming one of the world's biggest dumps for dangerous radioactive wastes." Berntsen said there was no acute environmental threat from the nuclear sites on the Kola but a long-term one. Cleaning up the mess would cost several hundred billion crowns (tens of billions of dollars), he said. Godal said Norway would seek to move the Kola higher on the agenda in Washington and Brussels and push for the issue to be raised at the summit of the Group of Seven leading industrial nations in Halifax, Canada, in June. The Norwegian government suffered a setback in its campaign for EU regional funds to be used on the Kola when Norwegians voted against joining the Union in a referendum last November. But Godal said he hoped the EU would become more actively involved there now that fellow-Nordic nations Sweden and Finland had joined. He was worried however that it would take a much greater effort to get the United States involved, given its geographical distance from the problem. He announced a 130 million crown ($20.7 million) action plan to help Russia increase nuclear safety and prevent radioactive contamination of the sea near Norwegian fishing waters. The Soviet navy used to dump radioactive waste in the sea off the Kola, including whole reactors containing spent nuclear fuel. The practice has been discontinued. The Russian Northern Fleet has about 100 nuclear-powered submarines and other ships, most of which have two reactors each. About 50 decommissioned nuclear-propelled vessels are in Kola ports, but only a few have had the spent highly radioactive fuel removed from their reactors, partly because of a lack of storage sites.
REUTER

Russia to seal off sunken nuclear submarine

RTw 3/22/95 5:01 AM MOSCOW, March 22 (Reuter) - Russian naval experts have approved plans to build a special tomb around a sunken nuclear submarine to prevent radiation leaking out of the damaged hull, the Rossiiskaya Gazeta newspaper said on Wednesday. "We have to build a sarcophagus using special substances capable of absorbing plutonium," the newspaper quoted Mikhail Tolokonnikov, head of the underwater works department of Russia's ministry for emergency situations, as saying. The Komsomolets nuclear submarine sank off the north Norwegian coast in April 1989 with the loss of 42 lives. It is now embedded in mud in international waters 1,685 metres (5,530 feet) below the surface. Carrying 20 conventional torpedoes and two nuclear ones when it sank, it is estimated to contain about 10-12 kg (22-26 lbs) of deadly plutonium. Russian and Norwegian experts expressed fears that radioactive materials leaking from the submarine could pollute the seabed. Plans to raise the craft were scrapped amid concern that the operation might be more risky than leaving it in place. Russian authorities tried last year to seal off the torpedo hatches and plug holes in the damaged submarine, one of them covering an area of 20 square metres (215 square feet). More ambitious plans were scuppered by lack of funds in the wake of the collapse of the former Soviet Union. Tolokonnikov told the newspaper that it would take one month for special underwater robots to build a tomb around the submarine. "The reactor is intact. There is no radiation," he said. "The reactor will be safe until it dies out naturally after a hundred years."

REUTER

Ecologist calls fast breeder museum of failure

RTw 3/21/95 2:43 PM CREYS-MALVILLE, France, March 21 (Reuter) - An ecologist presidential candidate proposed on Tuesday to turn France's incident-prone Superphenix fast-breeder nuclear reactor into a museum of failure. Antoine Waechter said that, if he won the April-May election, he would make the reactor "the French museum of the useless and of wrong technological choices." Opinion polls say he is unlikely to win more than one per cent of the vote. The 1,200-megawatt plant near the Alpine town of Grenoble has functioned normally for only six months since it was built nearly 20 years ago. It has become the bete noire of ecologists who want it closed down for good. The government last year authorised Superphenix to operate at up to 30 percent of its capacity to carry out research into recycling nuclear waste. It has since been stopped twice by leaks. REUTER

Nuclear-waste ship is no risk, says IAEA

RTw 3/21/95 6:44 AM By Douglas Hamiton VIENNA, March 21 (Reuter) - The freighter Pacific Pintail, on its way from France to Japan with a controversial cargo of nuclear waste, will not pose a radioactive leakage risk even if it sinks, the U.N. nuclear agency said on Tuesday. The British vessel, depicted by anti-nuclear activists as a floating catastrophe, was reported off the southern coast of Chile on Monday, cutting through Drake's Passage around Cape Horn in heavy seas. Despite assurances from nuclear experts that the cargo presents no environmental threat, the voyage has sown alarm in the southern hemisphere. The Pacific Pintail entered Chile's 200-mile coastal economic zone in defiance of a ban issued by the government. Argentina, Brazil, South Africa and Fiji also warned the ship off and it was prevented from using the Panama Canal. The freighter, one of four purpose-built Pacific class nuclear-waste transporters operated by British Nuclear Fuels, is carrying a 112-tonne special container of highly radioactive waste. The material inside, weighing 14 tonnes, is sealed in solid glass inside 28 welded steel canisters -- considered by experts to be one of the safest ways of storing waste. "This type of vitrified cargo is not high risk. Even if it sank it would be many thousands of years before radioactivity might begin to leach out through the glass," said an official at the U.N. International Atomic Energy Agency (IAEA) in Vienna. Chile's navy chief said the 5,100-tonne ship had taken "the worst route possible" to Japan. "These waters are not to be navigated. I know of big-tonnage ships that have been damaged by the extraordinarily rough sea in the area," said Admiral Jorge Martinez Busch. The nuclear industry says Pacific class ships are among the safest vessels afloat. They have double hulls, enhanced buoyancy systems, permanent satellite tracking and other specialised safety features. "In some 150 shipments from Europe to Japan over 20 years there have not been any accidents," the European Nuclear Society, an industry organisation, said in a statement. "The likelihood of sinking...is minimal. Even if it did...the glass would act as the ultimate barrier." The IAEA, with the International Maritime Organisation, sets the standards for transport of radioactive material by sea. Tests include dropping containers on to steel spikes and placing them in the path of rushing locomotives. The Pacific Pintail is returning the waste portion of nuclear fuel recycled for the Japanese by France's Cogema company, the first of 30 such shipments. Contrary to some reports, it is not carrying plutonium. In view of likely harrassment by anti-nuclear activists, its six-to-eight week, non-stop route was kept secret. The environmental organisation Greenpeace, shadowing the Pacific Pintail with its own ships, says the freighter holds "more radioactivity than was released in the 1985 Chernobyl nuclear explosion." Pacific island states will be next in its path, Greenpeace says. Michael Szabo of Greenpeace New Zealand said the ship had been forced to risk Cape Horn's notoriously bad seas. "Choosing this route is an act of desperation. It's the most dangerous route the ship could have taken," he said.
REUTER

Armenia to restart nuclear power plant in May

RTw 3/18/95 4:28 AM YEREVAN, March 18 (Reuter) - Armenia said on Saturday it plans to restart a Chernobyl-type nuclear power station which was closed in 1989 after a disastrous earthquake. "We plan to complete restoration works by April 1 and launch the

station in May so that it will start supplying energy by July," Deputy Prime Minister Vigen Chitechyan told a news conference. The Metzamor plant about 25 km (15 miles) outside Yerevan, the capital, was closed after the 1988 earthquake which killed 25,000 people. The quake did not damage the plant, even though the epicentre was only 120 km (75 miles) to the north. But some nuclear experts have expressed concern about its vulnerability to future quakes. They have also said there were design problems with Metzamor's two Soviet-made reactors, which are similar to those at the Chernobyl plant in Ukraine where an explosion in 1986 spread radioactive contamination across much of Europe. Chitechyan said the decision to restart the power plant had been taken after the government received proof that it was safe. "International and Russian nuclear organisations, after 18 month of investigation, came to a conclusion that the station is built on a single rock bed with no cracks, which makes the plant pretty safe," he said. Armenia has a severe energy crisis, mainly due to the conflict with neighbouring Azerbaijan which began in 1988 and has led to disruptions in gas supplies. It can supply electricity for only one hour a day. The reopening of Metzamor would allow the Transcaucasian state to supply electricity for 10-12 hours a day. Chitechyan said the reconstruction and restarting of Metzamor had already cost $70 million. He did not give the full cost of the project.
REUTER

AUSSIES TEST NUCLEAR BOMB SITES

UPn 3/17/95 4:50 PM By TOM ANDERSON SYDNEY, March 18 (UPI) -- Australian scientists embarked Saturday on what they say is the world's first investigation to expose secret nuclear activities in countries suspected of having nuclear weapons capabilities. The project is intended to uncover the extent of nuclear operations in Iraq and North Korea as part of the U.N.'s International Atomic Energy Agency's global monitoring program, a spokesman for the scientists said. The spokesman said the aim is to determine whether the countries, signatories to the global Nuclear Non-proliferation Treaty, have undeclared nuclear weapons capability. Scientists from the Australian Nuclear Science and Technology Organization at Lucas Heights in Sydney will take biological samples from known nuclear sites in Iraq and North Korea and test them at their laboratory. Garth Hogg, an ANSTO external affairs officer said the project would involve the shipment of radioactive samples into Australia for testing. Hogg said the level of radiation in the samples would be was so minute that it would not be classified as hazardous. "We have top class facilities here in Australia to do the measurements,"sh it." Hogg said Australian involvement in the project heralds the use of environmental monitoring as a means of detecting clandestine nuclear activities. Scientists from the Australian nuclear physics program will use a $3. 75 million (AUS 5 million dollar) tandem accelerator for their research, and will search for the presence of the radioisotope Iodine 129 in soil and water near nuclear reactors. Claudio Tuniz, the tandem accelerator manager, said the accelerator was developed for archeological testing and radio carbon dating but was perfectly suited for this work. "We developed the technique with the Lawrence Livermore National laboratory in the United States and Atomic Energy Ltd. in Canada," he said.

UKRAINE PONDERS CHERNOBYL SHUTDOWN

UPn 3/15/95 10:07 AM By MARTA KOLOMAYETS KIEV, March 15 (UPI) -- Ukrainian President Leonid Kuchma said Wednesday that the Chernobyl nuclear power plant must be closed, but that the former Soviet republic's financial miseries could delay the shutdown indefinitely. Kuchma said a final decision on closing the plant is expected early next month, "but when reviewing the issue of closing down Chernobyl, we have to consider not only the political issue, but practical problems." Nearly nine years after the April 1986 disaster that killed 32 and spread deadly radioactive waste, two of the station's four reactors are still in constant use, providing Ukraine with 5 percent of its energy needs. Western governments and environmentalist groups have called on Ukraine to close the plant, but Kuchma said a shutdown would leave "thousands of problems" unsolved and appealed to the West for financial and technical help. Kuchma said the shutdown would cost 30,000 jobs and deprive millions of electricity, but would not address the issue of what to do with thousands of tons of radioactive waste that have accumulated at the plant. The Ukrainian president also said Kiev could not afford a $1.4 billion bill for closing the plant, despite a recent decision by the International Monetary Fund to extend the cash-strapped nation a loan of about the same amount this year. Kuchma said Ukraine plans to set up an international research center near Chernobyl in a bid to raise funds needed to shut down the remaining reactors and boost safety at the site of the world's worst peacetime nuclear disaster. Ukraine has spent $300 million to raise safety standards at the plant, but Kuchma said closing the plant would not eliminate threats posed by the ill-fated fourth reactor, which was encased not long after the accident in a sarcophagus designed to last 30 to 50 years. "Closing down the remaining two

reactors will not solve safety problems for Ukraine, for the rest of Europe," he said. "Almost 10 years have elapsed (since the sarcophagus was built) and no one knows what is happening in there." In 1993, leaders of the Group of Seven leading industrialized nations devised a plan aimed at closing Chernobyl that included measures to help Ukraine conserve energy, find alternate sources and raise the capacity of the nation's other nuclear power plants. But moves to close the plant have met with widespread opposition among government officials, lawmakers and nuclear industry chiefs, and a 1991 Parliament decision calling for a shutdown was overturned by the legislature two years later. Copyright 1995 The United Press International

NUCLEAR PLANT CLEANUP ASSAILED; PROJECT AT ...

WP 3/14/95 11:00 PM Nuclear Plant Cleanup Assailed; Project at Washington State Site Costly and Inefficient, Senators Say By Gary Lee Washington Post Staff Writer The massive Hanford nuclear waste site in Washington state has cost the federal government $7.5 billion in cleanup costs over six years but the level of cleanup achieved there has been minimal, according to a comprehensive report released yesterday by two U.S. senators. At the current pace, the cleanup goals for the site will not be achieved until sometime in the 22nd century, the report said. Although the Department of Energy allocates about $1.7 billion a year for decontaminating the site, most of those funds go to pay overhead costs of the six contracting firms hired at Hanford, the report concludes. Since 1988, employment at the site has climbed 35 percent to 18,000. With salaries averaging $43,000 a year, $800 million is spent annually on wages, according to the report. Calling Hanford "the largest civil works project ever undertaken," Sen. Frank H. Murkowski (R-Alaska) proposed that the cleanup plan be replaced by a scaled-down, less costly version. Sen. J. Bennett Johnston (D-La.), appearing with Murkowski at a news conference, endorsed the proposal and said he is drafting legislation to help bring it about. The report, written by Steven Blush and Thomas Heitman, two former Energy Department employees, attempts to provide a comprehensive audit of mismanagement and waste at Hanford. It stated that DOE has spent an average of $6 million a year fighting lawsuits involving the site and that it paid $6 million to move a plant that was being constructed on Native American tribal lands. It also questioned a costly plan to temporarily bury nuclear waste transformed into a glass-like substance in shallow sites until permanent storage areas can be built. DOE officials declined to comment on the report. In the past, however, they have agreed that the Hanford cleanup plan is too costly and cumbersome. In the Clinton administration's 1995 budget, the DOE proposed a reduction in funding for Hanford from $1.6 to $1.5 billion, with the same level of funding to continue in 1996. For 1997, the proposed level of funding is $1.2 billion. The Hanford site is spread across 540 square miles in eastern Washington state. Used by the DOE for nuclear weapons production during the Cold War, the site is the federal government's largest nuclear waste disposal facility. The legacy of weapons manufacture includes more than 1,500 nuclear and toxic waste sites dotted over the area. In its broadest conclusion, the report said current cleanup goals for the site are largely unobtainable. Many of the individual waste sites are supposed to be decontaminated to levels where the dirt is safe enough to be eaten, for example, according to cleanup terms established in the Comprehensive Environmental Response Compensation Act of 1980. "The whole problem is not the fault of the DOE or the contractors," Johnston said. "It is Congress's fault for passing cleanup levels that are unachievable." Johnston said the Tri-Party Agreement for cleaning up the site, signed in 1989 by DOE, the Environmental Protection Agency and the Washington state Department of Ecology, has proven ineffective and should be replaced. He also suggested that a rule allowing Washington state officials to sue to force federal cleanup at the site should be scrapped. Environmentalists in Washington state strongly objected to suggestions that the current cleanup agreement be replaced. "The Tri-Party Agreement is the only logical way to force the government to look at the evidence, seek public participation and set a schedule for cleanup," said Gerry Pollet, executive director of Heart of America Northwest, a Seattle-based Hanford watchdog group. "What is being proposed here would expose the people of the Northwest to further leaks and [radiation] exposure."

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U.S. CONDUCTED ATOMIC BLASTS TO STUDY FALLOUT

RTw 3/14/95 6:37 PM Copyright 1995 Reuters Ltd. All rights reserved. The following news report may not be republished or redistributed, in whole or in part, without the prior written consent of Reuters Ltd. WASHINGTON, March 14 (Reuter) - The Atomic Energy Commission conducted nuclear weapons tests in Nevada in 1951 to study fallout despite the possibility that area residents could be harmed, according to documents released Tuesday by a presidential advisory panel. The documents showed the now-defunct AEC worried about the possible radiation hazards for people downwind of the weapons tests, but decided that gathering information on

fallout was worth the risks. At least one of the commission's scientists later said it was pure luck that no one was harmed in the experiment, the documents showed. The advisory committee appointed by President Bill Clinton in 1994 to study the government's Cold War-era radiation experiments plans to review the documents in a meeting Wednesday. The panel has sorted through thousands of long-classified documents as it reviews the government's role in human radiation tests and whether the government owes compensation to some radiation test subjects. In a project called Operation Buster-Jangle, according to the documents, the AEC planned three nuclear tests where the weapon's fireball would touch the ground, which produces more local fallout than air burst tests. It conducted only two of the tests. Government scientists concluded no one was harmed by the tests, but at least one scientist attributed that to luck rather than foresight. "In Operation Jangle, thanks to the kindness of the winds, no significant activity was deposited in any populated localities," T.L. Shipman, AEC Health Division leader, wrote in a December 1951 letter. "It was probably more good luck than good management that the Groom mine area itself did not receive a higher dose than it did," Shipman wrote in an August 1952 letter.
REUTER

World must decide Chernobyl fate together-Kuchma

RTw 3/14/95 10:39 AM By Yuri Kulikov PRIPYAT, Ukraine, March 14 (Reuter) - President Leonid Kuchma said on Tuesday the world community had to work out how to close down the Chernobyl nuclear power station, but should take account of Ukraine's economic troubles. Addressing some of the plant's 4,500 workers outside Chernobyl's third reactor, Kuchma said his government would soon decide whether to comply with Western demands to close the station -- site of the world's worst nuclear accident in 1986. "I did not come here to close or not to close Chernobyl. But a final decision will be taken on the basis of national interests -- no others. And in the interests of people working here," he said. "Ukraine has no economic means to close the Chernobyl station. Therefore this problem must be decided together. If the world wants to ensure safety, it must help us. "I am going to appeal to all countries and say 'let us resolve the Chernobyl problem together'. I am sure the world will take a step in our direction." Two of the Chernobyl station's four reactors still function and provide about seven percent of Ukraine's electricity. Senior ministers say Ukraine cannot afford to close the facility until alternative energy sources are found and call for Western assistance of $4 billion to $6 billion. Ukraine's nuclear industry dismisses Western suggestions that the station is unsafe and say it can continue to operate into the next century. Some specialists have suggested restarting Chernobyl's second reactor -- closed down by a fire in 1991. The station's fourth reactor caught fire and exploded in April 1986, sending radiation over much of Western Europe. Large areas of Ukraine, Belarus and Russia were contaminated. Ukrainian officials say 8,000 people have died as a result of the disaster. The aftermath still soaks up at least 12 percent of the national budget. Kuchma, dressed in a white smock, said he was concerned about the state of the concrete casing built hurriedly around the stricken reactor after the accident. Ukrainian authorities held a competitive tender last year to design a new "sarcophagus" as the current structure has developed large cracks. But no action was taken after winners were declared. "We must think about this as the existing cover is intended to last 30 to 40 years and 10 years have already passed," he said. "No expert can guarantee that nothing negative is happening there."
REUTER

Germany says Ukraine may shut Chernobyl plant

RTw 3/13/95 12:27 PM MUNICH, Germany, March 13 (Reuter) - German Finance Minister Theo Waigel said on Monday a Ukrainian official had told him Kiev may be prepared to shut down its controversial Chernobyl nuclear plant. Waigel said Ukrainian Deputy Prime Minister Ihor Mityukov told him in Munich that President Leonid Kuchma would visit the plant on Tuesday and "take a clear line for closing Chernobyl." He told reporters that Mityukov saw no future for the plant, site of the world's worst nuclear accident. A fire and explosion in Chernobyl's fourth reactor in 1986 spewed radiation over most of Europe and Ukrainian officials say 8,000 people have since died as a result. The plant's second reactor was closed after a fire in 1991. Two other reactors are still functioning. Ukraine has resisted calls by Western countries to close the plant down, saying it must first find alternative sources of electricity. Waigel said Ukraine needed assistance from international financial organisations like the World Bank to restructure its energy sector.

REUTER

Ex-Soviet states paint bleak picture of upheaval

RTw 3/12/95 12:37 PM By Lida Poletz COPENHAGEN, March 12 (Reuter) - Leaders of former Soviet republics, speaking at a U.N. social summit, painted a bleak landscape of economic and political upheaval more than three years after the collapse of the communist system. They called on the international community to help heal social ills in their new countries to help them avoid dropping to the levels of poverty in some countries of Africa, Latin America and Asia -- the main focus of the week-long conference. Georgian leader Eduard Shevarnadze, whose mountainous state is plagued by inter-ethnic conflict and economic collapse, blamed the lack of a cohesive post-Cold War strategy on Sunday for spawning "new threats" in the former Soviet Union. These included "mounting economic crises, capable of calling into question the very survival of the newly independent states...rampant ethno-dictatorships that provoke aggressions and conflicts...unparalleled devaluation of human life." But Shevardnadze, a former Soviet foreign minister credited with playing a key role in ending the Cold War, said the outlook could be very different if the former communist countries were given the right support. "The potential of these states is such that it could very easily and rapidly be activated. Help us stand our feet, and we ourselves will become donor countries for others," he declared. Speeches from 12 leaders of the 15 former Soviet republics, stretching from the Baltic Sea to Central Asia, underscored the differences in what once was a monolithic, totalitarian state. President Haydar Aliyev of Azerbaijan bemoaned the effects of inter-ethnic conflict with neighbouring Armenia. "Huge economic damage resulting from aggression has deeply affected all the population of Azerbaijan, sharply worsening the living standards of the majority of people, and has put them on the verge of poverty," Aliyev said. Kazakhstan's President Nursultan Nazarbayev stayed at home during the conference, dealing with a weekend constitutional crisis in which he dissolved parliament. The Slav states of Belarus and Ukraine have avoided internal armed conflict since independence. But their presidents said special problems -- such as the aftermath of the 1986 Chernobyl nuclear-plant catastrophe -- sucked up a disproportionate amount of resources, leaving little for social programmes. Belarussian President Alexander Lukashenko said financial considerations forced his cash-strapped country, sandwiched between Poland and Russia, to stop the costly dismantling of conventional weapons under international treaties. Russian Prime Minister Viktor Chernomyrdin made no direct mention of Moscow's military campaign in the separatist Chechnya region, which has killed thousands of civilians and provoked international condemnation of human rights violations. Instead, he said Russia was doing everything possible to observe basic social rights as economic reforms took hold. The three Baltic states, which are not members of the Commonwealth of Independent States and better-off economically, stood somewhat aside, asserting that individual responsibility was the answer to resolving economic and social problems. They proposed holding an international conference in the Latvian capital, Riga, on transfering the proceeds of nuclear disarmament to social needs. "Until just three and one half years ago, when totalitarianism gave way to the winds of freedom, the cause of the individiual was taboo in my country," said Estonian President Lennart Meri of Estonia. "Individual choice is the only basis for free and strong societies..."

REUTER

Mescaleros-Nuclear

APn 3/10/95 6:17 PM By EDUARDO MONTES Associated Press Writer MESCALERO, N.M. (AP) -- Mescalero Apaches took another vote on whether to store nuclear waste on their vast reservation and decided this time to approve the idea. But the project's future is still not clear. Tribe members voted 593-372 on Thursday to endorse the tribal council's attempts to create a storage facility for spent nuclear reactor fuel rods. The proposal was rejected in a referendum just six weeks ago on a vote of 490-362. The earlier referendum had stalled negotiations with a consortium of nuclear utilities from around the nation. The utilities are seeking a temporary storage site for spent fuel that nuclear power plants are rapidly running out of room to handle. Following the first vote, the utilities started gathering information on other prospective sites but didn't begin negotiations with any other group, said Scott Northard, a spokesman for the lead utility, Northern States Power Co. of Minneapolis. The consortium now must decide whether to go forward with the plan for a private facility on Mescalero land that could hold at least 20,000 metric tons of nuclear fuel rods for up to 40 years. Thursday's vote made Northern States happy, Northard said.

Consortium members were trying to put together a meeting for next week to discuss the next step, Northard said. Meanwhile, Northern States will continue to gather information on other possible sites, he said. The tribe could receive payments totaling $250 million over the expected 40-year life of the project. Mescalero leaders see the project as an economic boon for a reservation where one in three people is unemployed and nearly half the 3,000 or so tribe members had poverty-level incomes in 1989. Frederick Peso, tribal vice president, said Friday the second vote, brought about by a petition drive that sought another referendum, showed clearly that tribe members had changed their minds. "I think that the people have spoken and overwhelmingly have made their decision on what they want," he said. If the Mescalero project resumes, the tribe will probably continue to face opposition. Opponents, on and off the reservation, have raised questions about safety and the possible threat to the environment. Communities surrounding the reservation oppose the project. "We still don't feel it's appropriate to have this thing out here," said Joan Bailey, executive director of the Ruidoso Valley Chamber of Commerce. Some tribal opponents are promising to continue the fight. "I really don't feel it's the end of it for us," said Natalie Fossum, a tribal day-care official. Fossum said there may be some way to invalidate the second vote, but Peso said the tribe was accustomed to having its projects come under fire and was prepared to deal with any new roadblocks from opponents. "We wouldn't go this far if we weren't prepared to handle anything," he said.

Worker Contaminated

APn 3/8/95 8:03 AM MIDDLETOWN, Pa. (AP) -- A worker at the Three Mile Island nuclear plant was slightly contaminated by radiation after a water line broke. Plant officials classified Tuesday's incident as an "unusual event," the lowest emergency classification at commercial nuclear plants. The worker was not considered to have been in any danger. Workers were fixing a water line in the reactor cooling system when a fitting broke. Radioactive water sprayed on the upper arm of one worker as primary cooling water started leaking at about 15 to 20 gallons a minute, said plant spokeswoman Lori Hixon. The worker's exposure to radioactivity was within safety guidelines and posed no health hazard, Hixon said. She declined to identify the employee, who was later decontaminated. The leak was stopped shortly after 12:30 p.m., about an hour after it began, plant officials said. The plant was operating at full power when the leak occurred and remained at full power during the incident. GPU Nuclear Corp., which operates the plant, said it notified federal, state and local officials of Tuesday's incident. In March 1979, the plant was the site of the country's worst commercial nuclear accident. The reactor core lost cooling water and partially melted, and some radioactive gases were released. It took nearly $1 billion and more than a decade to remove the damaged nuclear fuel.

Failed plug may force Chernobyl reactor closure

RTw 3/6/95 11:10 AM KIEV, March 6 (Reuter) - A reactor at the Chernobyl nuclear power station may be shut down temporarily if workers are unable to seal a stubborn fuel channel, a nuclear industry official said on Monday. Workers halted attempts on Sunday to refuel Chernobyl's third reactor -- one of two still functioning at the site of the world's worst nuclear accident. Vadim Hryshchenko, a senior official at Ukraine's nuclear safety committee, said a plug to a fuel channel had failed to form a hermetic seal. No radioactivity was released and the incident rated zero on a seven-point scale of incidents. "It's not an emergency. The worst that can happen if they cannot form a hermetic seal is to stop and cool the reactor," he said by telephone. Hryshchenko said workers had removed spent fuel from the reactor but were still working on refuelling it. "There are various possible reasons for the problem -- maybe a defect in the plug, or perhaps part of the old plug is stuck. They are working on the problem," he said. A fire and explosion in Chernobyl's fourth reactor in 1986 spewed radiation over most of Europe and Ukrainian officials say 8,000 people have since died as a result. The plant's second reactor was closed after a fire in 1991. Ukraine is resisting calls by Western countries to close the station down, saying it must first find alternative sources for the electricity it produces.

REUTER

MEPs meet on Mochovce nuclear plant

RTec 3/3/95 5:53 AM

(page 1/2)
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COMMITTEE ON RESEARCH, TECHNOLOGICAL DEVELOPMENT AND ENERGY
Chairman : Mr. Umberto SCAMPAGNINI (I, FE) EXTRAORDINARY MEETING OF 1 MARCH 1995
+
THE MOCHOVCE NUCLEAR SAFETY IMPROVEMENT PROJECT

Yesterday, the Committee on Research, Technological Development and Energy held an extraordinary meeting on the improvement project of the nuclear plant at Mochovce in Slovenia. Some 70 Members of several committees attended the meeting. MEP's were informed by 5 experts on this particular project, which might be financed by EBRD and EURATOM loans (decision : end of March for the EBRD, april for the EURATOM loans). In this INFO MEMO, you will read more on the EP's resolution on Mochovce, the introduction by the experts, and of the first ofthe exchange of views and the conclusions of this extraordinary meeting.

1. A GENERAL INTRODUCTION

Like many other countries in the former East Block, the Slovakian Republic has nuclear power plants of Russian origin. There are two plants in operation at Bohunice, which are of an older design. Under construction at Mochovce are four reactors of a newer design, two of them having the same capacity as Bohunice and being virtually completed to original design and partly upgraded by the Slovak power utility. The Bohunice power plants are considered unsafe by Western standards and should be closed as soon as possible. But, in neighbouring Austria, there also is great concern about the completion of the Mochovce plant and thus on the financing of this project by EBRD and by EURATOM loans, pursuant to a decision of the Council of 1994 on the extension of EURATOM loans to third countries .

2. THE EP RESOLUTION

In a common resolution (PE 187.047, 15 February 1995) the EP, referring to this meeting of the committee on research, technological development and energy, demanded that the Commission and the EBRD make public the full dossier of Mochovce including the economic, environmental and safety studies, as well as he least-cost planning. The EP also called for the appropriations of Mochovce not to be granted by the EBRD until safety issues have been satisfactory resolved and asks the Commission, the EBRD and the EIB to postpone their decision. The EP states firmly that in no case should a lowering of EU safety standards be considered, especially in new European sponsored projects.

3. THE INTRODUCTION BY THE EXPERTS

Experts from both sides had been invited to this extraordinary meeting:
- Mr. Josef MISAK, Chairman of the Slovak Nuclear Regulatory Authority;
- Dr. Wolfgang KROMP, of Vienna University;
- Mr. Jean-Michel FAUVE, Director International Affairs, Electricite de France;
- Mr. Radko PAVLOVEC, GLOBAL 2000;
- Mr. Thierry BAUDON, Adjunct Vice-President of the EBRD.

a. The Slovak Point Of View Mr. Josef MISAK, Chairman of the Nuclear Regulatory Authority of the Slovak Republic, tried to convince Committee Members that Slovakia is an absolute safe country as far as nuclear safety is concerned. Said Mr. MISAK : "All our facilities are under the strict control of IAEA. On 23 february 1995, we ratified the Vienna Convention on Civil Liability for Nuclear Damages and the Joint Protocol and also the Convention on Nuclear Safety. Doing so, we are the first country with a power reactor on its territory, which ratified Convention on Nuclear Safety. We will strictly follow all our obligations in the Convention." Mr. MISAK added that state control over the nuclear safety is based in the law and fully comparable to Western approaches and that the Bohunice plants would be closed.

b. The Austrian Point Of View But Dr. Wolfgang KROMP, of Vienna University, told the Committee that, in view of basic uncertainties and safety deficiencies, the prorogated goal of reaching western safety level in Mochovce cannot be realized within the given budget and time frame. And he presented the Committee a list of unresolved safety issues:

- fire hazards;
- earthquakes;
- secondary side vulnerabilities;
- accident localization system;
- interfacing loss of coolant accidents;
- emergency operating procedures;
- system design dependencies;
- steam generator collector failure and
- reactor vessel failure.

Dr. KROMP told the Committee that there are some individual safety issues mentioned in the safety report, but not adequately solved, and about 20 important individual points are not even mentioned: "Even some of the most important safety issues do not receive appropriate attention, such as fires, secondary pipe breaks, emergency operating procedures, the lack of a second containment and seismic issues."

Given this situation, the Austrian expert vehemently criticized the EBRD financing. "We should bear in mind that even technicians admit that this plant is not and will not be safe. Bankers are no technicians and nevertheless they are to finance a nuclear plant which, in the EU, could never operate because of safety rules. Under normal conditions, no one would consider completing and putting into operation any complicated industrial facility without the involvement of the main designer. But, given the political situation in the former Sovjet Union, there is no substantial participation of this main designer."

c. The EDF Point Of View Mr. Jean-Michel FAUVE, Director of the International Division of Electricite de France, stressed that EDF and its German counterparts first of all had a study carried out in the units 1 and 2 of the plant to see if its completion was possible while still assuring that safety standards were maintained. Mr. FAUVE told MEPs that a year's work was required involving a large number of EDF specialists. EDF has drawn attention to three requirements:

- the ratification of the Vienna and Paris International Conventions by the Slovakian government with regard to civil nuclear responsibilities, which is currently underway;
- the commitment of the Slovakians to decommission Bohunice's two most obsolete units as soon as units 1 and 2 of Mochovce are commercially connected to the grid;
- the existence of a European guarantee derived from the operation's financing.

Mr. FAUVE admitted that the Mochovce plant still has certain weaknesses with regard to nuclear safety, which could nonetheless be eliminated. An independent consortium, Risk Audit, which regroups the French and German safety institutions, will study into detail these weaknesses and will make recommendations to bring the safety standards up to the same level as other plants of the same generation in use in Western Europe. This programme includes furthermore the requirements drawn up by the IAEA. He added that it represents approximately half the total volume of the work to be carried out, costing 5 billion FF. About a third of the financing will be guaranteed by the EBRD, a third by Euratom and the rest by EDF, Bayernwerk and bank loans. MEPs meet on Mochovce nuclear plant

(page 2/2)

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Mr. FAUVE said yesterday that he is well aware of the critical public opinion: "But the time ticking away does nothing to improve the safety of the reactors still in service in Chernobyl. Today, the real risk is to do nothing." And Committee members were told that the EU, over the past few years, has allocated a substantial part of its budget to studies on nuclear power plant safety in Central and Eastern Europe. Mochovce is a question of committing Western Europe to assume more responsibility and solidarity with Eastern Europe.

d. the GLOBAL 2000 Point Of View Mr. Radko PAVLOVEC, of GLOBAL 2000, Environment Research Institute (Vienna) urged that the Mochovce nuclear plant would never be allowed to operate in the EU. Nuclear energy has a very bad image in Slovakia, he told the Committee. An accident in 1977 led to the closure of the Bohunice plant. "Those responsible are still there. And we are very worried that those people, who proved there bad intentions in the past, will now be supported by Western Europe. Financing this project will have disastrous effects on the whole energy situation in Slovakia."

Mr. PAVLOVEC referred to the Least Cost Study of GLOBAL 2000 on the completion of Mochovce nuclear power plant in comparison with alternative options for the supply of electricity in the Slovak republic. And he stressed that the Environmental Impact Assessment for the Mochovce Nuclear Power Plant fails to conform to international standards and does not include the information required by the EBRD guidelines.

e. the EBRD Point Of View Mr. Thierry BAUDON, Adjunct Vice-President of the EBRD, explained that this bank is involved in the Mochovce project because there is a good opportunity to close an unsafe nuclear plant. On the other hand, Slovakia is a country bottoming out of recession and a profitable power utility would reinforce the country's credit. But the EBRD will only consider co-financing the completion and upgrade of the plant provided that the project is least -cost. Western experts confirm that the project complies with international safety requirements and practices, the project makes adequate provision for management of spent fuel and other wastes, the environmental impact is acceptable and procurement rules are complied with.

Mr. BAUDON told the Committee that he was absolutely sure that Mochovce will be safe. And he added that the plant will only have a small surplus of electricity to export. This export will just be marginal after 2000. It is out of the question that the EBRD loan will be repaid by the export of electricity.

THE DEBATE

The chairman invited the coordinators, representing the various political groups, as well as speakers of other committee to put their questions to the panel of experts. "organized" rounds of questions and answers were they followed by "free" rounds.

The majority of questions asked by members, although reflecting different points of view, addressed the same issue : Is the installation at the Mochovce Nuclear Power Plant safe or not?

For the Socialist group, Mr Gordon ADAM (PES, UK), pointed out that much work was being carried out reflecting East-West cooperation - "is none of this up to scratch?," he asked. Moreover, what measures were being applied to ensure public safety, he enquired. Taking up this point, Mrs Maria Teresa ESTEVAN BOLEA (EPP, SP) wanted to know whether the same guarantees of safety could be assured as those pertaining in the West.

For the Liberal group, Mr Carlos PIMENTA (LIB, PORT), asked if a similar plant would be allowed to operate in France or Germany. Mrs Undine-Uta BLOCH von BLOTTNITZ (GREENS, GER) questioned the shortcomings in design and wanted to know who would ultimately give technical approval. In a similar vain, Mrs Dagmar ROTH-BEHRENDT (EPP, GER) inquired if hearings were proposed on the issue and if anything was being proposed to ease the anxieties currently being felt by Austria. (A petition had been signed in Austria ley some 700.000 people !)

Mr Pedro MARSET CAMPOS (EUL, SP), speaking for the Budgets Committee, asked whether Slovakia had any alternative plan in this project failed to secure EU funding and demanded to know who would pay compensation in the event of a disaster.

Responding on behalf of the EBRD, its Adjunct Vice-President, Mr Thierry BAUDON stressed the need for the project and the support for it by the senior management of the bank. It was the first time that such extensive public participation has taken place on a project of this type, he said. On the issue of surplus capacity in the Slovak electricity system, he said that in reality there was no great problem, with the excess standing at only 3-7%.

Arguing against the plant, Mr Radko PAVLOVEC of GLOBAL 2000 claimed that the development of MOCHOVCE was blocking other more worthwhile projects. However, the International Affairs Director of Electricite de France (EDF), Mr Jean-Michel FAUVE maintained that "a poor country needs to satisfy elementary needs," but that EDF could only be involved if standards were the same as in the West.

For the University of Vienna, Dr Wolfgang KROMP, declared forcefully that this plant would not receive approval in the West. Yet, Mr Josef MISAK, Chairman of the Slovak Nuclear Regulatory Authority pointed out that safety was strictly controlled. Eight other possibilities for alternative energy sources had been evaluated, he said, but none had come up to the mark.

In reply to Mr Alain POMPIDOU (EDA, F) and Mr Franco MALERBA (FE, I) he said that it might be possible to bring Mochovce up to Western standards, but "not with the money available."

Mr MISAK, on the other hand, told Mr Antonios TRAKATELLIS (EPP, GR) that the plant was up to Western standards and that this had been confirmed by 250 experts. Whether this installation would be licenced in France or Germany was quite frankly irrelevant, he said. Each country had its own national standards. In all probability, many French plants would not be licenced in Germany, he claimed.

Responding to Mrs Eryl McNALLY (PES, UK) who had asked whether Slovakia intended to carry on with the project regardless of whether it received EBRD funding or not and in spite of Austrian objections, Mr MISAK said that yes the project would continue, using other available sources of finance if necessary, but that this option would inevitably involve a certain delay. For his part, Mr FAUVE confirmed again to Mr POMPIDOU that the plant would operate on the same level as Western ones. "This is a prerequisite for our commitment," he declared.

MR PAVLOVEC reiterated to members his main argument that Mochovce certainly did not represent the least cost option, while Mr BAUDON argued that the financing structure had been arranged in such a way as to allow Slovakia to repay the loan.

Returning to the issue of overcapacity of electricity supply in Slovakia, he agreed that it existed, but pointed out that it was caused mainly by old inefficient lignite burning plants.

L'Info Memo a du cloturer la redaction avant la fin de l'audition pour des raisons techniques. Il nous a ete rapporte qu'a l'issue du debat, la Commission, representee par M. VERRUE (DG I), avait souligne qu'elle n'avait pas encore adopte sa decision definitive quant a la position qu'elle prendre au sein du Conseil d'administration de la BERD a la fin mars et, ulterieurement, quant au pret EURATOM.

A l'issue de la reunion, le Bureau et les coordinateurs de la commission se sont reunis a huit clos pour envisager les suites a donner a cette reunion extraordinaire.

For more information : Ton HUIJSSOON - tel. 284.24.08 / Michael TOPPING phone 284.39.60 Secretariat de la commission : Jacques HINCKXT - tel. 284.29.96

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Nuclear Dump

APn 3/2/95 11:55 AM By KIM I. MILLS Associated Press Writer WASHINGTON (AP) -- The governor of Nevada implored Congress Thursday not to place both a permanent and temporary nuclear dump in his state, saying there is no impending national crisis regarding the storage of spent radioactive materials. "The contrived atmosphere of urgency to which we are now having to respond is an invention of the nuclear power industry that would like to solve its own nuclear waste problems ... on the backs of Nevadans," Gov. Bob Miller testified before the Senate Energy and Natural Resources Committee. Sen. Richard Bryan, D-Nev., agreed. "Nevada is being singled out as the sacrificial lamb for the nuclear power industry," he testified. But Kevin Phillips, mayor of Caliente, Nev., said his city and the surrounding Lincoln County are willing to host the temporary storage site if the Department of Energy provides a $100 million trust fund. The temporary dump would be near the tiny community of Elgin, 100 miles northeast of Las Vegas. State officials are opposed to the temporary dump, citing a law that says the temporary site cannot be located in the same state where a permanent repository would be built. Yucca Mountain, 100 miles northwest of Las Vegas, is the only site being studied for the permanent dump. The temporary site would store radioactive waste collecting at the nation's nuclear power plants until a permanent repository can be built. That is expected to be well after the turn of the century. The permanent site would store up to 70,000 tons of radioactive waste
for 10,000 years.

Nature beat man to nuclear punch millennia ago

RTw 2/27/95 11:20 PM By Ian MacKenzie JOHANNESBURG, Feb 28 (Reuter) - The first man-made nuclear reaction was in 1942 but nature beat humans to the punch with a "natural" reactor that went critical in Gabon millennia ago. "It was a chain reaction that produced all of the fissionable products, including plutonium, that you get in a modern reactor," Ian McKinley, a nuclear information specialist, told Reuters at a nuclear information conference in South Africa. Geologists say the natural reactor at Oklo, in a uranium-rich area deep in the tropical forests of the west African state, started in the pre-Cambrian age around two billion years ago and gave off energy intermittently for up to 500,000 years. It consumed between six and 12 tonnes of fissionable Uranium 235 (U235), produced about 16.5 gigawatt years of energy and four tonnes of plutonium before going dormant. McKinley, research and development coordinator for Switzerland's National Cooperative for the Disposal of Radioactive Waste, said the first indication of something unusual at Oklo was that the amount of U235 in the ore body was less than expected. Elsewhere in the world, the ratio between U235 and non-fissionable U238 is constant -- but not at Oklo. At first, French geologists thought there had been an error in analysing the ore. "But they found it was depleted. They found there had actually been a fission chain reaction in the ore body, dating back 2,000 million years." The original site has been preserved with a steel sarcophagus, but the area -- and other sites in Gabon -- are still mined for their rich uranium ore bodies by Compagnie des Mines d'Uranium de Franceville (COMUF), 25 percent state

owned but controlled by French interests. Uranium was found at the site at Oklo in the forests of Gabon in 1968, although the country's uranium reserves were first identified about 10 years earlier. McKinley said similar chain reactions had been found in Gabon, but nowhere else in the world. He said such a reaction was possible due to the rich ore bodies which millions of years ago had a concentration of U235 of somewhere between three to five percent -- the concentration required by modern nuclear power reactors but now only achieved through an artificial enrichment process. The concentration of U235 has depleted over the millennia to its present level of around 0.7 to 1.0 percent. The modern nuclear age began at 3:25 p.m. on December 2, 1942, when the world's first reactor went critical for two minutes in a squash court beneath Stagg Field sports stadium in Chicago as part of the American rush project to develop the atomic bomb. The research led eventually to peacetime uses such as nuclear reactors to generate electricity, but the industry has run into opposition arising from public concern over disposal of nuclear waste products. McKinley, who spoke to the South African conference on the feasibility of handling high-level nuclear waste, said Oklo showed that waste containment is possible. "The very fact that the 'fossil' remains of such (natural) reactors are observable today clearly demonstrates that the concept of containment over geological periods is feasible," he said.
REUTER

EU-Russia accord to improve nuke safety

UPn 2/27/95 10:20 AM BRUSSELS, Feb. 27 (UPI) -- The European Union and Russia agreed Monday to ground rules for a program that will improve Russian nuclear safety, while freeing Western experts from potential legal liability. EU C Atomic Energy Minister Viktor Mikhailov signed a memorandum of understanding aimed at spurring safety projects that have been blocked by legal concerns. Under the accord, Russia shields companies participating in EU-funded programs "from the potential legal consequences of a nuclear incident in Russia," a Commission spokesman said. Faced with the risk of lawsuits brought by third parties in the case of a nuclear incident, Western companies providing nuclear safety assistance had been reluctant to deliver equipment and complete studies until the legal framework was in place. The interim agreement will permit nuclear safety projects to go forward now, the spokesman said. The Commission said it also wants Russia to solve potential legal problems for good by acceding to international nuclear agreements, including the Vienna Convention. The interim agreement also gives the EU the right to use and disseminate the results of projects.

EU and Russia sign vital nuclear safety deal

RTec 2/27/95 7:58 AM BRUSSELS, Feb 27 (Reuter) - Russia and the European Union signed a nuclear safety deal on Monday containing a vital and long-debated clause limiting the liability of Western aid and equipment suppliers in the case of a nuclear accident. The interim deal, signed by Commissioner for Eastern Europe Hans van den Broek and Russian Atomic Energy Minister Viktor Mikhailov, clears away one of the main factors that has slowed implementation of an array of nuclear safety projects. Companies funded by the EU's Tacis programme, designed to help the countries of the former Soviet Union modernise their economies and infrastructures, have long complained that the absence of a liability-limitation deal left them open to law suits in the event of a nuclear accident. The nuclear safety element of Tacis has pumped 327 million European currency units ($405 million) into projects in Russia and Ukraine since 1991, although many have stalled awaiting clarification of legal liability. "Though of an interim nature, the agreement signed will permit nuclear safety projects to proceed to in-depth phases and to result in increased safety improvements," the Commission said in statement IP/95/179. However, the Commission said it would continue to press the Russian government to take the next step and sign the Vienna Convention which confines accident liability to the operator of a nuclear installation. A number of other former Soviet Union nations have already signed the Convention although Ukraine, whose Chernobyl reactor blew up in 1986 causing the world's worst nuclear accident, has still to clarify its position on liability. The EU and the Group of Seven industrialised nations are negotiating with Ukraine's government to close Chernobyl as soon as possible, but are making little headway.
REUTER

Small radiation leak at Japanese nuclear reactor

RTw 2/25/95 1:20 AM TOKYO, Feb 25 (Reuter) - A small amount of radioactive steam leaked into the atmosphere at a Japanese nuclear power plant on Saturday, company officials said. The plant, operated by Kansai Electric Power Co Inc, is in the coastal town of Oi, in Fukui Prefecture, on the main island of Honshu. Officials said the amount of radiation emitted was extremely small and there was no danger of it effecting the area surrounding the plant. The leak occurred early on Saturday morning, after operation of the reactor was suspended manually due to a suspected leak of cooling water from a steam generator pipe. When engineers shut down operations, a mechanism supposed automatically to switch to an alternative electric power source malfunctioned, and a water extraction pump shut down. This caused a small amount of radioactive steam to escape. The reactor was a pressurised-water model, a common type of light-water reactor. Officials said they are investigating the cause of the break. At the time of the malfunction, it was operating at full capacity.
REUTER

UCSF patients given radioactive substances in 1940s

RTw 2/23/95 6:30 PM By Ros Davidson SAN FRANCISCO, Feb 23 (Reuter) - Researchers at a university hospital injected four patients with a radioactive substance in the 1940s, but it was unclear if they had the patients' consent, a university committee said on Thursday. Releasing the results of a year-long probe, the University of California at San Francisco (UCSF) panel said that three patients were injected with plutonium and one with americium, a newly discovered radioactive substance. One patient was injected as part of the Manhattan Project, the federal programme for making atomic weapons, and data from two others may been used by the project, the committee said. The panel said at least another 15 patients were injected with plutonium at several other university hospitals around the country between April 1945 and July 1947. The committee, made up of academics, administrators and a community representative, was appointed by UCSF Chancellor Joseph Martin last year after allegations that several UCSF patients were among thousands of human guinea pigs who were unwittingly part of World War Two-era secret tests. The Clinton administration has ordered a new openness on Cold War-era radiation testing by the Department of Energy. In Thursday's report, the committee said it could find no evidence the patients were medically harmed by the radiation, but it was not clear whether they consented to the tests. "We do not know and we cannot know what these patients understood," Bernard Lo, director of the UCSF programme in medical ethics, told a press conference. "If these patients were not told and not given a free choice of whether to participate, they were wronged," he said. Of the four patients, identified only as CAL-1 through -4, three had bone cancer and one had suspected stomach cancer and all were unable to pay fully for treatment. CAL-1, a 57-year-old unemployed house painter thought to have stomach cancer, was the patient selected for the Manhattan-linked test, probably as he was middle-aged and expected to live less than 10 years, they said. In fact, he survived until age 79 and the committee said his health was not damaged by the plutonium. They said the other three patients appeared to be part of UCSF research into a cure for bone cancer. Press reports have described one of the bone-cancer patients as a four-year-old Australian boy who was given 24 times as much plutonium as an ordinary person would get in 50 years. The committee specifically denied press allegations that the doses were lethal or that the experiments were Nazi-like. It found that the amount of plutonium injected into the UCSF patients was "too small to pose a significant risk of physical harm." There was no evidence of "malevolent intentions," said committee chairman Dr Roy Filly. The documents reviewed, many of which were previously classified, included notebooks, government documents and laboratory notes. The report dealt only with injections of plutonium and americium. The committee plans a second report on radiation testing involving strontium.
REUTER

French navy halts Greenpeace nuclear blockade

RTw 2/23/95 10:32 AM (Updates with company to press suit, protests in Japan) By Christian Curtenelle CHERBOURG, France, Feb 23 (Reuter) - A British ship carrying re-processed nuclear fuel left for Japan by a secret route on Thursday after French sailors prevented anti-nuclear protesters from blocking the shipment. The Pacific Pintail left the Channel port of Cherbourg escorted by four French naval vessels -- two tugs and two patrol boats -- and half-a-dozen rubber

dinghies carrying commandos. The environment group Greenpeace, which has vowed to shadow the Pacific Pintail along its route, tried to stop it entering Cherbourg to pick up the nuclear fuel. But a navy tug rammed the Greenpeace ship Moby Dick and commandos stormed aboard. "Naval commandos boarded the protest vessel, cut its anchor line and towed it out of the inner port of Cherbourg," Greenpeace said in a statement. A navy spokesman said 20 protesters were intercepted as they sailed three rubber dinghies towards the Pacific Pintail but there was no violence. "It was all very calm. These are non-violent people," he said. In 1985, French secret agents sank the Rainbow Warrior, Greenpeace's flagship, in New Zealand to prevent a protest against French nuclear tests in French Polynesia. The agents used powerful explosives which killed a photographer on the Rainbow Warrior. The Cherbourg protesters were taken to navy headquarters for questioning. A court earlier barred members of the environmental campaign group from even approaching the Pacific Pintail, warning them they would be fined 300,000 francs ($59,000). Local officials said the Greenpeace activists would be released after their identity papers had been checked and their violations of the court ruling registered. Britain's state-owned nuclear power company British Nuclear Fuels, whose unit Pacific Nuclear Transport Ltd had sought the court ruling, said in a statement that it would "definitely seek to have the terms of the ruling enforced." Greenpeace said it had managed to delay the Pacific Pintail by 30 minutes. French officials denied the ship had been held up. Jean-Louis Ricaud, head of re-processing at the French state-run nuclear power company COGEMA, said the Pacific Pintail successfully loaded the 14-tonne cargo in less than four hours. "This operation took place in excellent circumstances and even took slightly less time than we had expected," he said. Greenpeace describes the Pacific Pintail as a "nuclear garbage barge" and says a fire on board could release the waste. The environment group plans to shadow the Pacific Pintail on its voyage to Japan, due to last up to two months. Ricaud indicated that the Greenpeace ship due to follow the cargo, the Solo, may be tracked by the French and then the British navies. Japan, with no reprocessing facilities of its own, sends spent fuel to Europe to be turned into fuel-grade plutonium. The Pacific Pintail shipment will be the first of up to 90 to Japan in the coming decade after reprocessing by COGEMA. In Japan, anti-nuclear activists protested against the shipment. Protesters in the northern village of Rokkasho, where the nuclear waste is to be stored, echoed those in France and other countries in condemning the secrecy with which Tokyo has shrouded the issue. The Tokyo office of Greenpeace sent a letter to the Japanese government criticising its handling of the shipment and calling on Japan to scrap its controversial plutonium reprocessing programme.
REUTER

Fire reported aboard Russian nuclear submarine

RTw 2/22/95 10:37 AM OSLO, Feb 22 (Reuter) - Fire broke out aboard a Russian nuclear submarine prowling Arctic waters and the vessel had to return to port for repairs, a Norwegian newspaper said on Wednesday. The daily Aftenposten quoted environmental group Bellona as saying the incident took place about two weeks ago when the electrical system of the Typhoon-class submarine caught fire. The submarine cut short a routine patrol in the Barents Sea and returned to its base on the Kola peninsula off northeastern Norway on February 11 to undergo repairs, the newspaper said. A Norwegian Defence Ministry official said military authorities were not aware of the reported incident, but added: "We do not rule it out." Oslo-based Bellona was not immediately available for comment. The group specialises in monitoring post-Cold War environmental hazards on the Kola peninsula, home to Russia's Northern Fleet which includes nuclear-powered submarines armed with intercontinental ballistic missiles. "The fire did not lead to radioactive leaks but the damage was bad enough for the submarine to return to base in Litsa Fjord for repairs," Aftenposten said. "The general decay in Russia's military forces has also affected the bases in Litsa Fjord. Five of the six Typhoon submarines are currently in port undergoing repairs." Norway, acting on a Bellona report two weeks ago, has pledged to ask Russia about possible radioactive leaks from nuclear waste storage sites on the Kola peninsula.
REUTER

Japan opts for secrecy on nuclear waste route

RTw 2/21/95 7:14 AM (Adds details, background) By Miho Yoshikawa TOKYO, Feb 21 (Reuter) - Japan has decided not to disclose the route of a ship set to depart from a French port carrying nuclear waste to Japan, a Japanese Foreign Ministry official said on

Tuesday. The official, Terusuke Terada, said a shipment of high-level radioactive waste in sealed canisters will leave Cherbourg on Thursday aboard the Pacific Pintail, a freighter owned by British Nuclear Fuels Ltd (BNFL). He told a news conference Japan would not reveal the ship's route, despite requests to do so by Caribbean, South Pacific and East Asian nations along the ship's possible path. These nations had wanted the information to prepare for possible risks. "We have decided to announce in advance the date of the ship's departure and the name of the ship, but we have decided to refrain from announcing the ship's route," Terada said. He declined to comment on how many countries had lodged protests with Japan, but about 20 nations, mainly Caribbean governments, have reportedly voiced concern. In Cherbourg, a court on Tuesday barred Greenpeace protesters from blocking the Pacific Pintail. The ruling would bar members of the environmental campaign group from even approaching the vessel. Any violation would bring a 300,000 franc ($59,000) fine. The ruling only applies in French waters even though the shipper wanted it to cover the entire voyage as Greenpeace has said it will shadow what it calls a "nuclear garbage barge." "This is a serious and unacceptable ruling," said Greenpeace representative Jean-Luc Thierry. He said it would not deter Greenpeace from its information campaign about nuclear shipments from Cherbourg. He said the group might appeal. Japan, which currently has no reprocessing facilities of its own, depends on European firms to turn spent fuel into fuel-grade plutonium which, along with the waste, is then returned to Japan. Tokyo plans to eventually ship 7,100 tonnes of spent fuel to Europe which is expected to yield 30 tonnes of fuel-grade plutonium and nuclear waste. The programme is a pillar of Japan's energy policy which depends on nuclear power to provide 30 percent of its electricity needs. Japan had been wary of sparking protests from environmentalists and nations along the ship's route, in a repeat of what happened when the first cargo of reprocessed plutonium was transported in 1993. The Japanese foreign ministry had maintained that the final decision on whether to reveal the ship's route rested with the British and French firms, as well as the Japanese electric power companies involved in the reprocessing scheme. However, senior foreign ministry officials here had repeatedly said Tokyo wished to see the route made public, and that it had made its view clear to the parties concerned. French and British authorities were reportedly reluctant to disclose the ship's route. At Tuesday's news conference, Terada said discussions had been held between all parties concerned before the final decision was made. "The three parties fully discussed this issue, and this is the common conclusion that was reached." He said Japan would continue to seek the understanding of countries worried about the shipment's safety. This week's cargo of roughly 112 tonnes of nuclear waste -- reprocessed by the French nuclear power company COGEMA -- is expected to take 1 1/2 to 2 months to reach a Japanese port near Rokkasho-mura, northern Japan in April. The nuclear waste will temporarily be stored in Rokkasho-mura, the site where Japan is constructing its first major fuel reprocessing plant. Terada told Tuesday's news conference Japan was likely to maintain a non-disclosure for future shipments. Greenpeace, which believes the shipment poses a major safety and security risk, has said it plans to trail the ship, as it did in 1993. At that time the environmentalist group's ship collided at sea with a Japanese armed coastguard vessel that had been escorting the freighter carrying plutonium back to Japan. This time no escort vessel will accompany the Pacific Pintail on its journey, Foreign Ministry spokesman Terusuke Terada said.
REUTER

Radioactive material found at Frankfurt station

RTw 2/21/95 5:32 AM FRANKFURT, Feb 21 (Reuter) - A container holding radioactive material was found in a luggage locker at Frankfurt's main railway station but a fire department official said its radiation level was too low to pose a risk. The aluminium container, about the size of a cigarette packet, was discovered on Monday night in a locker after the time paid for had expired. Firefighters were called to remove the container and took it to a local government centre where it was due to be opened under laboratory conditions on Tuesday for examination of its contents. The smuggling of nuclear materials has been a growing problem in Germany. The magazine Der Spiegel reported on Saturday that German intelligence services reported a "quantum leap" in incidents of smuggling last year from the former Soviet Union. Seizures of smuggled plutonium and uranium last year prompted Chancellor Helmut Kohl to ask Russian President Boris Yeltsin to help stem the flow of radioactive materials from former Soviet stockpiles.
REUTER

Enola Post-Mortem

APn 2/19/95 5:25 PM By MIKE FEINSILBER Associated Press Writer WASHINGTON (AP) -- War historian Paul Fussell was a 21-year-old infantry lieutenant in France in the summer of 1945. Wounded in the legs and the back, he still got orders to prepare for the forthcoming invasion of Japan, a battle too dreadful to contemplate. And then came Hiroshima. "We cried with relief and joy," he recalled years later. "We were going to live. We were going to grow up to adulthood after all." Rarely does an entire people share a single emotion. But as it became clear that the A-bomb meant the war would soon be over, virtually every American greeted the atomic attack of Japan with joy, relief, thanksgiving. Over the years, others developed more ambiguous feelings. The bomb introduced the nuclear age; the nuclear age became an era of fear. Questions were raised about the need for a democracy to have used this terrible weapon. Could there have been a demonstration bombing? Would Japan have surrendered anyway, without an invasion? Last month, a museum exhibit about these issues fell victim to the emotions they still evoke. To the Smithsonian Institution, custodian of America's collective memory, Hiroshima became a story too hot to tell. Bowing to pressure from Congress and veterans' groups, Smithsonian leaders junked the exhibition about the Enola Gay, the B-29 that bombed Hiroshima and launched the nuclear age. Only the fuselage of the plane is to be shown. Smithsonian Secretary I. Michael Heyman said the exhibit had two irreconcilable goals -- to honor the valor of the soldiers who fought the war and to reassess the Enola Gay's heritage. Veterans and their families "were not looking for analysis" he said, "and frankly we did not give enough thought to the intense feelings such an analysis would evoke." Heyman's conclusion was foreshadowed early on in a note from curator Tom Crouch to museum director Martin Harwit, a memo promptly leaked by internal critics. (The museum staff has declined to be interviewed about the controversy.) "Do you want to do an exhibit intended to make veterans feel good," Crouch asked, "or do you want an exhibition that will lead our visitors to think about the consequences of our atomic bombing of Japan? Frankly I do not think we can do both." Why not? If a high school history book can offer a non-controversial account of Hiroshima, why couldn't the Smithsonian? --Museums have changed their view of their role in society. They are not satisfied just displaying stuff -- arrow heads, moon rocks, airplanes. The Smithsonian bristles at being described as "the nation's attic." Now artifacts are "tools" used in interpreting history. "Analysis" -- Heyman's word -- is the name of the museum game. --Of all museums, the National Air and Space Museum, which celebrates American ingenuity and spunk, holds a special place. It is the world's busiest; eight million visitors a year come to be awed by the Wright Brothers' 1903 Kitty Hawk Flyer, Charles Lindbergh's Spirit of St. Louis, Chuck Yeager's X-1 and the Apollo 11 crew's command module Columbia. In these halls of marvels, photographs of Hiroshima pedestrians turned into columns of ashes would seem incongruous. --A generation gap exists in the museum and in society. Project manager Crouch was born in 1944, curator Michael Neufeld in 1951. Their generation associates the bomb not with the joy of release from the grip of war; instead the bomb is associated with the doctrine of "mutually assured destruction," the pleas by John F. Kennedy to build bomb shelters, the newsreels telling of Pacific Islanders and U.S. guinea pigs sickened by radiation in atomic tests. --Distrust grew between the museum staff and its veteran-critics. Rather than relieve it, negotiations between them only heightened suspicions. The American Legion first picked up rumors in 1993 that the exhibit was taking a decidedly skeptical view of Enola Gay's achievement. A committee of World War II B-29 veterans collected nearly 10,000 signatures asking the Smithsonian to properly display the aircraft or turn it over to a museum that would. The American Legion adopted a resolution objecting "to the use of the Enola Gay and the heroic men who flew her in an exhibit which questions the moral and political wisdom involved in the dropping of the atomic bomb." Paul Tibbets, who piloted the Enola Gay and named it after his mother, called the exhibit plans "a package of insults." Harwit undertook to repair the damage. The 500-page exhibit script underwent five revisions. The result was to make outsiders part of the process but the veterans said they were asked for their opinions, then largely ignored. It only deepened suspicions. Particularly galling to the veterans were a couple of sentences from the script and an emotionally charged artifact borrowed from the A-bomb museum at Hiroshima. "For most Americans," read the offending excerpt, later abandoned, "it was a war of vengeance. For most Japanese, it was a war to defend their unique culture against Western imperialism." The artifact: a schoolgirl's charred lunchbox with remains of peas and rice reduced to carbon. The critics said such artifacts were selected to make visitors sympathetic to the victims of the bombings.

MORE

APN--Nuclear Testing

APn 2/18/95 11:00 PM

EDITOR'S NOTE -- With the next generation of nuclear weapons testing likely to be done by computers, a search has begun for new uses for the Nevada Test Site, where testing was done for 44 years. Take a tour of ground zero, an eerie landscape of ravaged ruin and craters rising above the desert floor. By ROBERT MACY Associated Press Writer YUCCA FLAT, Nev. (AP) -- A cold wind whips across the snow-covered desert and through a desolate 15-story tower covering ground zero for America's next underground nuclear weapons test -- should the day ever come. The planned test, "Icecap," is aptly named given the frigid weather at this remote weapons research outpost, larger than the state of Rhode Island. Scientists who've crafted the nation's nuclear arsenal over the past half century say continued underground testing is necessary to monitor the safety and reliability of an aging weapons stockpile. But Energy Department officials who oversee the 1,350-square-mile Nevada Test Site say the nation may have seen its last nuclear weapons test. Under the proposed Strategic Computational Initiative, computers would be used to simulate nuclear tests. A search is ongoing for new uses for the scarred site where the United States has conducted tests for 44 years. "I don't want to suggest that Nevada should become a dumping ground," says Terry Vaeth, who recently became acting manager of the Energy Department's Nevada Operation Office, the Las Vegas-based agency charged with overseeing NTS. "But the Nevada Test Site's future is dictated by its past. After setting off nuclear weapons for 44 years, there are few things that can be built here." He envisions the test site as a vast laboratory for a wide range of uses, including laser testing, seismic monitoring, solar energy research, waste management and hazardous chemical testing. America was at war in Korea in 1950 when Gen. Douglas McArthur, fearing war with China, persuaded President Truman to move the U.S. nuclear testing program from the Pacific to the U.S. mainland. On Jan. 27, 1951, a B-50 from Kirtland Air Force Base in Albuquerque, N.M., lumbered across nearby Frenchman Flat, dropping an atomic bomb that detonated 1,060 feet above the desert floor. The test, the first in Nevada, had an explosive force of 21,000 tons of TNT (21 kilotons). Over the next 11 years, America conducted 100 atmospheric tests. Residents of Las Vegas, then a tiny gaming town 65 miles away, toasted the mushroom clouds rising to the north. In Bunkerville, Nev., St. George, Utah, and other downwind communities, folks gathered outdoors to watch radioactive clouds pass overhead. Decades later they would become known as the Downwinders -- cancer victims who became a tragic legacy of atmospheric testing. Testing went underground at NTS following the Aug. 5, 1963, signing of the Limited Test Ban Treaty, which prohibits testing in outer space, underwater or in the atmosphere. The United States has announced 1,054 nuclear tests, 928 of them at the Nevada site. The last was Divider, on Sept. 23, 1992. Nine days later, then-President Bush signed a nine-month moratorium, halting all U.S. nuclear testing until July 1, 1993. Scientists at the Los Alamos Laboratory in New Mexico continued preparations for "Icecap," scheduled for the summer of 1993. But on July 3, 1993, President Clinton extended the test moratorium. "Icecap" remains on hold, with millions of dollars in preparatory work completed at the site here. Only the Chinese have tested since the U.S. moratorium began. "I'd be very surprised if they do any more underground nuclear tests," said Vaeth, who's responsible for maintaining a state of readiness whereby testing could resume within six months if ordered by a U.S. president. He's also scouting new uses for NTS. Despite the prediction, he contends that continued testing is necessary to check the safety and reliability of a nuclear arsenal crafted more than a decade ago. "Would you be comfortable using shotgun shells that have been sitting around for 10 years?" he asked during a tour of the site. "We'd rather not have a moratorium. But we think we're resigned to it now. We're using scientific means to analyze nuclear weapons rather than testing per se." Nevada congressional sources want the new generation nuclear testing done at NTS, but the work will likely go to labs at Los Alamos or Lawrence Livermore in California, the two sites where the nation's nuclear weapons are designed. An imposing 157-foot tower covers a hole 8 feet in diameter and 1,625 deep where the "Icecap" nuclear device would be detonated. Inside is a canister that would contain the weapon and sensitive equipment that flashes blast data to trailers a quarter-mile away. A dummy device the same size as the actual test weapon sits in the firing rack. A yard long and 8-to-12 inches in diameter, it would have an explosive punch several times that of the 15 kiloton bomb that devastated Hiroshima. The actual nuclear device would be assembled and armed at a field assembly point on the test site and brought to ground zero just hours before the test for security and safety reasons. Outside, a coyote lopes across the snow, wending around craters that dot the landscape. Yucca Flat is pocked with hundreds of the craters -- eerie signatures of nuclear tests conducted 600 feet to 2,000 feet beneath the earth's surface. The craters form when the ground caves into the cavity caused by the underground blast. The largest, Sedan Crater, was formed July 6, 1962, when a 104 kiloton device 635 feet below ground created a cavity 320 feet deep and more than a quarter of a mile in diameter. Sedan was part of Project Plowshare, a study of the use of nuclear devices for peaceful purposes, such as carving out canals. In the 1960s, Los Angeles County inquired about using nuclear devices to carve a path through the mountains similar to Cajon Pass, in San Bernardino County, says DOE spokesman Darwin Morgan. The idea was dropped for the same reason Project Plowshare died -- fear of radiation from the blasts. The tour brings awesome reminders of another era, when the world was learning to live with "the bomb." There's the site of "Apple II" and "Annie" tests in the mid-1950s, when homes and cars half a mile from ground zero were engulfed in flames and blown away in Civil

Defense training programs. At Frenchman Flat, structures built to test their survivability -- motel walls, bank vaults, bridges, bomb shelters and an underground parking garage -- show the ravages of a nuclear hammering. Near the edge of Frenchman is the new $100 million Device Assembly Facility, a fortresslike structure where the two labs planned to assemble nuclear weapons that would be tested at NTS. Vaeth says the facility, like the test site, can be a national asset rather than a Cold War dinosaur. End Adv Sunday Feb. 19

Radiation-Body Parts

APn 2/18/95 9:50 PM ALBUQUERQUE, N.M. (AP) -- Hundreds of testes and ovaries from people who lived near a nuclear weapons plant have been in freezers for years, part of a plutonium-testing study that ran out out money, The Albuquerque Tribune reported Saturday. The body parts are from a 1975 study involving people who lived near the Rocky Flats plant in Golden, Colo. The study was to determine whether they had more plutonium in their bodies than people living elsewhere. The body parts, including bones and adrenal glands, sat for about 15 years in freezers at Los Alamos National Laboratory. About two months ago, they were sent to Colorado State University in Fort Collins. Ward Whicker of Colorado State's health sciences department said he hopes to get funding to test the 200 gonads for plutonium. The Environmental Protection Agency and the University of Colorado commissioned the study in 1975. Organs taken from Denver-area residents were obtained from 519 autopsies, with relatives' permission, said Dr. John Cobb, who conducted the study. Livers and lungs of 473 people also were analyzed but funding ran out in 1981 before the gonads could be tested. Gonads produce reproductive cells. The transfer came about after the man who headed the Los Alamos lab's human tissue studies project retired. "We understood that these tissues were going to be discarded by Los Alamos," Whicker said. "We felt we would go ahead and hold the samples in hopes we could look at them sometime down the road."

Caricom-Nuclear Waste

APn 2/17/95 7:28 PM BELIZE CITY, Belize (AP) -- Leaders of a bloc of 13 Caribbean nations on Friday protested a possible shipment of highly toxic nuclear waste through the region. Several Caribbean states have come out individually against the shipment of waste passing through the Panama Canal on its way from France to Japan. Prime Minister Patrick Manning of Trinidad and Tobago said the Caribbean Community (Caricom) leaders meeting here consider the waste shipment a threat to the region's environment and vital tourism industry. "We want the Caribbean to be kept as a nuclear-free zone," Manning told reporters. "We will raise our voices against this." Caricom's protest came as the environmentalist group Greenpeace announced it found a confidential document saying the shipment will leave France next Wednesday, contrary to public statements that the French government has not set a departure date. COGEMA, France's state-owned nuclear reprocessing agency, and British Nuclear Fuels Ltd., which is providing the vessel, have said the new shipments could pass through the Caribbean and the Panama Canal, around the tip of South America or the tip of Africa. The shipment, the first of its kind, involves waste stored in glass blocks carried in a heavy container.

No radiation leak after fuel rods changed - China

RTw 2/16/95 3:16 AM BEIJING, Feb 16 (Reuter) - China said on Thursday its fledgling nuclear industry had passed a crucial test after the replacement of fuel rods at a domestically built nuclear power plant was completed without a radiation leak. Environmental and nuclear officials detected no radiation in or around the nuclear plant in Qinshan in eastern Zhejiang province after its fuel rods were replaced for the first time last October as part of planned maintenance, Xinhua Daily Telegraph newspaper said. The 300-megawatt station resumed generating electricity in January, the newspaper said. "The successful replacement of fuel rods...demonstrates that China has obtained complete nuclear technology ranging from design, building, safe operation to stoppage for fuel rod replacement," the newspaper said. China has two nuclear power plants. The second is in Daya Bay near Hong Kong, which has two 900-megawatt French-designed reactors. Beijing has announced plans to build a third nuclear plant, with two 900-megawatt

generators, at Ling'ao near Daya Bay for completion in 2002. A fourth is planned in northeastern Liaoning province, with two Russian-built generators each with a capacity of 1,000 megawatts.
REUTER

Radiation Files

APn 2/15/95 12:56 AM By H. JOSEF HEBERT Associated Press Writer WASHINGTON (AP) -- The CIA professes ignorance about human radiation experiments, but government documents suggest the agency had a keen interest in the subject and even considered injecting its own agents with radioisotopes for identification. These revelations were among insights about Cold War radiation programs in newly discovered government documents being examined by the president's Advisory Committee on Human Radiation Experiments. The presidential panel was created last year to examine the ethics of the use of human subjects in radiation tests during the Cold War. Among the documents obtained Tuesday by The Associated Press were papers that show: --A worldwide campaign in the 1950s to cover up an Atomic Energy Commission program called Operation Sunshine, in which the AEC gathered samples of soil, crops, water and even human bones, usually of stillborn infants, to determine the extent of radioactive fallout from nuclear bomb tests. --Evidence that the government collected "detailed statistical records" on radiation exposure of soldiers and sailors at bomb tests in case of future liability claims. Several documents suggest the records were destroyed in the 1950s. --An internal debate among senior AEC officials in the late 1940s in which they generally ruled out widespread experimentation on human subjects as impractical in a democracy, though suggesting volunteers could be used for some test projects. "If we were considering things in the Kremlin, undoubtedly it would be practicable. I doubt that it is practicable here," Dr. Shields Warren, head of the AEC's Division of Biology and Medicine, advised the group at a meeting in early 1948. By that time the AEC already had sponsored a series of tests in which 18 civilians were injected -- often without their clear consent -- with plutonium to try to learn more about the effects of the radioactive material on the body. The presidential panel has had difficulty pinpointing CIA involvement in human radiation experiments. Last year the spy agency said it could find no internal documents indicating any agency link to such projects. But investigators recently obtained several documents that show the CIA funded a private laboratory in the 1960s that conducted radiation experiments on inmates at a California prison. The CIA claimed it had no interest in the radiation research, which was conducted privately, and that it set up the lab as part of its previously disclosed MK-Ultra research into the use of drugs to alter human behavior. The researcher, Dr. James A. Hamilton, told investigators he independently conducted the studies that used radioisotopes to measure thyroid activity in about 100 prisoners at the Vacaville California Prison Medical Facility. But Hamilton specifically alluded to the experiments in a request for CIA funding in March 1965, according to the documents. Another CIA memo involved the agency's search for better ways to identify agents. One proposal was to inject or implant radioisotope tracers to provide "positive identification" of agents.

Arabs urge Israel to sign nuclear treaty

RTw 2/14/95 3:46 PM By Issam Hamza DAMASCUS, Feb 14 (Reuter) - Arab League chief Esmat Abdel-Meguid and Syrian Foreign Minister Farouq al-Shara urged Israel on Tuesday to sign the Nuclear Non-Proliferation Treaty to pave the way for Arab endorsement of the accord. An official newspaper renewed Syria's warning that Israel's failure to sign the treaty would encourage Arabs to acquire weapons of mass destruction. A Syrian spokesman said Shara and Abdel-Meguid also discussed Syria's peace talks with Israel and issues related to Arab reconciliation during a meeting at the foreign ministry in Damascus. "It was stressed during the meeting that Arab states should not sign the Non-Proliferation Treaty (NPT) before Israel signs it. This will be the only way to make the Middle East area free of the mass destruction weapons, especially the nuclear arms," the spokesman said. He said the NPT would be one of the main issues on the Arab League's ministerial council meeting due to be held in Cairo next month. "Israel has never signed the treaty, which runs out this year, and the Arabs, led by Egypt, have taken the opportunity to lobby against the special nuclear status Israel has acquired." Reports say Israel has about 200 nuclear warheads but the Israelis argue that they face a potential nuclear threat from countries such as Iran, Iraq and Libya, which are not part of the Middle East peace process. Syria's government daily Tishreen said Israel should sign the nuclear pact. "Israel's preservation of nuclear weapons constitutes a direct threat to the security, stability and existence of Arabs. It also foils the chances for peace in the region and paves the way for a new arms race,"

Tishreen said. "No one should imagine that Arabs will continue to submit to the nuclear threats of Israel and its blackmail without thinking about acquiring similar and deterrent weapons," Tishreen said. "Israel brought the nuclear weapons to the Middle East region. Its refusal to sign the Non-Proliferation Treaty creates the objective circumstances to spread the nuclear weapons and other kinds of mass destruction weapons in this sensitive region," the paper said. Syria opened peace talks with Israel in 1991 as part of the Arab-Israeli peace talks but no tangible progress was achieved. The negotiations stalled over withdrawal from the Golan Heights, captured by Israel in 1967, and future ties. Syria's government newspapers on Tuesday quoted Adnan Omran, the Arab League's assistant secretary-general who is handling the nuclear issue, as expressing regret that Washington was pressuring Arabs to sign the treaty despite Israel's refusal to do so. "If no action is taken against Israel's nuclear policy, there would certainly be a nuclear arms race in the Middle East," Omran said. Abdel-Maguid, who arrived in Damascus on Monday, is to meet President Hafez al-Assad before heading to Lebanon. His visits are part of a tour to all Arab countries begun last month in an attempt to restore Arab solidarity shattered by the 1990 Iraqi invasion of Kuwait. Hopes that Arab leaders could meet in a summit during celebrations marking the 50th anniversary of the Cairo-based organisation next March were dimmed after Abdel-Meguid's tour of the six oil-rich Gulf Arab states last January.
REUTER

NUCLEAR INDIANS

APn 2/12/95 10:59 PM By JEFFREY ULBRICH Associated Press Writer FLYING DUST INDIAN RESERVE, Saskatchewan (AP) -- The world's usual response to dealing with nuclear waste is, "Not in my back yard!" Now, some Cree and Dene Indians in northern Saskatchewan are saying, "Why not in our back yard?" The Meadow Lake Tribal Council, which represents nine Indian communities in the sparsely populated north of this prairie province, is looking at the possibility of profiting from the disposal of nuclear waste A 15-year study by Atomic Energy Canada, a federal agency, says waste can be safely stored indefinitely underground in the Canadian Shield, a vast horseshoe of granite embracing Hudson Bay. Most of the Meadow Lake territory lies over the Canadian Shield. Anti-nuclear activists and many of the Indians' neighbors oppose the idea, and years of hearings, studies and planning would precede any attempt to build a disposal site. Indian leaders say they could bring in badly needed cash by charging power companies to store nuclear waste and also create jobs for their people. The waste would be sealed in tunnels bored deep into the granite. "I think we should be commended for doing this," said Oneill Gladue, vice chief of the Tribal Council. "Usually it's government or the nuclear industry that spearhead this kind of thing." The rationale is that uranium has been mined on Indian land in Saskatchewan for years and they have gotten little out of it. If there is a benefit to putting radioactive material back in the ground, why shouldn't the Cree and the Dene profit from it? Gladue is quick to stress that nuclear waste disposal is only one part of the council's 20-year economic development plan and may never happen at all if the 7,000 Indians on the nine reserves vote the project down in a referendum. Members of the Mescalero Apache tribe in New Mexico voted down on Jan. 31 a proposal for temporary storage of nuclear waste on their lands. Gladue said no vote has been scheduled by the Meadow Lake bands but will be held after further study by the council and discussion among the Indians on the nine reserves. "I don't think people are quite ready at this point," said Richard Fiddler, chief of the Waterhen Lake Cree band, about 55 miles north of the Flying Dust reserve. "People, I'd say, are about half and half. They ask, `Is this safe?' Secondly, they ask what kind of employment will we get out of it." Jobs is a key issue for the Indians. Unemployment in their communities can be as high as 90 percent in the winter. That drops to 30 percent to 40 percent in the summer, but most of the work is pick-and-shovel. What the Tribal Council wants is quality jobs and saleable skills for the Indians, many of whom live in wretched conditions. The council estimates 2,000 workers would be needed over a 10-year period to drill out the waste site, with about 600 full-time jobs needed after that. There also would be spinoff opportunities in retail, trucking, restaurants and recreation. Gladue said there are no detailed estimates yet on how much money the Indians could earn in storage fees. Leaders of the Mescalero Apaches had estimated their tribe would take in $250 million over 40 years for temporarily storing spent nuclear fuel. The Meadow Lake council's 20-year plan also envisions development in forestry, mining and tourism on the 8.1 million acres that the Indians co-manage with the provincial government. But what has caught public attention is the prospect of spent nuclear fuel being hauled across Canada, perhaps even from abroad, to northern Saskatchewan. There is no shortage of opposition to that idea, starting with the provincial government. "Saskatchewan is not interested in a nuclear waste disposal site," said the province's environment minister, Bernhard Wiens. "We have no nuclear waste here to dispose of. There is no need to be transporting waste across Canada to a disposal site. It adds an environmental risk that is unnecessary." Nonetheless, 15 percent of Canada's

electricity is produced by nuclear reactors, mostly in the east in Ontario and New Brunswick, and the spent fuel will need a home sooner or later. "One of the treacherous things about having found an apparent solution to waste is that it gives the industry permission to go on producing more nuclear waste," said Jo Dufay, chairwoman of the environmentalist group Greenpeace Canada. "And the chances of highly radioactive nuclear waste sitting in the Canadian Shield and being held separate from the water system ... is remote." Peter Prebble of the Saskatchewan Environmental Society said a waste site could turn Saskatchewan into a world nuclear dump. Gladue feels the worries are misplaced. "I did my homework on this thing," he said. "I went to London to the Uranium Institute. I went to Sweden where they have a low-level facility under the ocean. The fear people have of radiation is a little overreactive. I think more and more communities should take a good look at it and keep an open mind. "If we keep leaving this plutonium laying around all over, the more it's possible somebody will do something bad with it."

OH--Radiation Experiments

APn 2/11/95 8:06 PM COLUMBUS, Ohio (AP) -- Patients at the former Western Reserve University hospital in Cleveland were injected with radioactive iodine as part of government-sponsored radiation research projects, a report said. The government report said that 168 people, including 15 children, were used as test subjects in experiments with iodine-131 in 1950 and 1952. The Department of Energy released the report on Thursday. The agency was investigating tests conducted on an estimated 9,000 Americans from about 1945 to 1974. Last year, the department released documents detailing experiments conducted at the University of Cincinnati and other universities and federal nuclear sites. "I didn't know about the experiments. I have no idea," Neil Cherniack, dean of Case Western's medical school, told The Columbus Dispatch for a story published Saturday. Western Reserve was merged with Case to form Case Western Reserve University. The report said that in 1950 at Western Reserve University, 76 patients each were injected with protein tagged with radioactive iodine-131. In 1952, human serum albumin tagged with iodine-131 was injected into 77 subjects and 15 children were given food containing iodine-131. Researchers wanted to track how organs absorbed radioactive substances and determine how long it would take to excrete the material, the newspaper reported. A number of Western Reserve researchers were listed as authors of research papers detailing the experiments. One researcher, H.L. Friedell, was listed in each of the four papers cited. It was not known how he could be contacted. Friedell was a Western Reserve scientist who participated in radiation fallout studies conducted for the Atomic Energy Commission, said Geoffrey Sea, a representative of the Task Force on Radiation and Human Rights. The task force represents people who believe they were subjected to nuclear experimentation. He said the researchers were gathering information for designing weapon production processes that were safe and efficient. In the 1950s, little was known about the effects of radiation in humans, especially the effects of fallout from bomb tests. Radioactive iodine was a focus of investigation because it is a byproduct of nuclear bomb blasts and is readily absorbed by the thyroid.

U.S. Energy Agency Radiation Tests Involved ...

WP 2/9/95 11:00 PM U.S. Energy Agency Radiation Tests Involved 9,000, Study Says By Gary Lee Washington Post Staff Writer Forerunners of the Department of Energy conducted 154 Cold War radiation experiments involving 9,000 people -- including prisoners, mental patients and children -- according to a comprehensive government study released yesterday. The number of tests was significantly higher than what had been attributed previously to the Energy Department. The report is the first to provide numbers of how many people were subjected to Energy Department-sponsored experiments and provides fresh details on the nature of a range of experiments. In one series, for example, that was conducted during the 1950s in San Quentin, a California prison, blood was drawn from inmates, injected with iron or phosphorus and then reinjected into the subjects. Another experiment involved a group of mental patients in a San Francisco-based clinic who were given doses of iodine 131 to determine how it would affect the functioning of their thyroid glands. A third experiment, conducted in 1969, involved newborn babies with respiratory problems being given blood laced with chormium 50. Performed at Tennessee-based Vanderbilt University, the experiment was meant to study red blood cells and determine when hemorraging starts. The study was issued by the department's office of Human Radiation Experiments, which was created by Energy Secretary Hazel R. O'Leary to investigate the extent of the agency's radiation-related research. After learning of the experiments O`Leary in late 1993 brought the issue to national attention. Her reaction prompted the White House to appoint the independent Advisory Committee on Human Radiation Experiments to investigate the nature and number of the tests and determine what, if any, compensation should be

given to surviving victims. The panel is expected to report on its findings in late spring. "We are proud of shining a light on this previously untold part of the atomic age," said Ellyn Weiss, director of the Energy Deparment office. Last September, department officials said they knew of about 100 different experiments involving an undisclosed number of people conducted under the auspices of either the Energy Department or the Atomic Energy Commission, the agency's forerunner which was created in 1947. But a thorough investigation of department files, including the declassification of about 2,000 documents, led to the discovery of additional experiments and the number of subjects involved, Weiss said. Overall, more than 23,000 Americans were subjects of government-sponsored radiation research in about 1,400 different projects in the 30-year period after World War II, according to the advisory committee. The Energy Department tally does not include experiments sponsored by the Defense Department, the Veterans Administration or other agencies. According to Weiss, the DOE-sponsored radiation research was wide-ranging, including efforts to determine the effects of radioactive fallout by nuclear weapons testing, experimental treatments for disease, and experiments to determine the occupational hazards posed by radiation. The report, called "Human Radiation Experiments, The Department of Energy Roadmap to the Story and the Records," is meant to give the public more information about the tests and enable survivors and their families to further research what happened. More than 150,000 pages of documents about the experiments will be available on the Internet, the worldwide network of computer users and services, by April, Weiss said. Some of the tests clearly had a detrimental effects. In one 1963 experiment, a University of Rochester graduate student in New York, investigating the metabolism of radioactive iodine, gave milk laced with radioactive iodine 131 to a group of people ages 6 to 50. One of the children developed thyroid cancer.

Ukraine nuclear industry in crisis - official

RTw 2/9/95 1:29 PM KIEV, Feb 9 (Reuter) - The head of Ukraine's nuclear energy authority on Thursday said poor financing and mass departures of underpaid specialists threatened the future of his industry nine years after the Chernobyl disaster. Mikhail Umanets also said Ukraine had persuaded Western Europe to ease a campaign for Chernobyl's rapid closure in view of the country's energy crisis. "Money is being wasted because of incompetent policy. We get 18 percent of finance that we are seeking. This is hardly enough to pay salaries and the most vital technical work," Umanets told a news conference. "Nuclear power has never been in such a downtrodden state, either before over after the Chernobyl tragedy." Ukraine has few energy resources of its own and depends on its 14 nuclear reactors to provide up to 46 percent of its electricity. Chernobyl's two functioning reactors produce about seven percent of the total. Its fourth reactor, which exploded in April 1986, is encased in a cracking concrete "tomb" and the second reactor was closed down after a 1991 fire. Officials said 8,500 nuclear workers had left Ukraine in the past two years for neighbouring Russia, where they can command up to four times the salary. The nuclear industry plans to start up three nearly completed reactors in the coming months. Umanets said the industry's safety record, under careful scrutiny since the disaster, was not under threat. He said 133 safety incidents had been recorded in 1994, compared to 167 the previous year. There had been 30 reactor shutdowns but no accidents under international definitions. The European Union, he said, had come a long way in meeting Ukraine's position on closing Chernobyl. "There is no longer the strident question of closing it immediately," he said. "We are working on three alternatives and one of them is entirely acceptable," he added, without giving details. Ukraine has said it cannot afford to close Chernobyl unless it receives several billion dollars from the West to develop its nuclear industry and provide other sources of energy. The European Union has pledged about $600 million in aid.
REUTER

Japan to review nuclear constructions standards

RTw 2/9/95 2:05 AM By Olivier Fabre TOKYO, Feb 9 (Reuter) - Japan is to review construction standards at all its nuclear plants because of last month's Kobe earthquake, a Science and Technology Agency official said on Thursday. "We have set up a panel which will seek to confirm that all nuclear reactors are fully earthquake-proof," the official of the Agency's nuclear safety department said. "Many people are worried that the ground under the reactors is not solid," he said. "As a rule, nuclear construction sites go through stringent geological examinations and have to adhere to tighter construction standards than other types of builidings. "Nevertheless, we are proceeding with the reassessments to

be extra sure," he added. Despite the assurances, some people remain sceptical about whether nuclear plants could survive a "direct hit" earthquake. "The answer is obviously 'No'," politician Kenichi Ohmae said earlier this week when asked whether he thought Japan's nuclear reactors were safe against all kinds of earthquakes. Ohmae, who was speaking at a press conference announcing he was running for governor of Tokyo, also holds a doctorate in nuclear physics. "The government sets its (construction) standards according to previous inputs, such as the Kanto Earthquake (of 1923)," he said. "But we have never tested power plants against seismic wave patterns we have never seen and the (Kobe) earthquake is something we have never seen." Ohmae's comments reflected apprehension across Japan. In the nation's worst post-war earthquake in Kobe last month, over 5,200 people died, hundred of thousands of homes crumbled and many parts of supposedly invincible highways snapped and fell over. Japan has 49 operating nuclear reactors which produce some 30 percent of the nation's electric needs. Most reactors were far away from the earthquake's epicentre last month. None reported any damage. The mayor of Tsuruga city, Fukui Prefecture, decided on Tuesday to freeze building permission at two nuclear reactors due to mounting earthquake concerns. Tsuruga is located in a nest of seismic faults about 130 km (80 miles) north of Kobe. Another mayor in the nearby prefecture of Niigata embroiled his town of Maki in a highly-publicised row when he dismissed on Sunday an overwhelming referendum against a projected nuclear power plant. According to the Maki Nuclear Power Citizen's Referendum Association, 9,854 ballots were cast against the site and only 474 were in favour. Maki town has about 22,000 eligible voters, the association's spokesman said. "Most people who voted against the reactor said they were afraid the plant would not withstand an earthquake the size of last month's tremor," she said. The Maki nuclear site is 50 km (30 miles) from Niigata city which was also hit by a major earthquake in 1964. According to the nationwide Citizen's Nuclear Information Center, the Kashiwazaki nuclear plant, in the same prefecture, is located near an active fault. "(The government) was wrong when it told us before that our elevated highways would survive undamaged the biggest of conceivable earthquakes," an anti-nuclear spokesman for Maki Town said. "Why should we believe them when they say the same thing about nuclear reactors."
REUTER

RUSSIA HEADING FOR DICTATORSHIP OR CHAOS-KOVALYOV

RTw 2/8/95 2:32 PM BONN, Feb 8 (Reuter) - Russian human rights commissioner Sergei Kovalyov said on Wednesday Russia was heading for chaos or dictatorship after the debacle of its armed intervention in Chechnya and the West must speak out louder. Moscow would soon try to convince the population that it had achieved complete military victory in its attempt to put down the independence bid of the Caucasian region, he told an invited audience during a two-day visit to Bonn. But Kovalyov, who has visited the Chechen capital Grozny under bombardment and is one of the most vocal opponents of military intervention, said people would not believe this. "We have the Soviet tradition that if people don't believe, they must be forced to believe," he said. "Some form of authoritarian power will be built up, there will be a catastrophic widening of the gulf between government and people and the country will probably sink back to the level we know from the last years of Soviet power," he added. "The other alternative would be chaos -- in a country which is packed with nuclear weapons, nuclear power stations and where the tradition is not of compromise but of seeking complete victory over your opponent." Kovalyov accused the West of mincing its words and failing to grasp the ramifications of instability in Russia. Western countries have mostly condemned Moscow's massive use of force against civilians while defending Russia's right to prevent secession. "The reactions of Western governments, including Germany, have been too limp," Kovalyov said. "In Moscow we're not used to that kind of vocabulary. You're too polite for us." "It just takes another Chernobyl to blow up in Russia and we won't need to worry about the lack of oxygen caused by the destruction of the Brazilian rainforest," he added. Kovalyov briefed Chancellor Helmut Kohl's top aide, Chancellery Minister Friedrich Bohl, and opposition leader Rudolf Scharping on the situation in Chechnya. Bohl said he and Kovalyov agreed that everything should be done to support democratisation, the rule of law and the market economy in Russia and so develop partnership with European institutions. On Thursday Kovalyov was due to meet Foreign Minister Klaus Kinkel.

STUDY FINDS RADIATION IN PETROL FUMES

RTw 2/3/95 1:50 AM (Release at 2359

GMT Feb 2) LONDON, Feb 3 (Reuter) - Petrol fumes, already linked with cancer, brain damage and asthma, could also be a source of dangerous radioactive particles, British researchers reported on Friday. In a report in the Lancet medical journal, Dr Denis Henshaw of the University of Bristol said he had found high levels of a radioactive pollutant known as polonium-210. "Our measurements show raised levels near motorways, both in the environment and in children's teeth," he wrote. "Our measurements of polonium-210 in air...confirm the presence of high levels near motorways, much of which is in gravitationally settled form, indicating that this component is attached to particulates." Henshaw said government officials already checking the effects of traffic pollution should consider the effects and sources of polonium. "We were astounded to find an association like this. It is the first time that variations of it have been seen in the human body," he said. British officials are debating whether to ban leaded petrol -- because the lead causes brain damage and cancer -- or ban unleaded petrol because it contains the carcinogen benzene. But Henshaw said they should also consider polonium in their investigations. "Polonium-210 in exhaust emissions can arise from several sources -- from leaded petrol itself or from its presence in oil as part of trace uranium-238 decay chain products," he said. Henshaw said the radioactive element was dangerous to people because it tended to attach itself to lead. "Lead-210 is a bone-seeker, and there is evidence that excess levels are found on bone surfaces, giving a higher potential for polonium-210 to irradiate bone marrow. "For soft tissues, higher levels of polonium-210 will be taken up by the liver and kidneys. Both lead-210 and polonium-210 can transfer to the foetus," he wrote. REUTER

RUSSIA-ENVIRONMENT

APn 2/2/95 3:12 PM By ANGELA CHARLTON Associated Press Writer MOSCOW (AP) -- Decades of negligence and years of economic instability have left Russia an ecological nightmare of contaminated soil, impure drinking water and unsound nuclear power plants. A state-funded report released Thursday said three-fourths of Russia's water is undrinkable and dangerous waste saturates 14 percent of the land -- an area that is home to more than a quarter of Russia's 148 million people. "There's no way to choose the worst environmental problem in Russia," said the study's director, Alexei Yablokov, an expert with the Russian Academy of Sciences and Russia's most prominent environmentalist. "It's a nightmare." The study, funded by the government's powerful Security Council and conducted by scientists around the country, covers 14 subjects, including soil erosion, radioactive waste, chemical weapons destruction and the effect of space research on the Earth's environment. It is the most scathing state-sanctioned research on Russia's environment yet, and was commended by environmental activists from Greenpeace, who have long clamored for international attention to Russia's ecological problems. "Our birth rates are dropping, infant mortality is up, people are dying younger," Yablokov said at a news conference Thursday. "Something must be done." One of the most insidious problems, he said, is radioactive waste, because it is so hard to trace. "It's unseen, unheard and doesn't smell," he said. "Every month, a new horror from our past reappears." But the most widespread danger is the declining quality of drinking water, Yablokov said. Bacteria in Russia's rivers and lakes have increased dramatically in recent years, rendering 75 percent of the water unsafe for drinking. The study also addressed poor safety at aging nuclear facilities. There were two accidents at nuclear plants in the former Soviet Union in the past week alone. On Sunday, a reactor at the Chernobyl power station in Ukraine was shut down after an alarm signaled trouble in a pipeline. On Tuesday, automatic safety systems shut down a reactor near St. Petersburg after plant operators mistakenly switched off a generator. No radiation was released in either accident. "We have an absolutely insecure, unacceptable level of nuclear safety," Yablokov said. Oil pipelines are another problem, with at least 700 major leaks a year, Yablokov said. At least 1.2 percent of the oil running through Russia's pipelines is lost, according to research by Yablokov and Greenpeace. Yablokov struck one promising note. Air pollution is down, he said, because of declining industrial production in recent years. Still, he warned, once the economy can support more production again, dangerous emissions will probably return.

KAZAKHSTAN-NUCLEAR ACCIDENT

APn 2/2/95 3:15 AM ALMATY, Kazakhstan (AP) -- A coolant pump developed a leak at a nuclear power station near the Caspian Sea, but a plant official said today that no radiation was released. The ITAR-Tass news agency reported that a small amount of radiation escaped at the Mangistausky power station near the city of Aktau. But Viktor Anikin, an

official at the plant, told The Associated Press the oil leak was "nothing related to anything radioactive. ... It does not even merit a zero" on the international scale of nuclear incidents. He expressed surprise at the ITAR-Tass report, which was based on an article in the Kazakh newspaper Karavan Bliz. Anikin said the accident happened on Dec. 23-24. Earlier this week, accidents were reported at two other nuclear facilities in the former Soviet Union, renewing concerns about the safety of the aging nuclear plants spread among the former Soviet republics. On Sunday night, the No. 3 reactor at the Chernobyl power station in Ukraine was shut down after an alarm signaled trouble in a pipeline carrying water used to cool the reactor in an emergency. No radiation was released. The reactor was restarted on Wednesday. Chernobyl was the site of the world's worst nuclear accident, the April 1986 explosion and fire at reactor No. 4 that spewed radiation over a wide area. On Tuesday, automatic safety systems shut down a reactor at a Russian station near St. Petersburg after plant operators mistakenly switched off a generator. No radiation was released. A Russian nuclear expert expressed concern Thursday about the safety of nuclear power stations throughout the former Soviet Union. "We have an absolutely insecure, unacceptable level of nuclear safety," said Alexei Yablokov, an expert on nuclear issues with the Russian Academy of Sciences. "The environmental risks are not only embarrassing, they are dangerous," he said. "This is a problem from our past, which won't go away if we just try to forget about it."

INDIANS-NUCLEAR

APn 2/1/95 4:15 PM By EDUARDO MONTES Associated Press Writer MESCALERO, N.M. (AP) -- Silas Cochise's red-rimmed eyes and subdued voice spoke volumes about the sense of defeat permeating Mescalero Apache tribal headquarters after voters rejected a nuclear waste storage site proposal. The proposal would have created a repository for tons of highly radioactive nuclear power plant waste on the south-central New Mexico reservation, and could have brought the tribe prosperity and jobs. "It was a real shock. I think the tribe will never get an opportunity such as this again," said Cochise, the tribe's manager for the project. His name is common among the Mescaleros, but he also is distantly related to the 19th century chief Cochise. Critics said the project was too dangerous to live with. Tribal members turned out in record numbers Tuesday, voting 490-362 against the plan. There were 1,200 people eligible to vote. Results weren't released until Wednesday because paper ballots had to be hand-counted. Approval would have allowed tribal leaders to form a partnership with 33 utilities around the nation to create a repository for at least 20,000 metric tons of highly radioactive spent reactor fuel rods. The rods now are mostly stored at nuclear power plants. Tribal leaders had said the facility would let them diversify the tribe's business holdings. The tribe now operates a ski resort, a cattle ranching operation and a sawmill, among other projects on its 461,000-acre reservation. Direct and indirect benefits to the tribe over the project's 40-year life could have reached $250 million, including lease payments and salaries. The facility would have created an estimated 150 direct jobs and 300 spinoff jobs, tribal leaders said, and overall revenue on and off the reservation was estimated at about $2.3 billion. Opponents were rejoicing Wednesday. "I'm ecstatic," said tribe member Rufina Marie Laws. "I don't know of any other word to use. The will and the voice of the people have been heard." Another opponent, Joseph Geronimo, a great-grandson of the Apache leader Geronimo, said he wasn't surprised by the outcome. "The Great Spirit spoke with me and I knew what was going to happen," he said. The project also was opposed by the area's Ruidoso Valley Chamber of Commerce and New Mexico's congressional delegation. The Apache voters who "took a stance against nuclear waste are real heroes," said Joan Bailey, executive director of the Chamber of Commerce. Bailey and others said they were afraid the radioactive waste could contaminate the area and drive away the tourists that are the economic lifeblood of much of the region.

ISRAELI NUCLEAR POLICY NOT A SUMMIT ISSUE - PERES

RTw 2/1/95 9:55 AM (Adds Peres, Moussa comments after Cairo meeting) By Howard Goller JERUSALEM, Feb 1 (Reuter) - Foreign Minister Shimon Peres said on Wednesday that Israel would not sign the global treaty against nuclear weapons and that Egypt agreed not to raise the issue at a four-way Arab-Israeli summit on Thursday. Returning from meeting President Hosni Mubarak in Egypt, Peres said it was understood this was solely an Israeli-Egyptian issue, and did not concern fellow Cairo summit participants Jordan and the PLO. "One understanding is that it is not an issue for four, but for two. That is to say, the NPT issue will not be raised tomorrow at the meeting," Peres told reporters.

Relations with Egypt had soured largely over Israel's refusal to sign the Nuclear Non-Proliferation Treaty (NPT) which comes up for extension in April. But he said Egypt now understood this policy was unchanged. "I believe this greatly broke up the clouds that had amassed in the relations between us and Egypt," Peres said of his meeting. Israel is widely believed to have nuclear weapons but has never confirmed or denied having them. "Israel will not sign the Nuclear Non-Proliferation Treaty for two basic reasons. The main reason is that Israel is the only country in the world threatened by other countries with destruction," Peres said earlier on Wednesday. "I mean mainly Iran, Iraq and to some extent also Libya. I don't see any reason why Israel must promise Iran, Iraq or Libya that they've nothing to worry about, that they can try to destroy Israel. We've no interest in that. Their fear, or their suspicion, is our deterrent," Peres said. "The second thing is we saw that even for those who signed the Nuclear Non-Proliferation Treaty, this signature isn't even worth the peel on a garlic," Peres continued. "I mean Iran signed, Iraq signed. Whoever deceives by signing isn't committed. What's the point?" The United States has said Iran has mounted a programme to produce nuclear weapons despite its being a signatory of the treaty and Iraq was doing so before the Gulf War destroyed most of its weapons production ability. Egyptian Foreign Minister Amr Moussa said in Cairo: "We need a region free from all weapons of mass destruction, particularly nuclear. We cannot accept the situation prevailing today that there is a nuclear programme, unknown, unaccounted for." "We are trying to solve the problem in a positive and effective way. I am sure there will be a step forward. I won't say a way out," Moussa said.
REUTER

BRF--Russia-Nuclear Plant

APn 1/31/95 11:38 AM SOSNOVY BOR, Russia (AP) -- Automatic safety systems shut down a reactor at a nuclear power station near St. Petersburg Tuesday after plant operators mistakenly switched off a generator, a news agency reported. No radiation was released and the reactor was not damaged, ITAR-Tass said. It was the second nuclear reactor to be shut down in the former Soviet Union due to operator error this week. Late Sunday, a reactor at the Chernobyl station in Ukraine was shut down by operators following a leak in a cooling system. Authorities said the Chernobyl operators were too hasty. At the Sosnovy Bor facility, the operators of reactor No. 3 mistakenly switched off two turbogenerators instead of one. This caused the automatic safety system to shut down the reactor, said Yevgeny Ignatenko, a vice president of Rosenergoatom, the agency that operates Russia's nuclear power plants. Initially, a plant official had blamed the incident on an electrical short circuit. The plant is 35 miles west of St. Petersburg. The station's three other nuclear reactors continued to operate as usual, ITAR-Tass said.

Environmentalists stab at British nuclear plant

RTw 1/31/95 8:40 AM By Maggie Fox LONDON, Jan 31 (Reuter) - Government-owned operators started up the Sizewell B nuclear power station on Tuesday after nearly 14 years of protests, debates and investigations, but environmentalists predicted it would be Britain's last. Critics say the station, which was only approved after an inquiry lasting 11 months, the longest ever, will cost too much and endanger the environment. Although operators Nuclear Electric put a jolly face on the opening, the government has not decided what future nuclear power has -- whether the 30-year-old industry should be privatised like other utilities, or even whether any more nuclear power stations will be built. And the focus of protests has shifted from the environmental stance, which stressed the difficulty of getting rid of spent nuclear fuel and fears of a Chernobyl-style accident, to the question of whether nuclear power is cost-effective. Nuclear Electric, the state-owned nuclear power generator for England and Wales, is upbeat about the station's future, saying it will be cleaner than those that use fossil fuels such as coal or gas, and speaking of plans for Sizewell C, which would be the nation's 36th nuclear power station if approved. A spokeswoman said it would be several weeks before Sizewell B's uranium-fuelled core reached full power and it started generating electricity. The 1,100 megawatt station, on England's southeast coast, is Britain's first pressurised water reactor. It will heat sea water to create steam, which will drive huge turbines to generate power for 1.5 million customers. Nuclear Electric says the 2.03 billion pound ($3.23 billion) station is the safest of its kind. "It is estimated that over its 40-year lifetime the station will prevent the emission of around 300 million tonnes of carbon dioxide," the company said in a statement. Carbon dioxide adds to the global warming now affecting the planet. But opponents say the station cost more than it is worth. The nuclear industry was left out of the Conservative government's sell-off of

the electricity sector because of fears about its commercial viability. Debate over whether nuclear power should be privatised or dumped was renewed with Tuesday's opening. "Sizewell B was over 750 million pounds ($1.2 billion) over budget," Greenpeace, the international environmental group, said in a statement. "Its electricity will be roughly twice as expensive as electricity produced by gas-fired stations." Greenpeace spokeswoman Bridget Woodman predicted: "Sizewell B will be Britain's last nuclear power station. With the government now refusing to invest in future construction, nuclear power has no future." Matthew Taylor, an opposition Liberal Democrat Member of Parliament, called the opening bad news and said: "It is high time the government admitted the problems associated with nuclear power and came clean on the true cost of the industry." REUTER

CHERNOBYL HEAD SAYS WEST NOT INTERESTED IN SAFETY

RTw 6/19/95 8:37 AM KIEV, June 19 (Reuter) - The G7 summit's failure to grant Ukraine more money to close the Chernobyl nuclear power station shows the West is not interested in its safe shutdown, the plant's director said on Monday. "This shows there is not enough interest in the West in the safe decommissioning of Chernobyl's reactors," Sergei Parashin said in a telephone interview. "Ukraine's plan cannot work without financing. If that is the case, we have to proceed with the modernisation of Chernbobyl's reactors so that it continues to function and produce electricity which can be sold." Leaders of the top seven industrialised countries, meeting last week in the Canadian city of Halifax, offered Ukraine no new funds to close Chernobyl, site of the world's worst nuclear accident in 1986. Instead they urged international financial institutions to offer more aid to help meet Ukraine's target of closing the station by the year 2000. The G7 countries offered $200 million in aid at last year's summit. Ukraine says the shutdown of two reactors and building gas-fired units to replace them will cost up to $4 billion. Ukrainian officials have repeatedly said they cannot honour the pledge to close the station if no financing is forthcoming. Parashin repeated his contention that Chernobyl had the best safety record among Ukraine's five nuclear power plants and could continue to function for 16 years. He also reiterated suggestions that the costs of closure could be shouldered by Ukraine and 18 other states in G7 and the European Community -- each providing about $200 million. "Governments must make the decisions required," he said. "Don't tell me that large countries like the United States and Germany are unable to come up with a sum like $200 million each."
REUTER

KOHL SAYS G7 HAS CLEAR AGREEMENT ON CHERNOBYL CLOSURE

RTw 6/17/95 1:39 PM HALIFAX, Nova Scotia, June 17 (Reuter) - German Chancellor Helmut Kohl said (on) Saturday the Group of Seven industrial nations had a clear agreement with Ukraine on the timetable for the closure of its Chernobyl power station. Asked whether the closure would be on the agenda at a special nuclear summit meeting planned for next spring in Moscow, he told reporters after a G7 heads of state summit, "We have a clear agreement on Chernobyl. We do not need (the Moscow meeting) for that." Ukraine has pledged to close the remaining reactors of the Chernobyl nuclear power station, which suffered a near meltdown in April 1986, by 2000. It had called on the G7 to provide an extra $4 billion of funds to pay for closing the plant and building a new one. In its economic communique released (on) Friday, the G7 promised Ukraine an extra $2 billion linked to economic reforms but offered no new funds for Chernobyl beyond $200 million promised last year in a G7 summit in Naples, Italy.

U.S. BACKS YELTSIN'S CALL FOR NUCLEAR SAFETY TALKS

RTw 6/17/95 1:05 PM HALIFAX, Nova Scotia, June 17 (Reuter) - The United States on Saturday strongly supported Russian President Boris Yeltsin's call for a meeting in Moscow on nuclear safety next year. "This is something we warmly welcome," deputy U.S. National Security Adviser Samuel Berger told reporters at a briefing on results of the Halifax Group of Seven industrial nations heads of state summit. He said the smuggling of nuclear bomb-making materials, which has increased as a result of the breakup of the Soviet Union, raised the prospect of nuclear terrorism and was "one of the most serious threats to security we face." Yeltsin did not propose a date for the meeting or offer any other specifics beyond saying it should take place in Moscow and be at a high level, Berger said. "We think it's a good

idea. I think President Clinton would like to attend, but obviously that will depend on the timing," the White House official said.

Uranium Plant-Study

APn 6/15/95 10:43 PM CINCINNATI (AP) -- Body parts tested more than 30 years ago to measure radiation at a federal uranium processing plant were probably taken without family consent, according to government reports released Thursday. Nonetheless, the tests at the Fernald plant were legal at the time under powers given to county coroners, according to General Accounting Office and U.S. Atomic Energy Commission reports released by Sen. John Glenn, D-Ohio. The tests were performed on 11 workers who died between 1956 and 1963 and compared to tests on body parts of 11 nonemployees to determine radiation levels. The researchers also wanted to determine whether radiation caused the death of the Fernald workers. The study concluded it did not. GAO investigators said they did not find consent forms signed by any families of nonemployees permitting researchers to take body parts, or documents signed earlier by the deceased. However, radiation studies were new at the time, and there were no generally accepted standards for informed consent. The National Lead Co., which used to operate the plant, said in a September 1963 report that it had legal authority to examine some tissue obtained from county coroners, who have wide authority over autopsies. Glenn and Rep. John Dingell, D-Mich., last year asked the GAO to review and report on all government radiation studies that had been conducted since the 1940s but not released by the Energy Department. "Allegations such as body-snatching and misuse of human remains have even been associated with such experiments," Glenn said. "I think the truth should also come out about these tissue studies." Uranium was processed for nuclear weapons at the Fernald site, 20 miles outside Cincinnati, from 1951 until July 1989. The plant, owned by the Energy Department, was operated by National Lead under a government contract from 1951 to 1985.

Blast threw nuclear waste onto Scots beach-report

RTw 6/14/95 11:57 AM LONDON, June 14 (Reuter) - A team of experts investigating radioactive pollution at a Scottish beach said on Wednesday that government agencies had kept vital information from them. The experts, themselves appointed by government, said an accidental explosion at the Dounreay nuclear research facility had blasted radioactive waste onto local beaches. The mess, evidently untouched since the accident in 1977, would take 20 years to clean up and cost as much as 500 million pounds ($800 million), they said in a report. The health department's Committee on the Medical Aspects of Radiation and the Radioactive Waste Management Advisory Committee had been jointly investigating both the pollution and evidence of "clusters" of leukaemia cases around Dounreay. They found no evidence radiation was responsible for cases of leukaemia around Dounreay, on Scotland's far northern shore. But Sir John Knill, former chairman of the Radioactive Waste Management Advisory Committee, said his group had been given inadequate information. "They were not given the information that they needed," he said in a telephone interview. Knill said he did not know if this was done deliberately. But he added: "There has been since 1984 a continual release of these radioactive atomic particles onto the beach at Dounreay. "They are continuing to come on the beach and no action has been taken to stop them coming on the beach." According to the committee's report the explosion, hurling particles of irradiated reactor fuel over the beach, occured when Sodium and potassium reacted with water in a deep waste disposal shaft. The shaft was capped with concrete, but the waste started leaking out soon afterwards. Knill said the beach was not badly affected now, but he called for an urgent study into how to clean up the shaft. The Scottish Office, responsible for the government regulatory agencies that Knill said withheld information, welcomed the report without commenting on the criticisms. REUTER

Ukraine may not shut Chernobyl if no G7 aid

RTec 6/14/95 9:47 AM By Yuri Kulikov KIEV, June 14 (Reuter) - Ukraine warned the West on Wednesday ahead of a Group of Seven summit

that it would revoke a pledge to shut down the Chernobyl nuclear station if the world's richest countries failed to finance its closure. "If we do not obtain this assistance, and cannot resolve the issue of closing Chernobyl, Ukraine will be forced to... reconstract the reactors at the Chernobyl station," Volodymyr Gorbulin, secretary of the powerful Security Council, told a news conference. The G7 industrial nations, opening their summit in Halifax, Canada, on Thursday, are due to consider Kiev's request for help to close the station. Ukraine promised in April to shut the ill-fated plant by the year 2000. President Leonid Kuchma had stated many times "that we cannot economically and financially settle the Chernobyl problem independently," Gorbulin said. "We will react respectively to the decision which is taken, or not taken, in Halifax," he added. Ukrainian officials estimate the cost of closure at about $4 billion. Some Western nations are doubtful such a sum could be found. A German goverment source said earlier this week that Ukraine should not expect more than the G7 pledge made to Kiev at the Naples summit last year. That summit approved $200 million for closure of the plant. But Canada, a big defender of Ukraine's intrests in the West, said on Tuesday that it fully backed Kiev's request for financial aid from the Group. "I believe the G7 will respond positively to this request," Canadian Foreign Minister Andre Quellet said in Montreal. Ukraine's First Deputy Foreign Minister Borys Tarasyuk said Kuchma had sent a letter to Canadian Prime Minister Jean Chretien laying out Ukraine's position on Chernobyl. Ukraine has promised to replace Chernobyl with a conventional power plant just nearby it. A memorandum with a western consortium to plan the construction of a gas-fired electricity plant was signed last month. Another priority is replacing the the cracking "tomb" which covers the plant's fourth reactor which blew up in April 1986. Kiev stresses that financing must come in the form of grants, not credits which must be paid back. Gorbulin said Kiev hoped to receive an invitation for the Halifax summit. Some Ukrainian officials say privately that Kiev is frustrated with the fact that Russian President Boris Yeltsin is attending the Halifax gathering. REUTER

G7 likely to appoint official on Chernobyl

RTec 6/13/95 3:36 AM OTTAWA, June 12 (Reuter) - The G7 is likely to appoint a representative to deal with Ukraine's request for billions of dollars of assistance to replace the Chernobyl nuclear power station, a Canadian official said on Monday. That decision would be made at the annual summit of the G7, the Group of Seven industrial nations, in Canada's eastern city of Halifax this weekend. But the G7 will not be putting up any cash at the meeting. "There will be no money committed by the G7 in Halifax," said the official, at the Foreign Ministry. Canada is this year's chairman of the G7, and also heads a G7 nuclear safety working group. The Ukraine submitted to the group, as well as the World Bank and the European Bank for Reconstruction and Development, a request on May 15 for $3.1 billion to build a conventional power plant, the official said. It hopes to be able to critique that proposal by July and review Ukraine's broader energy sector by the autumn. A G7 representative would discuss these questions with Kiev. In April Ukraine announced the decision to close Chernobyl -- which suffered a meltdown in 1986 -- by 2000 provided financing was provided. It has indicated it would keep it running if not. "The G7 certainly recognises the decision to decommission it," the official said, but added: "The conditions are very expensive and need further analysis." Under the Ukrainian proposal, the money would be in the form of a grant, and the government would use electricity revenues to build a permanent sarcophagus for the reactor that melted down, he said. The G7 groups the United States, Britain, France, Germany, Italy, Japan and Canada. REUTER

NY's Nuclear Power Plant may reopen

UPn 6/12/95 3:30 PM NEW YORK, June 12 (UPI) -- The New York Power Authority asked the Nuclear Regulatory Commission Monday for permission to restart New York's Indian Point 3 Nuclear Power Plant. The plant has been plagued by mishaps and violations and fined seeactor in 1993 to fix equipment and make other modifications ordered by the NRC before it could resume operation. In a letter to the NRC, dated Monday, the Power Authority claimed it has "implemented corrective actions and conducted a comprehensive self- assessment program to verify the effectiveness of those corrective actions." It added that with federal approval, the plant could resume operation by approximately June 21. Among the corrective measures were actions to resolve management issues that the Power Authority concedes "contributed to the decline in performance" at the plant. The Power Authority also said it corrected the plant's alarm response procedures, its ventilation and temperature control system and other technical matters, as well as put into place a "Continuous Improvement Plan." The

power plant, located in Buchanan, N.Y., about 25 miles north of New York City, had provided electricity to about 80 government and municipal agencies in Westchester and New York City before it was shut down. Indian Point has been fined several times since it began running, including a $75,000 fine levied by the NRC in September 1988 for violations involving electrical equipment at the plant. In August 1980, Indian Point was fined $11,000 after two workers were slightly exposed to radiation. In March 1982, an "unusual event," the lowest level of emergency, was declared when radioactive water leaked out; the plant was then temporarily shut down and 13,000 tubes were discovered to have holes in them.

Chernobyl's Casing Is Breaking Apart; 1986 ...

WP 6/11/95 11:00 PM Chernobyl's Casing Is Breaking Apart; 1986 Nuclear Accident Site Poses Expensive, Long-Term Problems By James Rupert Washington Post Foreign Service CHERNOBYL, Ukraine -- Standing in a parking lot of the Chernobyl Nuclear Power Plant last month, Pavel Pokutny gazed at the gray, 20-story concrete tomb that protects the outside world from the radioactive corpse of a destroyed nuclear reactor. "It looks pretty decent," said Pokutny, a deputy director of the Ukrainian agency that maintains the tomb. "We just painted it three months ago. Of course, it has about 300 square yards of cracks and holes in it -- and the paint can't seal those." Nine years after Chernobyl's Reactor No. 4 exploded -- irradiating most of Europe and points as distant as California -- the tomb encasing it is deteriorating faster than expected, and radiation is seeping into the air and water. Ukrainian and Western scientists say it could collapse in a severe earthquake, releasing radioactive dust. And they remain concerned about inadequate safety at Chernobyl's remaining two working reactors. In Canada this week, President Clinton and leaders of the United States' closest allies will discuss whether to provide extra help that Ukraine is seeking to close Chernobyl by 1999 and pursue a final cleanup. Last year, the United States offered this economically depressed nation $38 million in grants as part of an $800 million international package to help pay for the project. But as plans to clean up Chernobyl take shape this spring and summer, the aid offered so far could represent little more than a down payment. Preliminary studies, scientists and officials here suggest that Chernobyl will be the longest, most high-tech and expensive environmental cleanup the world has attempted -- costing billions of dollars and taking perhaps 100 years to complete. Emerging plans call for a giant, double-hulled shell to be erected as much as 25 stories high over the reactor, its tomb and adjacent buildings. Inside, a work force of robots would break through the tomb and, in an atmosphere poisonous with radiation, spend decades removing a virtual mountain of waste. No one yet knows exactly how or where it would be stored. "Toxicity and radioactivity . . . will remain for hundreds of thousands of years," said a summary of a preliminary study on the cleanup. "The containment of such debris for such periods is well beyond current knowledge and experience," said the summary, which was funded by the European Union and released in March. As governments, engineering firms and construction companies begin to spend serious money on the still-embryonic project, the main questions remain unanswered: How dangerous is Chernobyl to the world at large? How much will it cost to eliminate the dangers? The summary report released by the European Union said the tomb "is not stable and collapse may occur" in a severe earthquake or "any other major natural events." It also said the building adjacent to the destroyed reactor -- a tall structure topped with a chimney and called "Block B" -- could collapse in an earthquake measuring 6 or 7 on the Richter scale. That would likely cut off cooling systems to Reactor No. 3, which flanks Block B to the east, risking a meltdown in its core and a catastrophe similar to that of 1986. Northern Ukraine suffers few earthquakes, and such a severe one is seen as highly unlikely. The report does not specify what other "major natural events" might cause the tomb to collapse. The European Union has kept the main study secret and barred its authors, a French-led consortium called Alliance, from speaking about it. Officials at EU headquarters in Brussels did not respond last week to requests for clarifications on the report. The European Union's secrecy "is a great mistake," said Georgiy Kopchinsky, a former safety official at Chernobyl who now heads a nuclear safety consulting firm in Kiev. "There are serious dangers at Chernobyl -- first the sarcophagus and then the operating reactors," said. The EU-funded study "presented data that already was known," he said. "But keeping it a secret naturally makes people fear that something new is wrong." The Soviet Union's coverup of the 1986 accident has left people in this region suspicious about official secrecy surrounding the plant. When Reactor 4 erupted in the early hours of April 26, the Soviet government hid the threat. As dangerous doses of radiation fell across the countryside here, many Ukrainians first learned of the risks from Polish radio broadcasts. Soviet authorities delayed evacuating residents from around Chernobyl, subjecting thousands of people to doses that since have ruined their health. Popular rumors in Ukraine about new accidents at Chernobyl are routine, some fueled by incidents at the plant and some apparently spontaneous. "People are very sensitive," Kopchinsky said. "Information about the conditions at Chernobyl now should be open." According to Kopchinsky and other specialists, most of the risks at Chernobyl threaten the nearby regions of Ukraine and Belarus -- and not the continent-sized territory that was irradiated in 1986. The radioactive plume that spread over Europe

in 1986 was spewed out by a nuclear fire that burned for 10 days. But "if the tomb collapses, the cloud of dust would be more momentary and passive . . . and would fall more quickly around the plant," said Patrick Michaille, director of the Kiev office of Riskaudit, a French-German nuclear safety consulting firm. In theory, a collapse of the tomb could cause a small explosion, Michaille and the EU report said, based on the tiny possibility that it concentrated a critical mass of nuclear fuel and water together. But this would be more like a fizzle than a nuclear bomb -- "a low-speed fission that would cause dangerous radiation only in or around the building," Michaille said. Numerous studies and all those interviewed said that Reactors 1 and 3 at Chernobyl remain far below Western safety standards but that risks of another accident have been vastly reduced. The system of control rods, which shuts down the nuclear fission in case of danger, has been redesigned to eliminate a flaw that contributed to the 1986 explosion. More control rods are kept in the reactor cores as a routine measure, and the fuel is more enriched to make it more stable. But many design flaws cannot be eliminated. Viktor Poiarkov, who directs the training of Ukraine's reactor operators, said it has been difficult to keep enough qualified people on staff at Chernobyl. Many are hired for better salaries in Russia "and most important, the decision to close Chernobyl means they see no future for themselves here," he said. "We also have difficulty getting enough spare parts," which must come from Russia, Poiarkov said. Rather than a catastrophic collapse of the tomb or a new nuclear accident, "the greatest problem in the long term" is "the movement of [nuclear] contamination by underground water," said a report released in April by the French government's Institute for Protection and Nuclear Safety. While large sums are being spent by the European Union and others to assess the tomb's condition, "no equivalent has been undertaken concerning the risks of underground contamination," the French institute said. Water under the Chernobyl station moves slowly through a zone of contaminated soil, picking up radioactive particles and carrying them toward the Pripyat River, only a few hundred yards away. Also, a layer of radioactive silt lies on the bottom of the plant's 8.5-square-mile cooling pond and risks contaminating the river in the same way. After the 1986 disaster, Soviet officials "began building a series of underground walls to block the flows," said Bogdan Iassinetsky, a safety specialist with Riskaudit. But the walls began raising the water table under the station, risking the flooding of basement galleries that contain pipes and cables servicing the operating reactors. "So they stopped building the underground walls," Iassinetsky said, and migration of radiation continues. Kopchinsky said monitoring of wells around the plant does not show dangerous levels of contamination being moved toward the river, but the French institute stressed that data about the problem are insufficient. The few scientists who enter the highly radioactive tomb say it is a dank, dark cavern full of rubble. Its steel girders are corroding from the moisture of sprinklers used to suppress dust, and are slowly becoming brittle from the years of radioactive bombardment. But with the cracks and holes, "you can see sunlight [from] inside," said Harvey Meieran, an American executive interviewed by a Ukrainian-American newspaper after visiting the structure in 1993. "Birds can fly in. Dust can get out," he said. As plans take shape for dealing with Chernobyl's web of environmental dangers, the centerpiece is a high-tech containment vessel to encompass the tomb, Block B and much of the building of Reactor 3. If that reactor is shut down in 1999 as the Ukrainian government proposes, the Alliance consortium suggests that the structure could be built by about 2004. The building probably would be in the form of a giant dome or cube. Waterproof walls and concrete foundations would be sunk to an impermeable clay layer 70 to 90 feet below the Chernobyl station. The containment hull would likely consist of two walls of concrete, stitched together by a steel frame. It would have air locks for personnel and vehicles, and an attached nuclear-waste treatment facility. High above the reactor building, in the ceiling of the containment vessel, would hang a massive crane, capable of lifting 170 tons. Inside, the electrically powered robot machinery -- wrecking balls, bulldozers and dump trucks -- would begin digging through the tomb and its debris, releasing poisonous radiation into the atmosphere of the containment. High pressure maintained in the gap between the container's twin hulls would prevent radioactive air from seeping out. Workers would sit in a control center, watching the work on television monitors and directing the robot machines to dig first toward the most poisonous debris -- an estimated 200 tons of uranium nuclear fuel, some of it still molten. Radioactive debris would be sorted and given at least preliminary treatment to permit its transportation for storage. Chernobyl will generate a virtual mountain of waste -- 840,000 cubic meters, according to the preliminary report -- enough to cover a city block to a height of 150 feet. The Chernobyl waste will multiply by many times the scale of the world's present nuclear-waste storage problem. Nations using nuclear power already have too little capacity to store the waste fuel they will generate in the coming century. The Alliance report notes only that the Chernobyl area "cannot be considered as an acceptable site . . . due to unfavorable geological conditions." Alliance offers no proposal yet on how to store Chernobyl's waste or where. But perhaps the biggest question not yet answered is the cost, for which "it has not been possible . . . to produce an estimate," the Alliance report said. The only consistency in guesses at the cost -- by scientists and Ukrainian government officials -- is the phrase "billions of dollars." Ukraine's nuclear energy chief, Mikhail Umanets, said last month that the first 30 years of a cleanup -- through about 2030 would cost perhaps $10 billion. Kopchinsky suggests that, as the cleanup plan evolves, officials will have to pay more attention to cutting back parts of it.

Alliance projects the immense size of the containment vessel in part because it judges the tall Block B building unstable in an earthquake. "I think they should examine reinforcing Block B against earthquakes -- and then building a smaller containment for the cleanup," Kopchinsky said. "Alliance has done technically serious work," he said. But with all Western governments tightening their budgets, and especially given Congress's effort to slash U.S. foreign aid, "we know we cannot expect as much help as we will need," Kopchinsky said. Copyright 1995 The Washington Post

Chernobyl-style nuclear threat feared in Florida

RTw 6/11/95 11:32 AM Copyright 1995 Reuters Ltd. All rights reserved. The following news report may not be republished or redistributed, in whole or in part, without the prior written consent of Reuters Ltd. By Jim Loney MIAMI, June 11 (Reuter) - The revival of a dormant nuclear power plant project in Cuba has sparked warnings by some politicians of a potential Chernobyl-style radiation threat to nearby Florida. While the politicians and nuclear experts disagree on the magnitude of the danger, they agree that the plant, designed to outmoded early-1980s Russian safety standards, poses a threat to the health of Cubans and possibly Americans. Construction of the two nuclear reactors at the Juragua power plant in Cienfuegos, 160 miles (250 km) from the Florida Keys, was suspended in 1992 following the Soviet Union's collapse. But last month, Russia announced it would form a global consortium to generate $800 million to finish the plant, Cuba's only nuclear power facility. "This is a potential Chernobyl right in our back yard," said Miami Republican Representative Ileana Ros-Lehtinen, who along with fellow Cuban-American Representative Lincoln Diaz-Balart has called on the White House to pressure Russia to halt the project. Chernobyl, a city in Ukraine in the former Soviet Union, was the site of the world's worst nuclear reactor accident in 1986. Ukraine has estimated thousands of people have died as a result of the accident, which occurred when the core of a reactor overheated causing an explosion and fire. "These plants should not be allowed to be put into operation," said Diaz-Balart, a Republican and a leading activist against Cuban President Fidel Castro. Russian officials have said Juragua, which could save cash-strapped Cuba 5 million tons of crude oil a year, can be up and running by 1997. While the experts disagree over the level of radiation threat posed by the plant, they agree its design and construction are not up to international standards. "This is not a Chernobyl-type concern," said Dr. Nils Diaz, professor of nuclear engineering at the University of Florida. "We do have serious reservations regarding the present design and the present construction." The Juragua plant, whose reactors are similar to many in the United States, has a "significant margin of safety," Diaz said. But its containment system contains a design flaw that "has not been cleared up." A 1992 report by the U.S. General Accounting Office said there is evidence of poor construction at the plant, citing testimony from former Juragua workers who raised concerns about shoddy installation of cooling pipes, bad welds and improper storage of equipment at the seaside plant during the building hiatus. "We have concern that the equipment for the reactor ... was actually left outside under a plastic tent, instead of being properly warehoused," Diaz said. Manuel Cereijo, an electrical engineering professor at Florida International University who has documented the testimony of former Juragua workers, said the plant does not have properly trained workers. "I do not believe Juragua is safe. Cuba does not have the ability to operate such a plant," he said. U.S. government studies show prevaling weather patterns would bring radioactivity to Florida, and eventually much of the Eastern seaboard, within days of a catastrophic reactor failure at Juragua. "It's not a type of hazard that would create people dying," Diaz said. "But a cloud of radioactivity could create a climate of fear. People might not come to Florida, might not buy our milk or vegetables because a radioactive cloud went by." REUTER

Report boosts proposd nuclear dump

UPn 5/11/95 7:39 PM WASHINGTON, May 11 (UPI) -- A report commissioned by the U.S. Interior Department concluded Thursday that a proposed low-level nuclear waste site in California's Mojave Desert would pose little threat to the nearby Colorado River. The National Academy of Sciences study said waste from the dump was "highly unlikely" to contaminate ground water, but suggested further steps be taken to improve safety if the dump is approved. U.S. Interior Secretary Bruce Babbitt commissioned the report to investigate concerns the proposed waste dump in the California desert would contaminate the nearby Colorado River, a major source of drinking water for the region. George Thompson, chairman of the committee and a geophysics professor at Stanford University, said the area geology made it unlikely nuclear waste would seep into ground water and make its way to the river, 19 miles away. Should any plutonium reach the river, the report said it would be "insignificant" and not pose a health threat. While the findings provided a boost for US Ecology, the company that would operate the dump, it also called for further study and safety steps to prevent any problems with the site in

Ward Valley. The academy said the plan should include more monitoring wells, scrap a proposal to relocate endangered desert tortises from the region and find another approach, and improve design of the covered trenches that would hold the waste. In an unusual event, two of the 17 commissioners issued a dissent to the report and said more information was needed before drawing a conclusion about water safety. Babbitt thanked the group for its work and said he would take a serious look at the findings. "I have repeatedly said that my decision on the transfer of this site will be grounded in law and sound science," Babbitt said. "I look forward to reviewing this report in detail." Babbitt has delayed tranfer of the federal land to state hands until the environmental issues are resolved. Opponents of the project have also halted the licensing of the dump in the courts. Daniel Hirsch, president of the Committee to Bridge the Gap, called the findings "nutty and irresponsible," and said the dissent of the two commissioners amounted to a "hung jury." "We don't execute people when a jury is deadlocked and here there are thousands of people whose lives are at stake," Hirsch said. "What US Ecology needed was a clean bill of health and instead what they got was a divided commmittee." Gov. Pete Wilson embraced the report and said the Clinton administration should move ahead with transfer of the 1,000-acre site. "The NAS report clearly shows that there is no risk to the public from the Ward Valley site," Wilson said. If approved, the site would accept about 5.5 million cubic feet of nuclear waste over the next 30 years.

U.S. Eskimos seek $428 million for radiation test

RTw 5/10/95 9:21 PM ANCHORAGE, Alaska, May 10 (Reuter) - A local Alaskan government body has filed a $428 million claim against four U.S. federal agencies on behalf of 70 Inupiat Eskimos exposed to radiation in 1950s government medical experiments, officials said Wednesday. Alaska's North Slope Borough, the local government district for an area north of the Brooks Range, filed the claim against the U.S. Air Force and U.S. Interior, Energy and Health and Human Services departments. In the experiment, conducted from 1955 to 1957 to examine thyroid functions in severe cold weather, Eskimos, Athabascan Indians from Interior Alaska and some white Army soldiers were given doses of radioactive Iodine 131. Because of secrecy around the Cold War experiment, some of the participating Inupiat Eskimos of Arctic Alaska -- who spoke little or no English at the time -- did not even know about the study, borough officials said. "Some of these people didn't even know they were part of a scientific study," borough mayor George Ahmaogak Sr. said in a statement released Wednesday. "This is a shameful episode in the history of federal government relations with our people," he continued. "Innocent people may have died before their time. Others may have contracted serious illnesses, and those who are still healthy have to live with the fear of cancer or some other disease from that radiation." Of the 79 affected North Slope Borough residents, 32 are still living, borough spokesman David Harding said. For the others, the borough is seeking compensation for their survivors and estates, Harding said. REUTER

O'Leary-Nuclear Cleanup

APn 5/10/95 6:02 PM By H. JOSEF HEBERT Associated Press Writer WASHINGTON (AP) -- Energy Secretary Hazel O'Leary warned Wednesday that deep cuts in the nuclear waste cleanup budget contemplated by some members of Congress would severely hinder efforts to protect public health and safety. O'Leary said in an interview with reporters she is particularly concerned about a proposal to slash as much as $1 billion from the department's proposed $6.6 billion nuclear weapons cleanup budget for next fiscal year. It was unclear how much support such reductions have on Capitol Hill. O'Leary said it appeared that the Senate might be prepared to go along with the department's proposed budget. Rep. Duncan Hunter, R-Calif., chairman of the National Security subcommittee on military procurement, has talked of cutting the cleanup program by as much as 20 percent. The subcommittee has jurisdiction over the scope of the program, although it does not specifically deal with the budget or appropriations. Other lawmakers have raised questions about the administration's proposed $6.6 billion cleanup budget, a $600 million increase over this year's spending. O'Leary has defended the increase as necessary because the program is expanding as facilities are shifted from weapons production to cleanup. She said the money also is needed to set the groundwork for future savings. The administration anticipates $4.4 billion in cleanup savings over the next five years. The cleanup program also has strong defenders in key committees and among lawmakers from areas of the country that have major DOE nuclear weapons facilities. Nevertheless, O'Leary is worried enough about the potential for cuts that she wrote Duncan earlier this week outlining her concerns. "Underfunding the

(cleanup program) by a billion dollars would seriously undermine public confidence in the government's commitment to protect the public health, safety and environment," O'Leary wrote. She said such deep cuts "cannot be absorbed merely by efficiency improvements or by cutting overhead." "We've come as close to the bone here (as possible). Everybody living in the 35 states where our sites are located would join in that conclusion," she said told reporters Wednesday when asked about the letter. If spending were to be reduced 20 percent, the department might be unable to deal with some high risk cleanup problems and may not meet legally required cleanup goals established in agreements with states and the Environmental Protection Agency, she said. In breaking down the impact of a $1 billion budget cut, the department said virtually every facility in 35 states would be affected. According to the DOE analysis, among the facilities that would face the largest additional cutbacks would be: the Savannah River site in South Carolina, $194 million; the Hanford site in Washington state, $171 million, and the Rocky Flats facility in Colorado, $90 million. These facilities face some of the most complex and widespread cleanup challenges left over from weapons production during the Cold War. The department has estimated the cleanup will take 50 to 75 years and cost between $230 billion and $350 billion.

Radioactive Chickens

APn 5/6/95 2:21 AM By BRUCE SMITH Associated Press Writer CHARLESTON, S.C. (AP) -- Raising chickens on land contaminated by radiation would be cheaper than cleaning up the sites and could provide a source of safe, inexpensive food, a study suggests. A team of researchers at Savannah River Ecology Laboratory has been studying chickens foraging at the Savannah River Site nuclear weapons plant near Aiken. Computer simulations developed by the scientists showed that certain types of poultry, in this case a strain of the small, domestic bantam chicken, have a high metabolism that reduces radioactivity in the birds as they grow. Chickens foraging in contaminated areas could be taken to a processing plant off the site and fed uncontaminated food, the study suggests. The radioactive material would pass from their systems and, in about 10 days, the meat and the eggs would be fit for human consumption. The scientists say using the contaminated land to raise chickens may make more sense than the costly job of reclaiming contaminated sites. "Alternative agricultural practices have the potential to return many contaminated areas to productive use," said Dr. Eric Peters, on his way Friday to present the research findings to an international symposium in Austria. However, the processing facility would have to come up with a way to dispose of the radioactive manure. Peters said the potential risks of such a project should be evaluated, especially given that thousands of farmers are still using contaminated land near the Chernobyl nuclear plant in the Ukraine. While the idea may work in theory, it probably would be hard to sell to American consumers, said Peter Skewes, a poultry specialist at Clemson University in Clemson. "If you walked into the grocery store and saw two family packs of legs and quarters and one had a radioactive emblem on it, which would you buy?" Skewes asked. Skewes noted there already has been some consumer resistance to buying chicken treated with radiation to kill bacteria. "If the consumer is not ready for that, they are certainly not ready for chickens who have been exposed to a radioactive site," he said. "The image problem would be terrible." But I. Lehr Brisbin, one of the researchers on the project, said that while some Americans have the luxury to choose, many in the world are hungry and don't. "If that meat is cheaper and you call it radioactively cleaned meat and you put it on the shelf for half price, I bet people in this country would eat it," he said.

Russia-Nuclear

APn 5/5/95 11:31 PM By JOHN DIAMOND Associated Press Writer WASHINGTON (AP) -- With its conventional force in decline, Russia increasingly looks to its formidable nuclear arsenal as the keystone of its defense, according to Sen. Sam Nunn. The move does not yet translate into a renewed Cold War, the Georgia Democrat said Friday. But it presents a new worry for President Clinton as he prepares for a Moscow summit next week, where arms control is on the agenda. "Their demoralized military and conventional forces having gone down very, very substantially, I think they're going to move to rely almost predictably, more and more on nuclear weapons," Nunn said at a hearing on future U.S. military strategy and planning. "I believe a few months from now our intelligence community will be reporting to us ... (that) their doctrine is going to be changing because of the weakness in (Russian) conventional forces," Nunn said. Pentagon officials have been watching Russian nuclear policy closely for more than a year. In November 1993, Russian President Boris Yeltsin adopted a new military

doctrine that for the first time declared his willingness to use nuclear weapons if Russia or its allies were attacked with conventional weapons. Andrew Marshall, the Pentagon's top official in charge of military force assessment, said in a brief interview after the hearing that the new Russian doctrine "showed, I think, some retreat at least on the part of the military, arguing that they could not give up first use and that sort of thing." Since then, Russian ground forces encountered severe difficulties suppressing a revolt in Chechnya, its own defense budget has come under severe strain, and the possibility of an eastward-expanding NATO has drawn increasing criticism within Russia. The remarks by Nunn run counter to the general Clinton administration view being conveyed in advance of the Moscow summit. While the meeting is expected to include some contentious issues, such as the proposed sale of Russian reactors to Iran, the administration is touting the cooperation it is receiving from Russia on the dismantling of nuclear weapons. On Thursday, the Russian Defense Ministry's No. 2 official toured Capitol Hill, meeting with lawmakers in support of the so-called Nunn-Lugar program, coauthored by the Georgia senator and Sen. Richard Lugar, R-Ind., which provides U.S. aid for Russian nuclear dismantlement. But others see worrisome trends. Dunbar Lockwood, a researcher at the Arms Control Association, a private nonprofit group, said the expected Senate ratification of the 1993 Strategic Arms Reduction Treaty may not be matched by ratification in the Russian legislature. Hard-line elements in the military and the legislature argue that with NATO likely to expand toward its borders and with an economically vibrant China modernizing its military, this is no time to further disarm. "Chechnya has just underscored that perception that the Russian military is not what it once was and may have been overrated to start with," Lockwood said. Russian troops have been battling separatists in the Caucasus region of Chechnya. START II calls on the Russians to dismantle some of their most modern multi-warhead missiles, a move criticized by some hard-liners in Russia. Bill Lee, a former Defense Intelligence Agency analyst, said that even before the 1993 defense posture statement, Russia considered the use of nuclear weapons as a viable part of its war-fighting strategy. He agreed that with conventional forces in disarray, reliance on nuclear forces could be increasing. "They are paranoid people," Lee said. "It's very hard to convince Westerners of that."

EQUATION FOR SUCCESS;NRC'S INCOMING CHIEF IS NO ...

WP 5/3/95 11:00 PM Equation for Success;NRC's Incoming Chief Is No Stranger to the Challenges She Faces By Daniel Southerland Washington Post Staff Writer Unlike some of President Clinton's nominees to high positions, Shirley A. Jackson, the next chairman of the Nuclear Regulatory Commission, sailed through her Senate confirmation hearings two months ago. Those who know the 48-year-old physics professor say it isn't surprising. Her life, they say, is a nearly seamless success story -- a Washingtonian who triumphed over racism and now will tackle one of the most technically demanding jobs in the government. She grew up in Northwest Washington, but during her earliest elementary school years was barred from attending Barnard, the school three blocks from her house in the then-predominantly white Petworth area. A neighbor drove her and her sister several miles across town to a black school. She was a straight-A student and valedictorian at Roosevelt High School in the early 1960s before launching into a career in theoretical physics. "I had a good educational experience here," said Jackson, who will take over at the NRC at the beginning of July. "I had a supportive community and family. The biggest challenges were more after I left Washington." Based in Rockville, the NRC has a budget of about $500 million and about 3,000 employees -- about 2,000 of whom work in the Washington area. Once Jackson takes over the top job at the commission, she is likely to face challenges unlike any she has faced so far. She will have to take on the job of regulating the safety of the United States' aging nuclear power plants. She'll have to tackle the politically touchy subject of extending nuclear power plant licenses. And she'll need to deal with the problem of mounting nuclear waste at a time when a number of nuclear plants are running out of on-site storage capacity for it. But it always has been tough going for Jackson. As she explains with no trace of bitterness, she was raised in the District by a family facing the racial biases of the time. Her mother, a social worker, encouraged her reading and writing skills. Her father, a postal worker interested in math and science, supported Jackson's scientific experiments. Some of them involved live bumblebees that Jackson fed with sugar and collected in 30 jars jammed into the basement crawl space. She and her younger sister Gloria built soapbox go-carts with tools her father provided, and Jackson says she has maintained a lifelong interest in "how things work." Jackson got a break after the Russians sent a Sputnik satellite into space in 1957. As the United States responded by trying to promote scientific talent among its youth, Jackson ended up in an accelerated educational program. "It happened on the cusp of legal desegregation," said Jackson. "One could say that I was a beneficiary of that coincidence of desegregation and the nation's interest in science and technology because of Sputnik and the like." At the Massachusetts Institute of Technology, she was one of only 43 women in a freshman class of 900. And she was one of only 10 African Americans out of a student body of 8,000. Initially, she got a cold reception. Jackson describes it as an "isolation to some extent, until people found out what I could do and that I was as serious as they were -- that I was

as good as they were." "She was not very warmly received by her classmates at MIT," said Jackson's sister, Gloria Joseph, an attorney who is director of administration at the National Labor Relations Board in the District. "Shirley is a very strong person, but a place like MIT can be intimidating," said Joseph. "She was excluded from study groups and so forth until they saw her grades." Jackson became the first African American to receive a Ph.D. from MIT and the first in the nation to secure a doctoral degree in physics, according to MIT officials. She went on to become a teacher, a board member for half a dozen private businesses and a researcher for and consultant to AT&T's Bell Laboratories. Jackson was nominated as an NRC commissioner along with Dan M. Berkovitz, a former counsel to the NRC. President Clinton later selected her to head the commission. Sen. Lauch Faircloth (R-N.C.) and seven other Republican senators charged that Berkovitz, who has yet to be approved, "would impose burdensome regulations" on the nuclear industry, and Faircloth suggested Berkovitz's lack of private business experience was a fatal flaw. "I think Dr. Jackson has exactly what we need in a nominee," said Faircloth, a member of the Senate Environment and Public Works Committee. Jackson has served on the boards of a New Jersey bank, an electric power company and an oil and gas company. She also has worked for Bell Laboratories on optical physics research and semiconductor theory. Most recently, she was a professor of physics at Rutgers University in New Jersey. Jackson comes to the NRC at a time when the industry that it regulates faces an uncertain future. While the United States gets more than 20 percent of its electricity from 108 nuclear power plants, no new power plants are under construction. The industry is under frequent attack from "whistle-blowers" -- often nuclear plant employees with sensitive inside information -- and consumer groups. Public Citizen, a Washington-based public advocacy group, for example, recently charged that the NRC's new approval system for renewing the licenses of older nuclear power plants will relax already weak safety standards. Jackson said her major concerns as commissioner will include the "continued safe operation" of nuclear plants as they age and their decommissioning or relicensing under a new approval process. In answer to a question, Jackson said she considered whistle-blowing "a valid way for safety concerns to be raised." "I think it's important to have a good, fair, thorough way of dealing with allegations, and I'm looking forward to learning more about how the NRC handles it."

Nuclear Arsenal's Needs Create Dilemma for U.S.

WP 4/30/95 11:00 PM By Thomas W. Lippman Washington Post Staff Writer Even as the United States urges the rest of the world to extend indefinitely a treaty requiring signatories to work toward elimination of nuclear weapons, the Energy Department is planning a multibillion-dollar project to resume production of a radioactive gas used to enhance the bang of American nuclear warheads. The department is planning to announce this summer what kind of facility it plans to build to produce the gas, tritium, and where it plans to build it. The choice is between a huge particle accelerator, using theoretically workable but untested technology, and a nuclear reactor, which would be the first reactor ordered in the United States since the 1979 Three Mile Island nuclear accident. Either choice involves immense political, financial, environmental and national security risks, and the issue is emotionally wrenching as well. The U.S. delegation to the 178-nation conference meeting in New York to discuss extension of the Nuclear Non-Proliferation Treaty is already under pressure from some participating countries to do more to eliminate nuclear weapons, as that treaty requires, but U.S. national security strategy presumes a continued, if diminished, reliance on a nuclear arsenal. Many officials of the Clinton administration are averse to nuclear power and do not want the federal government to sponsor construction of a reactor. But many career staff members in the Energy Department and the Pentagon have long supported the nuclear industry and favor the reactor method of producing the tritium needed for the weapons program, rather than what they regard as the possibly unreliable particle accelerator. Energy Secretary Hazel R. O'Leary is under intense congressional pressure to choose the reactor option and to build it at the Energy Department's Savannah River, S.C., weapons plant. The Nuclear Weapons Council, an interagency group responsible for setting weapons policy and overseeing the arsenal, has endorsed the accelerator technology but recommended "aggressive" parallel development of a reactor as a "contingency," according to internal Energy Department memos. The Energy Department's proposed fiscal 1996 budget includes $50 million to begin development of a tritium source, whatever choice is made. Several combinations of site and technology are theoretically on the table, but realistically the choice facing O'Leary appears to come down to this: invest billions of federal dollars in a particle accelerator or accept a proposal from a nuclear industry consortium to use mostly private funds to construct a reactor that would have three functions -- produce tritium, generate electricity and burn plutonium fuel to begin reducing the nation's stockpile of surplus plutonium. Proponents of the accelerator option argue that scientists have proved its viability and that building an accelerator avoids the questions of safety and of radioactive waste disposal associated with nuclear reactors. They also argue that construction of a reactor that would use plutonium as fuel, as proposed by the industry consortium, would undermine the Clinton administration's efforts to discourage other nations from

turning to plutonium as a commercial fuel. Proponents of the reactor say the proposed multi-purpose reactor's design has been judged safe by the Nuclear Regulatory Commission and that the privately-owned reactor would cost the government as much as $15 billion less than the accelerator over its planned 40-year life. In addition, they argue that only a reactor is a known, sure-fire source of tritium, which is what Congress wants. Since the Clinton administration is already searching for an acceptable method to dispose of surplus plutonium anyway, reactor proponents argue, the Energy Department should combine the process of deciding how to produce tritium with the process of deciding how to get rid of surplus plutonium, a highly toxic man-made element that is the key component of nuclear weapons. "Ours is the only technology that can do the two together," said George A. Davis, project manager for ABB Combustion Engineering Inc., whose System 80 plus reactor would be built if the industry consortium plan is accepted. A decision by the federal government to order and build a nuclear reactor would be a significant boost for a sagging industry that has not received an order for a new plant in two decades. "My mind is still open on the issue" of what kind of tritium source to develop, O'Leary said in an interview. She said she has to decide what method ensures the greatest reliability of a tritium supply at the lowest possible cost, and she still has not seen persuasive economic projections on either side. The surplus plutonium issue is to be decided separately and on a different timetable, she said. Tritium is a radioactive isotope of hydrogen. By making nuclear explosions more powerful, it enabled bomb designers to produce smaller weapons with no loss of explosive force. Because tritium decays by 5.5 percent annually, the supply must be replenished periodically. No replenishment would be needed if the United States were contemplating complete nuclear disarmament, but U.S. national security doctrine holds that the nation must continue to have nuclear weapons indefinitely, although the stockpile is dwindling rapidly now that the Cold War is over. The Energy Department has calculated that it can recycle enough tritium from dismantled warheads to keep the remaining stockpile viable until 2011 but is under orders from Congress to begin developing a new source to be ready by that time. Until the late 1980s, tritium was produced through the bombardment of lithium targets with neutrons generated by nuclear reactors at Savannah River. Those reactors were shut down for safety reasons. The Bush administration developed an $8.2 billion program to replace them with new reactors but terminated it when arms reduction agreements with Moscow eased the urgency of tritium production. The nation currently has no tritium source. Scientists at the Los Alamos National Laboratory have concluded that a very large particle accelerator could be developed to produce tritium at a cost of about $2.6 billion. In addition, the facility would cost $290 million a year to operate, not counting the cost of the large quantities of electricity the accelerator would consume. By some calculations, the Energy Department would have to build a separate coal-fired power plant to supply electricity to the reactor. All those costs would presumably be borne by the taxpayers. The industry consortium argues that its "triple-play reactor" proposal would save the taxpayers billions because ABB and its partners would build and operate the reactor, economizing by using government-owned land, recouping their costs by selling the electricity it would generate and charging the government only $78 million a year for plutonium disposition. The government would also pay a fee for tritium to be produced, but only when needed. Judging from the furious public opposition to nuclear reactor construction since the 1979 Three Mile Island accident, most localities in the United States would probably oppose any new reactor proposal. But nuclear-friendly Savannah River is different. With jobs on the line, residents of Aiken, S.C., and other communities near Savannah River have expressed strong support for having such a project there. O'Leary said she is not going to commit herself until she is satisfied she fully understands the economic implications of the competing technologies. "We have a long history [in the Energy Department] of getting started with projects having not clearly understood the economics and then having the costs balloon on us," she said. "We are not building a facility on paper; we're building a facility to produce tritium in the timetable required. If we're wrong in the economics or wrong in the technology or wrong about the institutional barriers, we won't have accomplished our goal, which is to get a tritium source up and running."

Illegal nuclear trade rising--German investigators

RTw 4/30/95 10:44 AM BONN, April 30 (Reuter) - Illegal trade in radioactive materials has been increasing steadily since the breakdown of the former Soviet Union in 1991, the Federal Office of Criminal Investigation told a German newspaper on Sunday. The office cited 707 indications of illegal dealings with nuclear contraband which it said mainly came from Russia and Ukraine, according to a report in Welt am Sonntag. In 1994 the office became aware of 182 cases of smuggling and illegal trade in radioactive materials. In 1993 they registered 123 cases of the trade. The illegal trade is likely to increase steadily, the office of Criminal Investigation said. These figures came a day after German opposition leaders called for the sacking of a government official over a plutonium-smuggling scandal. The official oversees

the secret services. Officials from Russia's nuclear energy ministry say Bonn staged the alleged smuggling of 363 grams (12.8 ounces) of weapons-grade plutonium from Moscow to Germany last year to cast doubt on Russian nuclear safety. The seizure sent shock waves around the world as fears grew that a "nuclear mafia" was trading fissionable material from the former Soviet bloc, putting the nuclear bomb within reach of criminals, terrorists or non-nuclear governments. REUTER

U.S. TESTING DRUG FOR NUCLEAR BATTLEFIELD - REPORT

RTw 4/27/95 12:53 AM WASHINGTON, April 27 (Reuter) - The U.S. Defence Department is testing two commercially available drugs that could allow soldiers caught in a nuclear conflict to survive long enough to complete their battlefield mission, the Washington Post reported on Thursday. The two drugs being tested, Zofran made by Glaxo and Kytril made by SmithKline Beecham, are approved by the Food and Drug Administration as anti-nausea drugs for patients undergoing chemotherapy or radiation treatment. The Post quoted the director of the Pentagon's Defence Nuclear Agency, Major General Kenneth Hagemann, as saying the drugs reduced or eliminated the vomiting that follows exposure to radiation. They were being tested to "extend the ability of an individual to perform his mission in a radiation environment," he said. Both drugs would protect soldiers from the symptoms of radiation exposure, but not protect them from radiation's lethal effects, the Post said. The programme has been under way since 1989 and should be completed next year, it said. REUTER

MAJORITY US NUCLEAR REACTORS NOT COMPETITIVE-STUDY

RTw 4/26/95 3:47 PM WASHINGTON, April 26 (Reuter) - More than half of U.S. nuclear reactors are not economically competitive with other available power sources and many should not be relicensed to continue operating, the Public Citizen consumer advocacy group said Wednesday. The report by Public Citizen's Critical Mass Energy Project said a move by the Nuclear Regulatory Commission to allow reactors to operate for another 20 years would shift the economic risks of nuclear power from utilities' stockholders to ratepayers, which it said is unfair. Extending reactors' operating lives also increases risks of accidents from ageing facilities, said the report by the organisation that pushes for less reliance on nuclear power. The report said the NRC proposed changes to make it easier for utilities to keep reactors open, which Public Citizen founder Ralph Nader in a news conference said "would jeopardise safety and force ratepayers to pay for the expensive mistakes of nuclear utilities." The report said ageing reactors become increasingly dangerous and that the reactor vessel becomes brittle. But NRC spokesman John Kopeck said revisions in the rule for relicensing does not ease safety standards. He also said state regulatory commissions, not the NRC, decide whether nuclear plants are economically viable. The Nuclear Energy Institute, an industry trade association, said the Public Citizen report was groundless, and that reactors are operating more safely and economically than ever. "This appears to be a shameless Chernobyl anniversary publicity stunt where the claims don't square with the facts," said Steve Unglesbee, of NEI. Wednesday was the ninth anniversary of the disaster at Ukraine' Chernobyl nuclear plant. Unglesbee said nuclear power is competitively priced, and that operating and maintenance costs have been essentially flat since 1989. He also said plants do not necessarily become more dangerous with age. "The industry has begun proactively managing the ageing process of plants," he said. REUTER

U.S. JET CRASH CLOSE TO NUCLEAR WEAPONS AREA - REPORT

RTw 4/26/95 12:45 PM SEATTLE, Washington, April 26 (Reuter) - A B-52 bomber that crashed last year during an air show rehearsal came within 50 feet (15 meters) of hitting a nuclear weapons storage area, the Seattle Post-Intelligencer newspaper reported on Wednesday. The June 24 crash at Fairchild Air Force base near Spokane, Washington, killed all four officers on board. Several witnesses to the crash have said in sworn statements that it appeared the pilot may have thrown the plane into a desperate, final turn to avoid striking the weapons storage area, the newspaper said. A crash into the storage facility could not have triggered a nuclear explosion but might have caused a dangerous release of radiation, the newspaper said. Fairchild spokesman Sergeant Allen Geisler dismissed the story as "a lot of

what-ifs." He acknowledged that the B-52 came close to the weapons storage area but said under Pentagon policy he could neither confirm nor deny the presence of any nuclear weapons there. REUTER

CHERNOBYL TAKES TOLL ON CHILD VICTIMS

RTw 4/26/95 10:54 AM By Lida Poletz KIEV, April 26 (Reuter) - Olha Primak, seated next to her son Roman in Kiev's top child cancer hospital, tensed when reminded that Wednesday was the ninth anniversary of the Chernobyl disaster. "My son was born a year after the accident, and he's always been weaker than my older children," said Primak, who has lived in one of the hospital's wards for seven months. "When the accident happened I never would have thought it could have an effect on the health of my child. But now I believe it. I know it." Primak was guardedly optimstic. The doctors had told her the cancer in Roman's lungs was shrinking. Ukraine says thousands of people have died as a result of the accident, which sent a radioactive cloud over Europe and contaminated land in Ukraine, Russia and Belarus. The World Health Organisation last month said the incidence of cancer in children -- mainly thyroid cancer -- had shown a "substantial" increase in Ukraine and neighbouring Russia and Belarus since the accident. But it is often hard to pin down which cancer cases are linked directly to the fire and explosion in Chernobyl's fourth reactor on April 26, 1986. The aftermath of the catastrophe continues to unfold and cast a shadow on the health of Ukraine's 52 million people. The hospital's head doctor, Andriy Butenko, said Chernobyl also had the insidious effect of weakening the immune system, meaning patients did not respond well to traditional treatment. Butenko offered stark figures: in 1991, the number of Ukrainian children with cancer stood at 1,166. By the end of last year, the number was 2,300. Ukraine's leaders have promised to close Chernobyl by the year 2000, but only if the West comes up with $4 billion to build an alternate power plant. Money, or the lack of it, is also a burning issue at the hospital, the Ukrainian Institute of Oncology and Radiology. Ukraine's post-Soviet economic struggle means medicine is lacking and equipment outdated. Medical staff earn a pittance -- as head doctor Butenko takes home the equivalent of less than $100 per month. Parents are often left to scrabble for scarce dollars to buy expensive medicine, usually from the West. "We survive from one shipment of humanitarian aid to the next," said Butenko, pointing to ageing equipment and a bare, single bed making up the hospital's chemotherapy room. Most of the aid for the hospital he obtains through personal contacts and colleagues in Western Europe and the United States, and there is never enough, he said. "Right now I have medicine for about three months," he said. That's great, but when it runs out, what do I do next?" Economic collapse has placed some parents of cancer patients in a near-impossible situation. Olexiy Chaikovsky, a former tractor driver, had to give up his job after coming to the hospital with Yulia, 6, whose bald head identified her as a chemotherapy patient. His monthly pension is 570,000 karbovanets -- about $4. "I've just grabbed on to a string and I'm holding on to it," Chaikovsky said, watching Yulia play. REUTER

UKRAINE MOURNS THOUSANDS ON CHERNOBYL ANNIVERSARY

RTw 4/26/95 9:21 AM By Ron Popeski KIEV, April 26 (Reuter) - Ukrainians on Wednesday mourned thousands of dead and ill nine years after the Chernobyl disaster and challenged the West to put up the money to help close down the stricken station. Young women in white gowns bore candles through Slavutych, the town where most of the station's 5,800 staff live today, to honour the "liquidators" who died after battling the explosion and fire in Chernobyl's fourth reactor on April 26, 1986. Statistics disclosed this week said 5,722 of the 200,000 liquidators had died. Weeping residents in the town 100 km (60 miles) north of Kiev converged on a stone memorial bearing photographs of victims at 1.26 a.m. -- the time when the accident occurred after an unauthorised experiment. Ukraine's parliament urged the West to take account of the unprecedented scale of the disaster -- 3.7 million people affected by radiation, more than 160,000 resettled and huge stretches of territory too contaminated for habitation. "Ukraine is concerned that the main efforts of the planet's leading countries concentrate on demands for Chernobyl's immediate closure," an official statement said. "Chernobyl represents a real threat to other countries, above all because of the extraordinarily difficult scientific and technical problems which Ukraine cannot solve on its own." Chernobyl staff held a memorial service during their lunch break. Similar services were held in Belarus -- worst hit by the world's most serious nuclear accident -- and Russia. In Kiev, black ribbons fluttered alongside the national blue and yellow flag hung specially outside public buildings. Western governments have said Chernobyl is unsafe and Ukrainian authorities this month bowed to pressure and agreed to close its two working reactors by the

year 2,000. But ministers say the West should help provide the $4 billion they say is needed to close Chernobyl and build a new thermal plant. Western governments are sceptical the money will be found. "It's not so easy to shut down a power plant. It's not something which can be switched off like the lights in this room..," Ukrainian President Leonid Kuchma told journalists, businessmen and diplomats during a visit to Prague. "Of course all this is blatently connected with money. It's an economic issue...But I am sure that we will enter the next century without the burden of the Chernobyl plant." Kuchma said he was worried about the cracking "tomb" enclosing the fourth reactor -- hurriedly erected by volunteers after building a rail line and heaping sand on the blaze. In Russia, President Boris Yeltsin called on the government to give more help to victims, saying the disaster had "crushed the fortunes of many Russians." In Belarus, which suffered 70 percent of the contamination in the former Soviet Union, officials said one in five of the 10 million residents had suffered from the after-effects. More than 10 percent of Belarus' national budget is still allocated to clean-up operations as is six percent in Ukraine. Soviet authorities reported nothing about the accident for two days. But in the first concrete example of Kremlin leader Mikhail Gorbachev's glasnost (openness) policy, they disclosed full details and appealed for help, though they underestimated the task and mismanaged the evacuation and clean-up. Deaths directly attributable to the accident are difficult to quantify. Health officials in the former Soviet Union and the West have reported substantial increases in diseases -- particularly thyroid cancer, at three times pre-1986 levels. REUTER

Chernobyl effects linger after 9 years

UPn 4/26/95 8:18 AM By MARTA KOLOMAYETS IVANKIV, Ukraine, April 26 (UPI) -- Nine years after the Chernobyl disaster, thousands of people others are still suffering from the aftermath of exposure to radiation and from the psychological effects of the disaster. At least 32 were killed fighting the fire that broke out when hydrogen exploded inside Chernobyl's reactor No. 4 in the early morning of April 26, 1986, spewing radioactive cloud across a wide swath of Ukraine, Russia and Belarus and into Europe. Incidence of thyroid cancer in the affected regions has increased since the disaster, especially among children, and estimates of the amount of radiation released and the long-term casualties of the disaster grow each year. Of the 400,000 involved in the clean-up effort that followed the meltdown, 30,000 are classified as invalids and more than 7,000 have died or committed suicide, Russia's Itar-Tass news agency reported. Ukrainian Deputy Health Minister Andrei Serdiuk said 125,000 people have died as a result of the accident. And as the world's worst nuclear accident recedes into the past, the unmeasured effects on the psyche of the people who lived near Chernobyl linger and multiply. "It was Chernobyl that demonstrated the huge impact of a nuclear energy catastrophe on the social and psychological sphere of a large number of people -- about six million," Kiev sociologist Yuri Sayenko wrote in a recent report on the social and psychological effects of the disaster. A study by the Kiev polling organization Democratic Initiatives revealed that Chernobyl victims view the accident as a personal tragedy and labeled the people who lived in or near the Chernobyl zone "a society of people without hope." "We didn't know what happened," said Lyuda Serhiyenko recalling the day she was evacuated from the town of Pripyat. "I was home by myself, studying for exams. My family had gone to the village to plant crops," the 27-year-old mother of two said in an interview, tears welling up in her eyes. Serhiyenko picked up a map pointing to her apartment building, school and the nuclear plant that still provides 5 percent of Ukraine's power and dominates the skyline of the once-thriving, now-derelict town. "We were not told what happened, but buses came to evacuate us. They told us it would be for two or three days," she said. "I have not been back," said Sehiyenko, who now lives in Ivankiv, 48 miles (78 km) from the plant. She said the family had been moved further from the reactor site three times since 1986, but decided to settle in Ivankiv because they had relatives there. To help listless Chernobyl victims like Lyuda cope, nine community centers have been set up in affected regions of Ukraine, Belarus and Russia with funding from the nations' governments. "People have begun to see the value of a community center," said Lubow Horich, a Canadian psychologist and coordinator of the UNESCO- Chernobyl program. "Initial information after the accident was at times scarce, non- existent or contradictory," Horich said, referring to an initial cover- up that left thousands of people near Chernobyl in the dark about the disaster endangering their lives. "People became suspicious of most information available, and continue to be suspicious. People need a place not only to receive information but also a chance to debate and discuss it." One of the biggest fears for parents in Ivankik is that their children have inherited from them the deadly legacy of Chernobyl.

Chernobyl Anniversary

APn 4/26/95 7:06 AM KIEV, Ukraine (AP) -- Flags were lowered to half-staff throughout Ukraine today to mark the ninth anniversary of the explosion and fire at the Chernobyl nuclear station. Ukraine's parliament warned that Chernobyl, site of the world's worst commerical nuclear power accident, continues to threaten the entire world. "There is a real danger for other countries of the world in connection with the possible movement of radioactive wastes," the lawmakers said in a statement. "There is a danger that Ukraine's largest river, the Dnieper, may be contaminated, and consequently, the Black Sea," it said. Ukrainian health officials say more than 125,000 people in Ukraine died from 1988-94 as a result of the accident at Chernobyl, and disease rates remain high. On April 26, 1986, an explosion in Chernobyl's No. 4 reactor released an immense cloud of radiation north of the Ukrainian capital, Kiev, in what was then part of the Soviet Union. The explosion and subsequent fire killed at least 32 people by official count. Two million people were contaminated, Health Minister Andrei Serdyuk said Tuesday. Western leaders have long urged Ukraine to close Chernobyl, where two reactors continue to work and produce about 7 percent of the nation's energy. The International Atomic Energy Agency has said Chernobyl does not meet world safety standards, but cash-strapped Ukraine says it needs the electricity generated by the Chernobyl reactors. The ruined reactor No. 4 remains encased in a concrete sarcophagus, which was designed to last 30 years but is already cracking.

YELTSIN URGES MORE HELP TO CHERNOBYL VICTIMS

RTw 4/25/95 9:35 AM MOSCOW, April 25 (Reuter) - President Boris Yeltsin urged the Russian government on Tuesday to give more help to victims of the 1986 Chernobyl nuclear catastrophe, Itar-Tass news agency said. Tass quoted Yeltsin as saying in a message, before Wednesday's ninth anniversary of the world's worst nuclear accident, that it had "crushed the fortunes of many Russians" and praised the efforts of clean-up workers. But he added: "We must admit we have clearly not done enough for them." Ukrainian authorities say the accident on April 26, 1986, killed thousands of people, caused untold environmental damage and left an estimated 2.5 million people living on contaminated territory in large parts of Russia, Ukraine and Belarus. Clean-up workers hurriedly built a "tomb" over the ruined fourth reactor at Chernobyl, then part of the Soviet Union and now in Ukraine. Many have since died or suffer ill health. "I hold that the state's most important task is to fulfil its obligations to all the Chernobyl victims as soon as possible," Yeltsin was quoted as saying. Yeltsin also urged government bodies to help non-governmental oranisations which have been set up to help the victims of the accident. REUTER

UKRAINE ASKS FOR $4 BILLION TO CLOSE CHERNOBYL

RTw 4/21/95 6:59 AM By Lida Poletz KIEV, April 21 (Reuter) - Ukraine put a $4 billion price tag on shutting down the Chernobyl nuclear power station on Friday and told the West to find the money if it wanted the stricken plant to be closed soon. "Ukraine cannot close the Chernobyl nuclear power station indpendently over a short period," said a government statement signed by acting premier Yevhen Marchuk. "Experts say that refraining from futher use of the station will require general expenditures of $4 billion. Such a broad-based programme is impossible without financial support from the world community." Under pressure from the West, President Leonid Kuchma pledged last week that Ukraine would close the plant -- site of the world's worst nuclear accident nine years ago -- by 2000. The Chernobyl fire and explosion, on April 26, 1986, sent radiation over much of Europe and contaminated large swathes of Ukraine, Russia and Belarus. Ukraine says 8,000 people died as a result of the catastrophe. But until Friday's statement, the government had refrained from naming specific costs or conditions of the closure. The statement said that to close Chernobyl Ukraine needed a substitute power plant, either gas-fired, nuclear or coal-burning. The station's two working reactors still produce about five percent of the country's electricity. Another condition is replacing the crumbling concrete "tomb" which encases the ruined fourth reactor. Kiev also wants help to build containers for spent nuclear fuel and radioactive waste. Foreign Ministery Hennady Udovenko warned the West on Thursday that technical difficulties in dismantling the plant could prevent Ukraine from closing Chernobyl by 2000. "We want to stress that this is not like turning out a light in a room. This is a technical problem that is very, very difficult," said Udovenko. A Western diplomat in Kiev said the government's $4 billion figure, cited frequently by Ukraine's nuclear power officials, did not come as a surprise. "We're very

happy they've made a political decision and now they're asking us to make an economic decision," the diplomat said, adding that most practical and financial decisions still needed to be made. But European Commission spokesman Nikolaus van der Pas has said it would be hard for the West to come up with that much money. Chernobyl's director suggested last week that Ukraine and 18 other countries could each provide $200 million to close and replace the station. Sergei Parashin said Chernobyl was as safe as the country's five other nuclear reactors and could work well into the next decade. Ukraine is due to come up with a timetable by May 15 on closing the station, and nuclear officials said they expected the West to draw up a financing schedule in July. The Group of Seven industrial countries are due to discuss the Chernobyl closure at a June summit in Halifax, Canada, and the European Union is expected to do the same in Cannes, France. REUTER

CHERNOBYL AFTERMATH WILL COST $600 BLN - DEPUTY

RTw 4/20/95 9:59 AM By Pavlo Balkovsky KIEV, April 20 (Reuter) - A senior parliament deputy said on Thursday that erasing the aftermath of the 1986 Chernobyl catastrophe would cost up to $600 billion -- about 45 times more than estimated Ukrainian government spending for 1995. "We need between $200 billion and $600 billion to get rid of all the consequences of the Chernobyl catastrophe. We need about 30 years to do so," Volodymyr Yatsenko, head of a parliament commission on the aftermath of the Chernobyl disaster, told a news conference. Yatsenko did not specify where he thought the money -- which compares with government expenditure of $12.9 billion for this year -- would come from or how it would be spent. But he appeared to have in mind health care for victims of Chernobyl-related illnesses, elimination of damage to the environment and resettlement of an estimated 2.5 million people still living on contaminated territory. Yatsenko made his comments at a joint news conference with officials from the Health and Chernobyl ministries called ahead of the ninth anniversary of the catastrophe at the nuclear power station. Ukraine, under pressure from the West, has pledged to close the station by the year 2000 and asked for help build a power plant to replace the electricity Chernobyl's two working reactors still produce. Ukrainian nuclear officials have said Ukraine needs about $4.5 billion to build a new plant, perhaps gas-fired, and replace the crumbling "tomb" which covers the station's stricken fourth reactor. The EU said this week the West would have difficulty finding $4.5 billion. Yatsenko criticised the West for failing to understand the range of problems created by the fire and explosion at the station's fourth reactor on April 26 1986, which spewed a cloud of radiation across much of Europe. "All talk has come down to one narrow issue -- closing the station -- when the problem is much broader," he said. Ukraine says the accident caused 8,000 deaths. The Chernobyl Ministry said more than three million of Ukraine's 52 million people have been affected by the disaster in some way. A ministry press release said the incidence of illnesses among people living on contaminated territory has doubled in adults and increased 1.5 times in children, since 1986. Olha Bobyleva, a senior Health Ministry official, said 7.5 million Ukrainians were at risk of developing Chernobyl-related illnesses. "The tendency of the increase in (thyroid cancer), especially in children, worries us greatly," Bobyleva said. REUTER

KIEV NEEDS CASH TO SHUT CHERNOBYL BY 2000-OFFICIAL

RTec 4/18/95 10:30 AM KIEV, April 18 (Reuter) - The head of Ukraine's nuclear power authority has told the West bluntly his country cannot honour its pledge to close the Chernobyl station by 2000 without financial help. Mikhail Umanets told a news conference on Monday the West would have to help come up with about $4.5 billion to close Chernobyl and build a replacement for the station, site of the world's worst nuclear accident on April 26, 1986. "The political decision (to close the station) is just a skeleton, though a good one," Umanets said after discussing the promise to close the facility with President Leonid Kuchma. "To put meat on it means resolving the technical issues and the blood which will put it on its feet is financing. And everyone will have to sweat buckets to pull it off," Umanets said. Kuchma last week promised Ukraine would close Chernobyl within five years, provided the West helped. But he disclosed no costs for the operation and a visiting EU delegation pressing for its closure gave no guarantees on financing. A fire and explosion at the station's fourth reactor nine years ago sent a cloud of radiation across most of Europe and contaminated large swathes of Ukraine, Belarus and Russia. Umanets said Ukraine was to draw up a timetable by May 15 on closing the station, and said the West was to come up with a financing plan by July. "We believe that in July we will also see a financing programme. If we do not, we will consider our talks with the West as not serious," Umanets said. "I think the (European Union) delegation was aware when it left Ukraine

that without money we cannot do anything." Energy-poor Ukraine had previously resisted pressure from the West to close Chernobyl by saying it needed the electricity provided by the plant's two working reactors -- about five percent of power produced in the country. Umanets said Ukraine would insist on financing to build a new power station, possibly a gas-fired plant, and erect a new "tomb" over the station's stricken fourth reactor to replace the cracked original erected hastily after the disaster. Chrenobyl's director, Sergei Parashin, last week proposed building a gas-fired plant and suggested 18 Western countries and Ukraine could each contribute about $200 million. Parashin told Monday's news conference Chernobyl's safety record was as good as Ukraine's other four nuclear power plants. He said his plant could function for many years if the West failed to come up with the financing. "The faster it is financed the faster we will close it. If the money comes through in three months, we'll close it in three months," Parashin said. "If they can't finance it at all, the station will keep working another 16 years." REUTER

Britain-Nuclear Protests

APn 4/17/95 5:08 AM LONDON (AP) -- Greenpeace protesters broke into Britain's biggest nuclear power complex today to protest the production of plutonium, but officials said they failed to disrupt operations. The demonstrators at Sellafield, on the English coast 210 miles northwest of London, breached security barriers and blocked the main road to the plant. The protests were timed to coincide with the start of talks in New York on renewing the Nuclear Non-Proliferation Treaty, which aims to prevent the spread of nuclear weapons. "We are taking action to do what the NPT has failed to do: stop production of nuclear weapons and plutonium," said Greenpeace spokeswoman Stephanie Mills. Greenpeace said about 250 protesters were involved. British Nuclear Fuels PLC, which operates the plant, said the group had not disrupted production of plutonium, a key ingredient for nuclear weapons. Company spokesman Bill Anderton said police later moved the protesters back outside the Sellafield grounds. He defended the plant's security arrangements. The government in 1993 approved the THORP plant at Sellafield, which extracts uranium and plutonium from nuclear waste from reactors throughout Europe. Environmental groups and the International Atomic Energy Agency have opposed operations at THORP, an acronym for Thermal Oxide Reprocessing Plant. The Irish government also fears increased radioactive discharges into the Irish Sea.

Radioactive Universities

APn 4/15/95 10:18 AM By JON MARCUS Associated Press Writer BOSTON (AP) -- Radioactive material is tossed into the trash and buried in a landfill. Eight people are unknowingly exposed when radioactive waste leaks from a container because someone forgot to put the plug in. Labs with radioactive materials are left unlocked and unsupervised. These incidents, and similar ones, occurred not at an irresponsible corporation or in a bad B-movie plot, but at Harvard, Boston University, the University of Massachusetts and other schools. Nuclear Regulatory Commission documents obtained by The Associated Press under the Freedom of Information Act show that Massachusetts universities have what a Nuclear Regulatory Commission inspector called a "cavalier" attitude toward the handling and disposal of radioactive material. The inspector singled out one school in particular: Harvard, which was cited at least eight times in the last 10 years for violating NRC regulations. The documents showed that radioactive material has been illegally thrown into the trash at least seven times by four different Massachusetts institutions in the last eight years. Authorities suspect it now sits buried in municipal landfills -- though they don't know where. Four of these instances occurred at the Boston University medical school, where a radiology instrument containing radioactive material was accidently thrown into the a trash compactor in December 1987 and hauled to a landfill south of Boston. On March 13, 1989, radioactive material was discovered missing from a BU lab. Six months later, a vial containing radioactive phosphorous was left in a hallway trash pile and disposed of in an unknown landfill. And on Oct. 4, 1993, a housekeeping employee threw another container of radioactive phosphorus into the trash. BU's associate director of environmental health, James Bove, called the problems isolated incidents, and said procedures have been changed. Robert Hallisey, director of the state's Radiation Control Program, called college students and professors "lackadaisical" about the issue. "People are in deep denial about the potential hazard to themselves and the potential harm that they are doing to completely unknowing people," said Mary Olson, who was accidentally exposed to radiation when she was a Yale University

researcher. NRC documents show that in addition to inadequately disposing of radioactive waste, the universities violated safe handling rules and had several accidents. At Harvard, NRC officials found the doors to labs and storage rooms propped open and researchers working with radiation while wearing shorts, without required lab coats or monitoring badges. Students and professors at Boston College, Brandeis, Harvard and UMass-Amherst were discovered eating sandwiches and drinking coffee in labs where radioactive isotopes were present. Eating in a lab where there is radioactive material is illegal, since radiation can be rapidly absorbed into the body this way. Yet Brandeis lab workers kept a coffee pot on a lab bench where radioactive phosphorus was being used. Robin Bell, the Brandeis radiation safety officer, said eating in a lab "is plain and simple carelessness." Still, he added, "It's a problem you'll find virtually everywhere that radiation is used in universities." There also have been accidents involving radioactive material in colleges and universities: --Eight people stepped in radioactive liquid at Harvard Medical School on Jan. 13, 1993, after someone forgot to put a plug in a container filled with radioactive waste. By the time the leak was detected, radioactivity had spread to all six floors and the building had to be evacuated. --At UMass-Amherst last year, a visiting researcher spilled radioactive liquid in a lab. It was discovered five days later, after two university employees unwittingly stepped in the material and tracked it around. Harvard has changed its procedures and its packaging for radioactive waste, said Joe Ring, the university's radiation safety officer. He said faculty and students have responded to threats that their laboratories might be shut down because of violations, and the university's most recent NRC inspection last year found no violations. "Now when we have an issue, the researchers and the faculty are exceptionally supportive," Ring said. "I think we've come full circle." Matthew Wilson, director of the Massachusetts Campaign to Clean Up Hazardous Waste, said one of the problems with the use of radioactive materials is that "it's always been out of sight, out of mind. "A lot of people don't know what's going on on campus."

99 Deadline Set for Closing Of Chernobyl; ...

WP 4/13/95 11:00 PM 99 Deadline Set for Closing Of Chernobyl; Ukraine, Europe Agree, But Funding Uncertain By James Rupert Washington Post Foreign Service KIEV, Ukraine, April 13 -- Ukraine has agreed to close the Chernobyl power plant, site of the world's most catastrophic nuclear accident, within five years, Ukrainian and European officials announced today. The decision appeared to have broken a months-long stall in talks between Ukraine and Western nations over closing the plant, one of whose reactors exploded in 1986, spewing radioactivity over much of Europe. French Environment Minister Michael Barnier, representing the 15-nation European Union, praised the "courageous and important decision" by President Leonid Kuchma and said the EU would press the United States and Japan to join in contributing new money to help Ukraine absorb the costs of shutting Chernobyl down. Ukrainian and Western officials said the shutdown plan was contingent on greater offers of Western aid than have been made so far, including funds to build a gas-fired generating plant to replace Chernobyl. Barnier said the two sides had committed themselves to no specific sums of aid but would seek additional money for Ukraine at a summit conference in June of the Group of Seven industrialized nations. During months of talks with the Group of Seven, Ukrainian officials have insisted on the need for $3 billion to $5 billion in Western aid to cover costs such as replacing the roughly 6 percent of Ukraine's energy that Chernobyl produces and aiding Chernobyl employees who would be thrown out of work. In a round of talks in December, Western negotiators described such figures as unrealistic, saying they had offered hundreds of millions of dollars for the narrower task of shutting down and stabilizing the Chernobyl plant. "A dialogue of the deaf has ended today," Barnier said. He said Kuchma promised to issue a precise schedule by May 15 for shutting down Chernobyl's two working reactors by the end of 1999. While important in breaking the deadlock, Kuchma's offer to set a date for closing the plant was not a radical change in his policy. He has said repeatedly that he would close Chernobyl as soon as alternative sources of energy could be developed. Ukraine, its post-Soviet economy in shambles, is scraping for every kilowatt of available energy and has no money to build new plants. Responding in part to public fears of nuclear power following the Chernobyl disaster, Ukraine decided in 1992 to close Chernobyl by the end of 1993. But only 10 weeks before that deadline, the parliament reversed course, saying there would be no way to maintain electrical supplies, including in the capital, Kiev. Kuchma's decision "has infuriated the bureaucrats from the old Soviet atomic ministry," a Western diplomat said, "and will raise protest" among conservatives in parliament. But many Ukrainians, fearful of nuclear power after the 1986 accident, are likely to welcome the move. Today's announcement seemed likely to continue Ukraine's rise in favor among Western nations. Since taking office last July, Kuchma has begun an aggressive, painful economic reform program recommended by the International Monetary Fund; accelerated Ukraine's nuclear disarmament; and won ratification of the nuclear Non-Proliferation Treaty. Such policies, coinciding with Western worries over Russia -- including its brutal war in Chechnya -- have won Ukraine new attention in the Clinton administration, U.S. officials have said.

It remained unclear exactly how Ukrainian expectations in today's talks would be fulfilled. West European nations have for years put a higher priority on closing Chernobyl than has the United States, and with Republicans in control of Congress, the Clinton administration would face difficulties in finding new money for a Chernobyl shutdown. A natural gas power plant "is pretty much a condition" in the Ukrainian decision to close Chernobyl, said Bill Chambers, a Canadian legislator representing Prime Minister Jean Chretien, the chairman of the Group of Seven. The agreement "was done with the sense that they can bring on line a gas power station within 40 months," another Western official close to the talks said. The director of the Chernobyl plant, Sergei Parashin, announced today that the cost for closing Chernobyl and building a gas plant would be $4.4 billion. Barnier said the West also would have to help build a new "tomb" around the destroyed reactor, to contain deadly radioactivity from the 1986 accident, and consider helping pay for social costs incurred in the Chernobyl shutdown. But Chambers and Barnier underscored that costs for such projects remained incalculable. But Barnier said the EU would "maintain solidarity with Ukraine in the coming stages" of calculating and apportioning costs, "and will count on the United States and Japan to accompany us." In July 1994, the Group of Seven agreed to provide a total of $4 billion through international institutions such as the IMF and World Bank to help Ukraine overhaul its Soviet-style economy. Months earlier, President Clinton committed the United States to provide $700 million in bilateral aid. But since last fall's Republican takeover of Congress, the administration has had to fight simply to keep funding for its existing aid commitments. Any major new U.S. aid package to Ukraine seems likely to face tough scrutiny. Aid for the shutdown of Chernobyl is likely to find a greater political constituency in Europe, where radioactivity from the 1986 Chernobyl accident damaged food crops and raised public fears. "In our countries," Barnier said of the European Union, "public opinion is thinking of Chernobyl." The Group of Seven has been divided on Chernobyl, with European governments withholding some aid to Ukraine over its continued operation. Hans van den Broek, the organization's chief foreign relations official, said European governments would release hundreds of millions of dollars in balance of payments assistance to Ukraine because of today's offer. While Ukraine has long sought to close Chernobyl, controversy has continued over the degree of danger the plant poses. Ukrainian officials have conceded that radioactive dust could seep from the concrete tomb that was hastily constructed around the plant's destroyed fourth reactor in 1986. But they denounced a report last month in a British newspaper that suggested an explosion similar to the 1986 accident was possible at any time. "That is an exaggeration," said an official of a Western office monitoring nuclear safety in Ukraine. "The danger [from decay of the tomb] is in the long term."

Ukraine names Chernobyl shutdown price

UPn 4/13/95 9:43 AM KIEV, April 13 (UPI) -- Ukraine says (Thursday) it will close the Chernobyl nuclear power station if Western nations agree to foot the $4. 4 billon of a conventional plant. Chernobyl's director announced the plan hours before a European Union delegation was due in Kiev to discuss the fate of the world's worst nuclear disaster site.

Ukraine suggests gas-fired Chernobyl replacement

RTw 4/13/95 7:55 AM By Ron Popeski KIEV, April 13 (Reuter) - The head of the Chernobyl nuclear power station on Thursday proposed building a gas-fired replacement for his stricken plant and said it was up to the West to help foot the $4.4 billion bill. Sergei Parashin told a news conference the plan was discussed at a cabinet meeting this week and would be submitted later on Thursday to French Environment Minister Michel Barnier, who was to discuss Chernobyl with President Leonid Kuchma. He said Ukraine and 18 other countries could each provide about $200 million to help build the new plant nine years after the world's worst nuclear accident occurred at Chernobyl. "Ukraine has no problem with Chernobyl, the problem is with the West...The task of financing should be taken on by those people who have expressed concern," he said. "I believe this plan will be put into action. We are talking about the word of self-respecting leaders of seven leading Western countries. If they say Chernobyl is to be taken out of service they must pay for it. Otherwise they lose face." The Ukrainian government has promised a statement on the future of Chernobyl this week. Barnier was representing the European Union's French presidency in a day of talks in Kiev and was accompanied by the EU's External Affairs Commissioner Hans van den Broek. A Commission spokesman said on the eve of the visit there were "still some quite serious problems to overcome." Parashin said the cost of closing the power station, resettling its 5,500 staff and compensating Ukraine for expensive gas imports could be spread among members of the EU and the Group of Seven leading industrialised

countries. Last year's G7 summit in Naples demanded the closure of Chernobyl and Parashin said Western experts had not "given an inch" in talks on keeping the plant operating. The European Union and other countries have offered several hundred million dollars in help and made new proposals for more money this week at a meeting in London of the European Bank for Reconstruction and Development. They say Ukraine must provide a timetable for closing two of the plant's four reactors which are still operating. Chernobyl provides five percent of the former Soviet republic's power. Parashin said that if the West failed to provide the money, Chernobyl had achieved an excellent safety record in recent years and could operate well into the next century after reconstruction. That would include rebuilding the deteriorating concrete "tomb" hurriedly erected around the fourth reactor after it exploded and caught fire on April 26, 1986. "We need to emerge from this state of war. Everyone sees these as nine dreadful years and wants them to end," he said. "If everyone, billions of people, think this, then let's make concessions, end the state of war and move to a state of peace and discussion." Ukrainian officials dispute Western findings that Chernobyl poses a danger and rule out a repetition of the catastrophe. But experts have acknowledged that a small amount of radioactive dust could escape from the damaged "sarcophagus." The 1986 disaster sent a cloud of radiation over most of Europe and Ukraine says at least 8,000 people have died as a result. Cleanup operations still soak up at least 10 percent of the budget in Ukraine and neighbouring Belarus. REUTER

Nuclear Wastes

 By H. JOSEF HEBERT Associated Press Writer WASHINGTON (AP) -- U.S. acceptance for storage of used nuclear fuel from European research reactors "is a critical element of our non-proliferation policy," the State Department's No. 2 official said Wednesday. Deputy Secretary of State Strobe Talbott said that efforts to prevent the spread of weapons-grade nuclear material such as the highly enriched uranium in reactor fuel "is one of America's top national security priorities." Talbott's comments were a further indication that the Clinton administration intends to approve a plan later this year that calls for as much as 21 tons of used nuclear fuel to be brought into the United States from Europe over a 13-year period. The fuel was provided by the United States over the last 40 years for medical and research purposes. Now the used fuel is building up and the Europeans want the United States to take it back for disposal. The Energy Department officially released a draft environmental impact statement Wednesday that concluded the shipment of the fuel by ship and then truck or rail to a U.S. disposal site would pose "no significant health or environmental effects." The uranium "could be managed safely and securely at any of the five DOE management sites" under consideration and "would present low risks to workers and the public," said the report, which had been leaked earlier in the week. The fuel elements would be transported in casks similar to those approved for transporting used fuel from U.S. commercial reactors. Energy Secretary Hazel O'Leary said no decision on whether to accept the highly enriched uranium, which could be converted to weapons use, will be made until a final environmental study is completed in September. But she also suggested strongly that the fuel likely will be brought back to the United States. "We have an obligation to the American public and the world community to adopt a policy minimizing the threat of this material falling into the wrong hands," O'Leary said in a statement. For nearly six years, only small amounts of the research reactor fuel have been allowed back into the United States. The draft environmental impact analysis outlines a variety of options, including leaving all of the 22,700 used fuel rods that are expected to be ready for disposal over the next 13 years in Europe with the United States helping to pay for storage and security. It gave most attention, however, to a proposal to return the fuel to the United States. While the draft study mentioned five potential sites for storage, the most likely is Savannah River in South Carolina. The others were the Idaho National Engineering Laboratory, the Hanford reservation in Washington state, the Oak Ridge reservation in Tennessee and the Nevada Test Site. The Energy Department under an emergency order shipped 153 of the foreign reactor fuel rods to Savannah River near Aiken, S.C., last year. An additional 130 fuel elements were kept from being delivered by a federal court order after South Carolina officials filed a lawsuit. Officials fear the state will become a nuclear waste dumping ground. The U.S. nuclear industry also has been putting pressure on the Energy Department to find a temporary location for the mounting amount of spent fuel at commercial reactors around the country. The Clinton administration is concerned that if the United States does not accept responsibility for the European spent fuel, the Europeans will reprocess the material. That would hinder U.S. aims of getting the Europeans to shift to a low-enriched uranium that cannot be used in weapons. It also could lead to some of the uranium getting into the hands of terrorists or other groups, officials warn.

Ukraine says help on Chernobyl not enough

RTw 4/11/95 12:23 PM LONDON, April 11 (Reuter) - New Western offers of help are not enough to enable the Ukraine to close the two reactors at the Chernobyl nuclear power station that are still in operation, a special adviser to the country's president said on Tuesday. "We are very grateful for all the proposals, but they do not even begin to cover the costs of closing the station," Oleg Popov told Reuters. The offers of aid were made at this week's annual meeting of the European Bank for Reconstruction and Development. Britain, France and Germany all offered funds to help close the power station. France alone said it could contribute $32 million. But Ukraine puts the total cost of closing the power station and replacing the seven percent of the country's electricity it provides at $11 billion to $14 billion. "This is a serious question for us as well as the rest of Europe," said Popov, a top aide to President Leonid Kuchma. The 1986 fire and explosion in Chernobyl's fourth reactor sent radioactivity over most of Europe and contaminated large stretches of Ukraine, Belarus and Russia. Ukraine says 8,000 people have since died as a result of the accident. On Monday Ukraine's top nuclear power official, Mikhail Umanets, said the country was considering the gradual closure of Chernobyl, but declined to give details of conditions or timing. During the EBRD meeting, which ended on Tuesday, Western officials said many nuclear plants in the former East Bloc were unsafe and they urged that Chernobyl be shut quickly. REUTER

Ukraine to move towards Chernobyl closure

RTw 4/10/95 3:04 PM KIEV, April 10 (Reuter) - Ukraine's top nuclear power official said on Monday the former Soviet republic was considering the gradual closure of the Chernobyl nuclear power station, but declined to give details of conditions or timing. "We are talking about closing the Chernobyl station," Mikhail Umanets, head of Ukraine's nuclear power authority, told Reuters after a cabinet meeting which discussed the station, the site of the world's worst nuclear accident in 1986. A government statement said a decision would be announced later in the week and a Ukrainian news agency said ministers would propose a compromise plan to keep the facility operating until alternative energy sources were financed. "A decision was taken to make concessions to G7," Umanets said, referring to the decision by the seven top industrialised nations in Naples last year to press for Chernobyl's shutdown. Umanets and other nuclear officials have repeatedly said Chernobyl is being operated safely by its 5,800 staff. But he admitted last month that a small amount of radioactive dust could escape from the cracked containment chamber around the station's stricken fourth reactor. Ukraine's leaders have rejected Western calls to close the station's two working reactors, saying they provide seven percent of Ukraine's power. They have sought Western help of up to $4 billion to set up altnerative energy sources. The European Union and other donors have offered several hundred million dollars in assistance. French Environment Minister Michel Barnier, representing France as EU President, will visit Kiev this week for talks on Chernobyl. Interfax Ukraine news agency quoted Vladimir Gorbulin, head of Ukraine's Security Council, as saying the cabinet meeting was held in an atmosphere of "outside political pressure." The 1986 fire and explosion in Chernobyl's fourth reactor sent radioactivity over most of Europe and contaminated large stretches of Ukraine, Belarus and Russia. Ukraine says 8,000 people have since died as a result of the accident and devotes at least 10 percent of its budget to cleanup operations. The UNIAN news agency said the government would propose running Chernobyl for a "fixed period of time as Ukraine is not in a position over a short period to close down the station." It said ultimate closure would depend on creation of a special fund, stabilisation of energy supplies throughout the country, construction of storage areas for spent fuel and a decison on building a new "tomb" for the fourth reactor. Ukrainian television quoted an "official order" as saying Chernobyl's second reactor, shut after a 1991 fire, would be restarted by the end of next year. Officials at the station would not confirm the information. REUTER

Nuclear worries loom at EBRD meeting

RTw 4/10/95 10:48 AM (Recasts throughout, adds quotes) By Jonathan Thatcher LONDON, April 10 (Reuter) - Western officials said on Monday many nuclear plants in the former East Bloc are unsafe and urged that the most infamous of all, Chernobyl, be quickly shut. "(East European countries) depend on energy supplies from reactors but too many of those reactors fall short of international safety standards," British Prime Minister John Major told the annual

meeting of the European Bank for Reconstruction and Development (EBRD). The EBRD administers a fund set up by Western leaders two years ago to help make nuclear power in East Europe safer. "Nuclear safety needs a high priority and a coherent approach...it must not be pushed aside in the hope that another accident may never occur," he said. Western officials urged early closure of the Chernobyl plant in Ukraine, scene of the world's worst nuclear disaster in 1986 when an explosion released a plume of radioactivity over Europe. French Economy Minister Edmond Alphandery said his government was prepared to contribute $32 million to a Western package to close the plant. "We attach a great deal of importance to the resolution of Chernobyl," Alphandery told reporters. The EBRD has itself become dogged in controversy over the nuclear issue because of plans to bankroll a plant in Slovakia. It initially barred three anti-nuclear activists from its meeting because of their involvement last month in a protest at the Bank against the Mochovce plant in Slovakia. An EBRD spokeswoman said that following discussions with officials, the environmentalists -- including one from Greenpeace International -- could now be accredited. Environmentalists and Slovakia's neighbour Austria are bitterly opposed to the Soviet-designed plant, which they claim is dangerous and less economical than a gas-fired station. Austria has hinted it might pull out of the Bank if it goes ahead with the plant. EBRD President Jacques de Larosiere was slated to meet Slovakian officials to discuss the matter during the bank's annual meeting, which ends on Tuesday. There are fears that if the bank is not involved in financing the project, safety standards may be compromised. German Finance Minister Theo Waigel said his goverenment backed the bank's role in the project, noting: "A safe nuclear plant is better than an unsafe nuclear plant." REUTER

PAPOUTSIS SPEECH ON NUCLEAR POLICY IN THE EU ...

RTec 4/10/95 7:04 AM Papoutsis speech on nuclear policy in the EU (page 1/3) EUROPEAN COMMISSION PRESS RELEASE: SPEECH/95/64 DOCUMENT DATE: APRIL 10, 1995 + "NUCLEAR POLICY AND NON PROLIFERATION IN THE EUROPEAN UNION" - SPEECH OF CHRISTOS PAPOUTSIS AT THE SAFEGUARDS CONFERENCE - ST. PETERSBURG, 10 & 11 APRIL 1995 + Chairman, Ladies and Gentlemen, I am very pleased to be here today, on my first visit to your country as Commissioner responsible for Energy, the Euratom Treaty and the Euratom Supply Agency. The Commission of the European Union is the executive body responsible for ensuring that the provisions of the European law are complied with. As far as the peaceful use of nuclear energy is concerned, European law is laid down in the Treaty establishing the European Atomic Energy Community, referred to as EURATOM. This Treaty dating from 1957 covers a wide spectrum of nuclear activities in the European Union. I will not go into them today as I'm sure you are aware of the Euratom activities. I would like to emphasise that, in order to be acceptable, nuclear trade and any peaceful use of nuclear energy, requires, as a minimum, four distinct sets of control or protection measures. Firstly Nuclear safety measures. These relate to the safe design and the safe operation of nuclear facilities, Secondly Radiation protection measures. These relate to health and safety, environmental protection and the safe handling of nuclear materials, Thirdly Physical protection measures. These relate to the security measures taken to protect material from theft or other misuses, Fourthly Safeguards measures. These are set up within a state, between states and globally to make certain that the nuclear material and facilities are used for the declared peaceful uses only. In the European Union we place a great importance on these four sets of control and protection measures. We will also place a lot of importance in them in our future relationship with Russia, and indeed with all the countries of the Commonwealth of Independent States. In my presentation today, I would like to share some thoughts with you on general issues of non proliferation policy and on specific political issues relating to nuclear safeguards; but also on cooperation with countries of the Commonwealth of Independent States and on issues of nuclear safety and nuclear trade. Starting with the issue of trade in nuclear materials between Euratom and the Former Soviet Union, I would like to highlight that this has changed considerably since the collapse of the ex-USSR. Although supplies of enrichment services, coming exclusively from the Russian Federation, remained stable at a level of about 15% of our supplies, imports of natural uranium increased from zero to about 35% from 1989 to 1994. These imports from Kazakhstan, Kyrgystan, Ukraine, Uzbekistan and Russia thus added up to more than 4,000 tonnes last year. That is about 35% of total supplies to the European Union. This is a level of trade which fully justifies specific arrangements. A specific nuclear trade agreement with Russia should be negotiated to be in place by 1 January 1997. Even though an interim solution has been found in the Partnership and Co-operation Agreement, signed in Corfu in June 1994, we would like to start negotiations on a trading agreement with Russia as soon as possible. Directives for the negotiation of such agreements with Kazakhstan, Kyrgystan, Tajikistan, Ukraine and Uzbekistan have been proposed by the Commission to the Council. It is expected that the negotiations with these States will start soon.

We consider it important, that these agreements also set out the necessary internationally agreed non-proliferation conditions. They should also make sure that the trading under them will be carried out at market related prices and under fair market conditions. Thus the viability of basic nuclear installations will not be jeopardized. Until the entry into force of these agreements, nuclear trade will continue to be carried out on the basis of the 1989 general Co-operation Agreement between the European Union and the former Soviet Union. However, there is an urgent need to start discussing again on a new specific bilateral agreement Concerning non proliferation policy, we should note that even if the EURATOM Treaty contains no direct mention of non-proliferation. It is an instrument which promotes the cause of non-proliferation. The Treaty also foresees cooperation with third states and international organisations concerned with the peaceful development of nuclear energy. EURATOM is today a regional organisation for peaceful nuclear cooperation. The close interconnection between a regional organisation and the global system of the International Atomic Energy Agency is recognised in the text of the Treaty on the Non Proliferation of Nuclear Weapons. The European Union has established very good non-proliferation credentials. All Member States of the European Union are parties to the Non-proliferation Treaty. Three Safeguards Agreements have been concluded and implemented with the International Atomic Energy Agency. One agreement covers the Non Nuclear Weapon States and two Agreements implement safeguards agreements of the Nuclear Weapon States. To further emphasise its commitment to nuclear non proliferation, the European Union has established, as its policy, that the Non Proliferation Treaty should be extended without conditions and for an indefinite time period. Papoutsis speech on nuclear policy in the EU (page 2/3) + Questions have been raised following recent international events, as to whether the International Non Proliferation Treaty regime is an effective means to control the proliferation of nuclear weapons. The Commission of the European Union considers that the Non Proliferation Treaty is an international Treaty that has been operated successfully over the past 25 years. The success of this Treaty can be assessed when recalling the pessimistic predictions in the early 1970's. It was thought that about twenty nuclear weapon states would exist by the end of the first 25 years period of the Treaty. This prediction fortunately did not materialize. However, I believe that, apart from the imminent and very necessary extension of the Non Proliferation Treaty, the international non- proliferation regime needs constant vigilance The strengthening of the International Atomic Energy Agency safeguards system is at present under close review. In this context, the Commission has analysed with interest the recent work of the Agency. We are looking forward to the introduction of measures by the Agency's Governing Board. The European Commission is ready, in the right circumstances, to support a certain decentralization of nuclear safeguards as, for example, already outlined in recent proposals made by the International Atomic Energy Agency. I would like to draw your attention to the, so far unused, potential of regional safeguards systems, and the possibility of such a system within the Community of Independent States. Such a system would include the states which have agreed to cooperate and where several criteria of a political, legal and organisational nature are met. I consider that this Safeguards Conference today could be an important step to promote regional cooperation in safeguards and on nonproliferation measures within the Community of Independent States. I very much hope that you will take up this challenge, in the new geopolitical framework in which we now find ourselves. Chairman, I would like at this point to say a few words on a phenomenon that has caused much concern within the European Union and internationally. I am referring to the illicit trade and trafficking in nuclear materials. For about four years now, the police, security, safety and safeguards authorities in the European Union have been confronted with nuclear smuggling. Although some people seem to doubt the existence of this illicit trade, I can assure you that it does exist. In about 30 cases, smugglers were caught carrying and trying to sell nuclear material, mainly plutonium and uranium. In many hundreds of other cases radioactive substances were seized: Although such materials are of no strategic, that is, proliferation, usefulness, this smuggling has caused real hazards of radiation and contamination for their carriers and for the public in general. We have been informed that a number of cases have occurred in countries of the Commonwealth of Independent States and that appropriate measures have been, or are being, set up to combat this trafficking. Apart from maintaining the necessary transparency, there are, in my view only two means to eradicate this phenomenon: prevention and cooperation. As far as prevention is concerned, in the medium term the problem can only be resolved in two ways : by restoring adequate levels of control in nuclear activities, and by improving the nuclear material accountancy and control systems. I very much hope that as a result of this meeting, and of the discussions in the margin of the conference for the Nonproliferation Treaty in New York this month, there will be an unconditional and broad commitment of the Commonwealth of Independent States along this line. As far as cooperation is concerned, the European Commission will use all its means and channels to intensify cooperation. Cooperation already takes place with Member States authorities within the European Union. There is also cooperation with third States, with the nuclear industry and with international organisations such as the International Atomic Energy Agency in Vienna. I hope that this conference will prove to be a milestone for promoting cooperation. We are willing to put effort in this area, provided that future work and future cooperation programmes are outlined as soon as possible and receive full

support from all the political authorities. Future trade and cooperation agreements should also contain specific provisions to combat illicit trade. Activities and exchanges of information and experts should be established or reinforced. Illicit trafficking in nuclear materials is a very important issue for the countries of the European Union. I would now like to turn to the important subject of cooperation between the Community of Independent States and the European Union on Safeguards. One of the cornerstones of the international nonproliferation regime is, that each state operates an effective state system of accounting and control of all nuclear materials. This includes the necessary measures for physical protection, and for the export control of nuclear materials, nuclear equipment and dual use equipment. This must be done according to the relevant recommendations of the International Atomic Energy Agency and in the Nuclear Suppliers guidelines. It is the policy of the European Commission to support the establishment, the modernization and operation of effective state systems of accounting and control, in countries where such a policy is welcome.. To this end, for the last 3 years the European Union has been supporting states of the Commonwealth of Independent State by providing funds and relevant expertise, through specific cooperation arrangements. Papoutsis speech on nuclear policy in the EU (page 3/3) + In this respect we realise that a difference exists between Non-Nuclear- Weapon States and Nuclear Weapon States. The main responsibility for coordination and support for the establishment of state systems in Non Nuclear Weapon States is with the International Atomic Energy Agency. The International Atomic Energy Agency undertakes a large effort, while implementing the necessary Non Proliferation Treaty safeguards agreements in these states. As far as Russia is concerned, a specific cooperation programme has been established with the European Uion and useful results can already be seen. Coordination of the various support efforts is very important for cooperation. Member State authorities of the European Union, the European nuclear industry and the European Commission fully cooperate, to ensure optimum use and effect of the resources available. I believe that the effective control at national level of the nuclear materials, nuclear equipment and dual use equipment is one of the preconditions of international trade in nuclear materials. This is particularly so because of the risk of illicit trafficking of nuclear material. As mentioned before, the Commission places a high importance on the close cooperation between the countries of the Commonwealth of Independent States and in the organisation of a regional safeguards system. Even though such a regional system may be difficult to establish and to operate, it is important for the effective control of nuclear proliferation and for stopping illicit trade and of nuclear materials. As the European Union example shows, resources and expertise can be combined to achieve better results . And organisations which are independent from individual national authorities are more credible. I would now like to say some words on the very important question of nuclear safety although this is not the core theme of this meeting. The primary responsibility for the safety of nuclear reactors belongs to the countries operating them. However, the improvement of the safety of the reactors, built to earlier standards in Central and Eastern Europe and the former Soviet Union, has been for a number of years one of the top priorities of industrialized countries. In 1994, both the Corfu European Council, and the summit of the Group of the Seven Industrialized Nations in Naples, reaffirmed this priority. They also provided additional policy guidelines and financial commitments. The European Commission has continued to play a central role within this framework, particularly in relation to the coordination of the G-24 short term assistance. Given the serious concerns about the safety of the remaining Chernobyl reactors, the European Union at the Corfu European Council and the Naples Summit of the G7 put forward a specific action plan to achieve their early closure. The G7 agreed in Naples to provide a supplementary initial amount of up to 200 million US $ in grants for this plan. In Corfu, the European Union expressed its willingness to raise 400 MECUs for loans. and to provide an extra 100 MECUs in grants over 3 years, specifically for the Chernobyl plan. I am looking with interest to the future developments in Chernobyl. However, to be effective, the international assistance efforts for nuclear safety, have to be part of broader reforms. A fundamental measure in this direction would be the consolidation in recipient countries of legally based, independent nuclear safety authorities. To this end, the CONCERT Group, which brings together the nuclear safety authorities of the European Union and recipient countries, is providing the setting for standing cooperation and an overview of assistance activities. Chairman, Ladies and Gentlemen, In conclusion, I would like to leave with a number of clear messages from the European Commission, the executive body of the European Union. First of all we have a clear and specific interest to promote, to support and to strengthen the international non proliferation regime We would like to be sure of your full commitment and support for the strengthening of the international non-proliferation regime. Secondly, the new phenomenon of illicit trafficking of nuclear materials needs to be combatted effectively. The European Union is prepared to support this with funds and expertise. We are prepared to assist in the modernisation of state systems for accounting and control of nuclear material, nuclear equipment and dual use equipment. Thirdly, European Union is also ready to support the establishment of an effective regional / safeguards system in CIS if the states in the region so desire. Such a regional safeguards system can also, at the same time , be a further means to effectively detect and to deter nuclear proliferation. Fourthly, the European Union is interested in nuclear trade on the basis of a negotiated specific nuclear trade agreement. We believe, however, that effective

international Non proliferation safeguards, complemented by regional safeguards and necessary measures at state level, are essential before we can promote international trade in nuclear goods. And last, but not least, the European Union is concerned to ensure that the necessary nuclear safety standards are implemented in all nuclear installations. The world cannot afford another Chernobyl - type accident, for many obvious reasons. Apart from the unacceptable damage to human life and the environment, another such accident would also put an effective end to all developments of the peaceful use of nuclear energy in many parts of the world. I would like to thank you for inviting me to address this important meeting. I wish you a successful conference, and look forward to our future cooperation. END OF DOCUMENT

US ATOMIC TESTS KILLED CHEMISTS' WHITE BLOOD CELLS

RTw 4/10/95 1:15 AM Release at 6 p.m. EDT (2200 GMT) WASHINGTON, April 9 (Reuter) - The U.S. Army exposed chemists at one of its labs in the 1940s and '50s to such high doses of radiation that their white blood cell counts dipped, according to documents released on Sunday by a presidential advisory panel. The documents show that health officials believed there would have been an outcry had workers at Los Alamos lab known about the impact of the gamma radiation tests and feared divulging the reports. "The results of the studies indicate that the tolerance levels for chronic exposure to gamma radiation which have been accepted both within the (Atomic Energy Commission) and elsewhere may be too high," chief insurance officer Clyde Wilson wrote in a December 1948 memo on workers at the northern New Mexico lab. "In the hands of labour unions the results of this study would add substance to demands for extra-hazardous pay," the memo said. In the same period, studies found that technicians working with uranium compounds at Oak Ridge National Laboratory in Tennessee were not totally protected from absorbing uranium. The declassified documents are among many being reviewed by a panel appointed by President Bill Clinton to assess the government's role in human radiation experiments and whether it should compensate some of the test subjects. Advisory panel staff said it was not clear whether the information was ever released to Los Alamos workers, whether any steps were taken to protect them, or whether the depressed white blood cell counts had any impact on their health. While most of the panel's work has focused on Cold War-era experiments, it is also reviewing environmental oversight of top secret defence sites by the Nuclear Regulatory Commission, Defence Department, Energy Department and Environmental Protection Agency. The EPA informed the panel that none of its staff has the clearance to inspect the so-called "black" defence programmes. The agency said it monitors other federal agencies actions by reviewing their environmental impact statements. EPA also said no staff had ever been assigned to inspect a highly classified Air Force site at Groom Lake, Nevada. The site is the subject of two lawsuits involving alleged burning of toxic materials in the open air. REUTER

NUCLEAR EXPERIMENTS

APn 4/10/95 12:11 AM By H. JOSEF HEBERT Associated Press Writer WASHINGTON (AP) -- Workers at a uranium processing plant at Oak Ridge, Tenn., were targeted in the late 1940s as research subjects in an effort to learn more about the effects of radiation on the body, a recently declassified document suggests. The document, found among boxes of secret papers, outlined an elaborate plan to study the workers through medical tests and, when possible, collecting tissue samples, including bones, extracted teeth and other body parts. Although details remain sketchy, the document suggests the researchers' interest was foremost in research about radiation health effects as opposed to gathering health data to provide worker protection, one investigator said. "There is an opportunity," the researchers argued in detailing the proposed studies in a 1949 memo, "to secure the type of medical information required ... to interpret, in terms of human experience, the toxicological findings of small animal research." The Oak Ridge document was found among hundreds of boxes of classified papers in a storage vault at the Oak Ridge National Laboratory by investigators from the president's Advisory Committee on Human Radiation Experiments. The panel, which for a year has been examining the government's use of humans in radiation experiments during the decades of the Cold War, is expected to discuss the document and other issues at two days of meetings this week. Some of the Oak Ridge workers were involved in electromagnetic separation of uranium at increasingly high concentrations, according to the document. Others were mechanics and technicians participating in programs referred to only by their code names -- "Sunflower" and "Daffodil" -- with no further explanation. Most of the research data were to be sent to the University of Rochester School of Medicine, which

in the 1940s and early 1950s conducted much of the research into radiation effects on humans. Some of the plan called for collecting hard and soft tissue samples and extracted teeth, and upon a worker's death, collecting bones and body parts so they could be closely examined for radiation effects. "This will involve making arrangements with various hospitals and dental clinics in the (Oak Ridge) vicinity so that when these employees have an appendix removed these tissue samples will be available for analysis," the memo said. "Furthermore, arrangements should be made to secure samples of ... rib, sternum, vertebra and femur ... when such an opportunity is presented," it added. While the memo, written by a scientist at Oak Ridge, said the research plan had been thoroughly discussed and given wide support, it's not certain to what extent the proposal was implemented. Investigators believe it was pursued at least to some degree. "It's unclear what these workers were told, whether these (health study) plans were shared with them, and whether they were ever told about their exposures," says a staff summary prepared for the presidential advisory panel. Another part of the proposed research effort outlined a proposal to track uranium intake and absorption by closely monitoring "one or two subjects" working on the electromagnetic separation project. The memo said that despite precautions, it was known some uranium was taken in by the workers. To determine how much uranium the workers actually were breathing, a "dummy respirator" -- set to run at the same rate as the workers' breathing level -- was set up alongside the workers and examined daily. They also underwent regular examinations. Separate papers uncovered by the presidential panel involve medical studies of workers at the Los Alamos National Laboratory in New Mexico, who were subject to chronic radiation exposure as a result of tests on bomb mechanisms. Low-level radiation was released as part of the testing. A series of newly uncovered documents showed that health checks on the workers from 1946 to the mid-1950s all showed "significant depression of white blood cell counts." Researchers were concerned about the findings, but in a 1954 memo, Thomas Shipman, director of the Los Alamos health division, wrote that the records "indicate nothing startling or dramatic." "If they do mean anything, we don't know what it is," wrote Shipman to Gordon Dunning, a physician with the Atomic Energy Commission. The tests, involving five to 15 workers at a time, continued through the early 1960s. "It remains unclear whether this group was ever told of the abnormal findings ... or whether any steps were taken to further limit their exposure," a presidential advisory panel staff summary concludes.

U.S. Debates How to Halt Nuclear Spread

WP 4/9/95 11:00 PM By David B. Ottaway; Steve Coll Washington Post Staff Writers Ashton Carter, the 40-year-old whiz kid of President Clinton's Pentagon, sat in the audience at the National Academy of Sciences in Washington on Dec. 7, 1993, in the proud but nervous manner of a father about to witness the birth of a child. For months, Carter had been crafting a military mission to counter the Pentagon's newest fear: the spread of nuclear weapons to terrorist groups or nations that saw the United States as their enemy. As the Pentagon's point man for nuclear security, Carter had helped draft a classified Presidential Decision Directive, PDD-13, that gained Clinton's backing for the new initiative. He had guided an announcement speech through interagency nitpicking. He had scrambled to rewrite charts at the last-minute insistence of the White House. Now Carter listened intently as his boss, Defense Secretary Les Aspin, announced the plan to the crowded room. "We've recognized a new problem," Aspin declared ominously, "and we're acting to meet it." The breakup of the Soviet Union meant that "loose nukes" might fall into unfriendly hands, Aspin warned. Instead of guarding against an all-out nuclear war with the Soviets, the U.S. military now faced dangers such as "fighting a Desert Storm kind of war with the opponent actually having a handful of nuclear weapons," he said. To defend against the threat of nuclear disorder, Aspin said, the United States needed to develop new weapons that could penetrate underground bunkers hiding nuclear facilities. It also needed to gather better intelligence about emerging nuclear threats. To handle this new initiative, Aspin had created a high-level position that Carter would fill -- assistant secretary of defense for nuclear security and counter-proliferation. Carter's anointment that day as the Pentagon's master of counter-proliferation -- a new word for post-Cold War dictionaries -- marked an important turn in the U.S. government's struggle to redefine the role of nuclear arms in a rapidly changing world. Counter-proliferation became the Pentagon's response to a terrifying question: Can countries such as Iraq, Iran, Libya and North Korea -- all hostile to the United States -- acquire nuclear weapons or provide them to terrorists? For much of the past two years, that question has consumed Carter and others in the Clinton administration. The Soviet Union's collapse means that tens of thousands of nuclear weapons and tons of nuclear materials no longer are as tightly controlled. Moreover, the growth of global commerce and the spread of industrial technology mean that more and more nations might be able to build their own nuclear capabilities. In tackling this challenge, the administration has found itself embroiled in heated debate at home and abroad over whether the best response to this emerging threat is to develop new American weapons and military doctrine or take a diplomatic, cooperative approach -- or perhaps try both at once. Carter had been preparing for his role in this debate for years before coming to Washington.

Trained as a theoretical physicist and medieval historian, he saw national security as a field where he could leave his mark. In meetings, his ardor coursed through his hands; rarely at rest, they grew more active the longer he talked. During the 1980s, while teaching at Harvard, Carter had joined 15 different U.S. advisory boards, councils and think tanks involved with nuclear weapons policy. He received high security clearances, and, as the Soviet Union collapsed, he ran or participated in several Pentagon studies on nuclear weapons, including one on the role of intelligence gathering in fighting the spread of nuclear arms. Carter was not a hawk, but neither did he fear nuclear weapons. His published writing took a pragmatic approach, emphasizing rationality about a subject -- nuclear war -- that was in many ways irrational. Carter had been a critic of the Star Wars missile defense program during the 1980s on the grounds that it simply would not work. His articles and speeches repeatedly asked, "Where is the logic in this?" Upon his arrival in Washington, Carter found a Pentagon swirling with anxieties about new nuclear dangers. The Pentagon's war games fueled the concern. In one exercise, first reported by Brookings Institution scholar Bruce Blair, a rogue Russian general launched a nuclear attack at the United States; some 500 nuclear weapons were detonated before the "limited war" ended. Another game, run by the Federal Bureau of Investigation, took place in the streets of New Orleans. Squads of government agents swarmed through the city, searching for a nuclear bomb hidden by terrorists. The agents saved the day, but only after being given clues about where to look for the hidden explosive. Some intelligence analysts considered the Pentagon war game managers as a kind of research and development division for post-Cold War defense budgets. In the analysts' view, the war game leaders kept dreaming up terrifying threats so Congress would cough up funds for new weapons and new missions, such as counter-proliferation. Carter, however, considered the proliferation threat to be real and immediate. As he prepared to join the Pentagon in 1993, Carter wrote that the possibility of a nuclear detonation set off in anger was now more likely than during the Cold War. Preventing this, in his view, required shedding old habits of mind -- especially the reliance on slow, formal strategic arms control talks. Carter carried to Washington numbered "agendas for action," steps that could be taken quickly to shore up global nuclear security, especially in the former Soviet Union. He did not want to be remembered as just another intellectual with a theory for his time. He wanted to charge out and do something. Sometimes this got him more attention than he wanted. Counter-proliferation proved to be just one example. In Washington and abroad, Clinton administration colleagues and European allies worried that the new initiative might disrupt or damage the world's diplomatic, treaty-based system for controlling the spread of nuclear weapons. Indeed, some worried that the plan might trigger a new kind of nuclear arms race. From his winged headquarters building above the Danube River in Vienna, Hans Blix followed the Pentagon's plans with fascination and dismay. A lively, pragmatic Swedish lawyer, Blix was director general of the International Atomic Energy Agency (IAEA), the world's nuclear watchdog. Founded in the 1950s to help regulate the spread of nuclear technology worldwide, the IAEA's most important mission in the 1990s was to detect and prevent the spread of nuclear arms. It did this through a system of inspections and safeguards at nuclear facilities around the world. Where Pentagon planners and CIA analysts saw new and terrible nuclear dangers, Blix saw progress. Brazil, Argentina and South Africa had renounced nuclear weapons after the Cold War. Dozens of Latin American and African nations were concluding regional nuclear weapons-free treaties backed up by IAEA-style safeguards. The IAEA's role in nuclear police work was advanced dramatically by the 1968 nuclear Non-Proliferation Treaty (NPT). The treaty, which allowed five nations to keep their nuclear weapons, called upon the IAEA to ensure that all other member nations did not try to acquire nuclear arms. Blix embraced not only the NPT's enforcement rules but also its idealism: Every NPT signer had pledged to work toward the total elimination of nuclear arms, and Blix had given much of his professional life to this cause. Blix traveled the globe proselytizing that the Cold War's end offered a historic chance to move toward this goal. At the age of 68, Blix remained highly ambitious. He worked long hours; colleagues thought he still dreamed of becoming U.N. secretary general. Whatever his personal goals, he now pressed his nuclear disarmament views more boldly than ever. "At no time since nuclear disarmament talks began has the political climate seemed more favorable than now for far-reaching agreements," Blix exhorted. "It is time to act. The opportunities must not be lost!" In Washington, key members of Clinton's nuclear policy team, including senior arms control negotiator Tom Graham, wanted to help Blix. Some of Graham's colleagues compared the IAEA's post-Cold War importance in fighting the spread of nuclear weapons to the North Atlantic Treaty Organization's earlier role in containing communism. But Blix knew that while some officials in Washington saw his agency as part of the solution to emerging nuclear threats, others regarded the IAEA as part of the problem. Their doubts arose from the IAEA's performance in Iraq. After the Persian Gulf War ended in 1991, the United Nations discovered that Iraqi President Saddam Hussein had pursued a $10 billion secret nuclear weapons program under the noses of the IAEA's inspectors. Blix and his agency took a lot of heat in Washington. "Iraq often successfully manipulated the inspections," concluded a 1993 study by the Pentagon's Defense Nuclear Agency, based on confidential interviews with returning inspectors. "The lesson here is that any potential violator in the future may be able to `out wait' the inspection process through delays and denials." Several Americans who had worked at the IAEA publicly

attacked Blix's inspectors as weak-kneed, milquetoast U.N. types. Some U.S. nuclear weapons scientists returned from IAEA-supervised missions to Iraq grumbling that Blix wouldn't know a nuclear bomb if he tripped over one. "Blix, an attorney, would argue with me as a scientist that we weren't understanding what we were seeing," recalled Jay Davis of the Lawrence Livermore National Laboratory. "He was not perturbed by transparent Iraqi deceptions." These attacks infuriated Blix. His face turned red and he ranted for days after reading criticism of the IAEA's inspectors, colleagues recalled. He accused the IAEA's critics of ignoring the challenges of running a cooperative nuclear inspection system in scores of different countries -- all of them sovereign nations with their own laws and security interests. Yet Blix knew his nuclear inspection system had flaws. In the original NPT bargain, European nations and Japan had insisted on the most passive inspections possible. IAEA inspectors could not look or ask questions beyond a few "strategic points" in any nuclear facility. They could not walk into a nearby building that looked suspicious or wipe samples from the floor of a plant to see if the nuclear traces showed signs of clandestine bomb activity. IAEA inspectors had become like bank auditors: They depended heavily on the good faith of their clients, so they were vulnerable to a devious embezzler intent on committing a crime. Worried that his critics might seek to replace or augment the IAEA with a new posse of global nuclear police, Blix worked to revitalize his agency as a tough, credible inspection force. His first step was to make a revolutionary agreement with the very Washington agencies that housed his harshest critics, the CIA and the Pentagon. Blix believed that better access to intelligence information might have saved the IAEA from embarrassment in Iraq. He asked his Board of Governors, which included several members from Third World countries who were wary of Western dominance at the IAEA, to approve the agreement. He overcame the skeptics and obtained permission to receive what the board euphemistically called "information" from governments worldwide. CIA and Pentagon officials decided that sharing such intelligence could advance American interests by giving inspectors the tools to catch and isolate nuclear cheaters. Other countries also decided to share, but they had less information and conveyed it less often.Throughout 1993, Blix and a few senior aides drove regularly from IAEA headquarters to the U.S. Mission in the 19th district of Vienna. Security guards checked them in and escorted them to a secure "bubble." There, CIA and Pentagon intelligence analysts displayed satellite photos, line drawings and other evidence of potential nuclear weapons threats in North Korea, Iran and Iraq. CIA analysts carried sensitive satellite photos to a closed IAEA board meeting on the simmering North Korean problem early in 1993. In November, IAEA inspectors traveled to Tehran with CIA ink drawings of new, suspect buildings under construction at Iranian universities and nuclear training centers. Blix accepted such intelligence gratefully -- even greedily, in the view of some IAEA colleagues, who saw the program as a Faustian bargain. The intelligence briefings raised a danger that the agency was "being captured by the Americans," said former IAEA safeguards director Jon Jennekens. "There were almost weekly briefings, some involving many briefers from Washington and the national laboratories. Their presence was very much felt." Another problem was the CIA's split personality. One side of the agency, the one Blix dealt with, analyzed and shared intelligence. The other ran covert operations to collect intelligence. Blix's allies at the State Department feared that the CIA viewed the IAEA as a ripe target for collecting data on foreign nuclear programs. Not only did the IAEA have rich files on foreign nuclear programs, its Vienna headquarters attracted scores of nuclear scientists from around the world. It only made sense for CIA agents to try to infiltrate the place. State officials did not know what, if anything, CIA agents might be doing covertly at the IAEA -- the CIA refused to confirm or deny its intelligence collection work, even in arguments with administration colleagues. But State officials worried nonetheless that the CIA would get caught with its hands in Blix's cookie jar. That could badly damage diplomatic efforts to control nuclear proliferation, they argued during internal Clinton administration debates. None of this debate involved Blix. His problem with the CIA and the Pentagon was their analysis of the danger of proliferation. In stark terms, they were pessimists and Blix was an optimist. Blix could not seem to convince them that his inspection system should be the centerpiece of a renewed campaign to prevent proliferation. "It seems clear that the dominant opinion in the CIA is that there is a growing -- not diminishing -- threat of nuclear proliferation," Blix said at a seminar for German security experts in Bonn. "It seems clear that some of the critics feel that the only real protection against proliferating `rogue states' is [military] hardware." In other words, more missiles and more bombs, a handful of which cost more than the IAEA's annual safeguards budget. To Blix, it just didn't add up. Ash Carter admired Blix's drive to sharpen the IAEA's teeth. But as he set to work in his five-sided office at the Pentagon, Carter did not think he could rely solely on the IAEA to defend U.S. soldiers and territory from the potential threat of new nuclear-armed enemies. Carter's job was to think about battlefields and wars -- places where diplomacy and the IAEA already would have failed. The last thing he wanted was to meet a nuclear-armed North Korea in war without knowing what to do about it. But the next questions were the tough ones: what kind of weapons, for what military purpose and at what diplomatic price? At the Pentagon, Carter inherited studies that sought answers mainly in the lessons of the Persian Gulf War. That war had introduced a revolution in military thinking. Much of the public attention paid to high-tech weapons after the gulf war had focused on conventional arms. But at the Pentagon, the war had spurred a reassessment of the United States'

nuclear arsenal that produced some startling ideas. Beginning in mid-1991, the Pentagon, the Air Force and the nuclear weapons laboratories initiated several studies on new Precision Low-Yield Weapons Designs, also known as "mininukes," "micronukes" and "tinynukes." The Pentagon also carried forward work on High-Powered Radio Frequency bombs, nuclear-driven weapons designed to disrupt electronics and communications. The studies reflected the rising concern about future small wars where enemies might use weapons of mass destruction against U.S. troops. After the collapse of the Soviet Union, the U.S. military began withdrawing its smaller, tactical nuclear weapons from around the world. In the main, the Pentagon's deployed arsenal after the Cold War was gigantic -- intercontinental missiles and heavy bombers with very powerful warheads. Those big nuclear weapons would not do much good in a small war, some of Carter's Pentagon colleagues argued. To persuade the Saddam Husseins of the world never to use nuclear or chemical weapons, U.S. forces might need nuclear weapons small enough to be a plausible deterrent on a regional battlefield. In April 1993, the Joint Chiefs of Staff issued a doctrine for the conduct of nuclear war that said "a selective capability of being able to use lower-yield [nuclear] weapons" was a "useful alternative." Small nuclear weapons might also be valuable in attacking deeply buried enemy targets. After watching U.S. warplanes drop bombs down chimneys in Iraq, potential Third World enemies such as North Korea and Libya bought cement and dug deep, hardened bunkers for defense, according to intelligence assessments that circulated in the Pentagon. Conventional bombs might bust some of those bunkers, but not the deepest ones. In technical terms only, mininukes would do the job better. Carter had been thinking about these questions for years. At Harvard, he had written that the United States should either get rid of tactical nuclear weapons entirely or else rationalize them into a convincing, well-managed "nuclear expeditionary force" for regional conflict. But Carter discovered quickly that very few people outside the Pentagon wanted to think about the future of nuclear deterrence in regional wars. Even less did they want to miniaturize Washington's nuclear arsenal. In the spring of 1993, nuclear disarmament activist William Arkin disclosed the mininuke studies. Several months later a Democrat-controlled Congress, outraged that the Pentagon sought new weapons so soon after the end of the arms race, reacted by banning any further research. At the end of 1993, Carter flew to Brussels to sell NATO allies on the new counter-proliferation initiative. With communism gone, NATO needed a new mission. The alliance still managed a sizable nuclear force built to deter the Soviets from invading Europe. But NATO's High Level Group, a committee of defense officials who set nuclear policy for the alliance, had not come up with any new ideas. Carter, who could be impatient, complained to colleagues after attending NATO debates on nuclear policy, "Oh my God, what does this have to do with the post-Cold War world? What can we do to move this forward?" During this trip and again a few months later, Carter carried his colored charts to NATO's elephantine concrete headquarters near the Brussels airport. "If counter-proliferation is good for us, it's good for NATO," Carter told his Pentagon colleagues. But European ambassadors who assembled in a conference hall to hear Carter made clear they did not want to touch anything that smacked of preemptive strikes or new kinds of bombs. That would undermine the upcoming May 1995 vote by more than 170 nations on whether to extend the nuclear Non-Proliferation Treaty, they said. With the NPT vote on the line, the Europeans declared, the time had come to emphasize diplomatic programs to curb nuclear proliferation -- not new weapons. Carter did persuade NATO to begin a step-by-step program to develop its own counter-proliferation mission and to pool intelligence about new nuclear weapons threats around the world. The allies agreed to embark on a large-scale classified analysis on new threats, with Carter and a French colleague as co-chairmen. After that, they would consider whether they needed new weapons to fight the threats, the ambassadors agreed. The most basic questions remained unresolved: Who were the enemies? What was the purpose and scope of U.S. and European nuclear weapons policy? As difficult as those questions were to answer in Brussels and Vienna, they were even more daunting -- and more urgent -- in Moscow and Beijing, the capitals of America's two potential 21st-century nuclear rivals. NEXT: The nuclear triangle

ISRAEL-CHERNOBYL

APn 4/7/95 11:58 PM By JOSHUA ROLNICK Associated Press Writer KFAR CHABAD, Israel (AP) -- They were only toddlers when disaster struck near their homes -- at Chernobyl. Nine years later, their parents are still so fearful of radiation they're being sent to Israel to live with strangers. "My mom wanted me to come here so I can get healthy," said 12-year-old Julia Cherenkevitch of Kiev, Ukraine, guarding her bags after arriving at the Tel Aviv airport. Cherenkevitch was in a group of children from the former Soviet republics of Ukraine and Belarus, the regions hit hardest by the 1986 Chernobyl disaster. The group arrived in Israel at the end of March. More than 1,100 children, all Jews, have been brought to Israel by the Hasidic group Chabad since 1990, when Chabad's late

leader Rabbi Menachem Schneerson launched a campaign to save the "children of Chernobyl." Radioactive particles spread across much of Europe on April 26, 1986, following an explosion at a nuclear reactor in the Ukrainian city of Chernobyl. At least 32 people were killed in the explosion and fire, and scientists say thousands more may have died later from radiation poisoning. Hundreds of parents fear that the milk, meat and water in the region is still tainted by radiation and that their children won't get adequate medical care in the former Soviet Union. Ukrainian scientists reported this week that the concrete sarcophagus encasing the wrecked reactor at Chernobyl is deteriorating, threatening another release of radioactivity. David Kyd, a spokesman for the International Atomic Energy Agency in Vienna, said the agency considered an explosion unlikely but that radioactive dust could filter out of the sarcophagus. Cherenkevitch and a group of other young nuclear refugees arrived in Israel at the end of March. "For Ephraim to come here is a lifesaving event," said Nadezhada Giorgevna, whose 14-year-old grandson, Ephraim, was brought to Israel in 1992. "It's craziness there," said Giorgevna, who was visiting from Ukraine. "If I had to raise Ephraim where he lived, I wouldn't be able to save him." Keith Baverstock, a scientist with the World Health Organization in Rome, said some people exposed to radiation in the months after the explosion are just now getting sick. In a telephone interview, he said that radioactivity no longer is a danger but that the children are still better off coming to Israel, where they have better food and medical care and escape the constant fear that pervades life around Chernobyl. It is that fear that drives parents to contact Chabad missionaries in Belarus and Ukraine, Chabad officials say. Chabad spends about $4.5 million each year to provide dormitory rooms, food, clothes, medical care and schooling to the more than 300 children who live in Kfar Chabad, the group's religious village outside Tel Aviv. The funding comes from private donations. Many of the children arrive here with weak immune systems and eye, teeth and skin problems, said Masha Schwartzman, chief doctor at Chabad's medical clinic. "The children get a lot better when they come here," she said. About 700 children have moved out of the village to live with their parents in Israel, according to Chabad. Some have returned to the former Soviet Union. Menachem Friedman, a Bar Ilan University religion expert who studies Chabad, said the group's Chernobyl project is part of its "longtime effort to return Jews to Judaism." The movement was founded in 1788 by a rabbi in Belarus, he said.

Cracks at Chernobyl

 By PAVEL POLITYUK Associated Press Writer KIEV, Ukraine (AP) -- The concrete sarcophagus encasing the wrecked reactor at Chernobyl is deteriorating, threatening another release of radioactivity. Ukraine, which is seeking billions in Western aid to clean up the reactor that exploded in 1986, warns that water dripping into the ruins could set off another uncontrolled reaction and spread radiation over a wide area of Europe. But the U.N. atomic agency plays down that threat, saying the danger is limited to radioactive dust getting out and contaminating the local area around the power plant. Ukrainian and Western scientists have worried for years about a growing number of cracks and holes in the sarcophagus put up around the damaged No. 4 reactor. They say radioactive dust could escape through the cracks. But the crusted, lava-like fuel is also developing cracks, and Ukrainian scientists say that increases the danger. They say rain and melting snow that drip through the sarcophagus to the warm fuel mass could cause fission of uranium atoms, causing a vapor explosion that could burst the sarcophagus. "Water getting inside the fuel mass ... might lead to a spontaneous and uncontrollable nuclear chain reaction," Boris Gorbachev, one of those responsible for monitoring the sarcophagus' safety, wrote in the newspaper Vse-Ukrainskiye Vedomosti. Vladimir Tokarevsky, director of Ukrytia, the government agency that monitors the sarcophagus, also warns of the threat of an explosion because of water getting into the nuclear fuel. "Initially we saw lava with a glass-like unbroken surface, but now there are numerous splits and dust emerging," he said of the fuel, which is monitored by remote cameras and other equipment. David Kyd, a spokesman for the International Atomic Energy Agency in Vienna, Austria, said the U.N. agency considered an explosion unlikely but is concerned about radioactive dust filtering out of the sarcophagus. The structure was "designed to last for 30 years, (but) it's very doubtful it will even last 20 years," Kyd said. "It is not air and water tight ... What they try to do is keep the radioactive dust inside with a sprinkler system." If some of the sarcophagus crumbled and crashed into the rubble of the reactor, that would kick up so much dust that some would get out through the cracks, he said. That would create a radiation problem up to 20 miles from the reactor, he said. Although people were moved out of the region after the disaster, the radioactivity would get into vegetation and then into the food chain. "It's not something you can sneeze at," but it would not be cataclysmic, Kyd said. The sarcophagus was hurriedly built after the reactor blew up and burned in 1986, pouring out a cloud of radioactive particles that spread over much of Europe. Ukraine, which is heavily dependent on

nuclear power for its electricity, is arguing with the European Union over financial help to cover the cost of cleaning up Chernobyl. Western governments want the whole plant shut because of safety concerns, but Ukraine is demanding Western cash and expertise to help build replacements. Kyd said estimates on the cost of a new sarcophagus range from $1 billion to $5 billion. Volodymyr Usatenko, a Ukrainian physicist and Chernobyl expert, worries that the 10 years it probably would take to construct another sarcophagus might be too long. "The danger is so huge that the situation (in that time) could become uncontrollable," he told The Associated Press during a recent international symposium about Chernobyl in Kiev. Ukrainian experts also are voicing concern about radioactive water filling the basement of the No. 4 reactor. "There are some 11,000 cubic meters (yards) of radioactive water inside the sarcophagus," Gorbachev wrote. "This water has seeped through the nuclear fuel and dissolved 14 kinds of radioactive elements, including dangerous cesium, strontium and uranium." Tests have shown no radioactive water has leaked out, but experts say the risk remains high. If the water was to seep out, it could enter the Dniepro River, which 30 million Ukrainians depend on for drinking water.

Environmentalist says Russia ruining land, water

RTw 4/4/95 7:15 AM LONDON, April 4 (Reuter) - Russia has ruined its farmland, polluted its water and could face another Chernobyl nuclear reactor disaster, a British environmentalist said on Tuesday. Professor David Bellamy, addressing a parliamentary committee studying Eastern Europe's environmental problems, painted a grim picture of post-Communist Russia. "It is an awful indictment of Russia that it used to have the best soil in the world," said Bellamy, who hosts a wildlife series on British television. He said now the soils are dead and are blowing away. The fourth reactor at the Chernobyl nuclear plant caught fire and exploded in April 1986, sending radiation over much of Western Europe. Large areas of Ukraine, Belarus and Russia were contaminated. Bellamy told the committee: "Since the breakup of communism, there are a lot more Chernobyls waiting actually in the wings." He also criticised Russia's water supplies, saying eighty percent of Russians are consuming "water they shouldn't be drinqking."

EU pledges cash to shut down Chernobyl

RTec 4/4/95 5:42 AM STRASBOURG, France, April 4 (Reuter) - France said on Tuesday the European Union would provide money to help Ukraine shut down the Chernobyl nuclear plant, site of the world's worst nuclear disaster. European Affairs Minister Alain Lamassoure said he was still waiting for Ukraine to shut down the plant as promised but added that the EU was willing to help. "We are willing to provide generous financial assistance on a one-off basis for the Ukraine which is in a very difficult economic situation and in its last elections showed a genuine keeness for reform," said Lamassoure. He said a joint EU-Group of Seven mission would travel to Ukraine this month to discuss, inter alia, how a nuclear safety plan might be put into action. REUTER

Nuclear Waste-Box

APn 4/3/95 4:18 PM By The Associated Press Nuclear weapons sites facing the greatest environmental restoration costs under a $230 billion, 75-year cleanup program: --Hanford Reservation, Richland, Wash., $48.7 billion. --Savannah River Site, Aiken, S.C., $48.2 billion. --Oak Ridge Reservation, Oak Ridge, Tenn., $24.8 billion. --Rocky Flats Site, Denver, Colo., $22.5 billion. --The Idaho National Engineering Laboratory, Pocatello, Idaho, $18.7 billion.

Maine nuclear plant reports cracked tubes

RTw 3/30/95 6:32 PM WISCASSET, Maine, March 30 (Reuter) - Ongoing tests have indicated that 50 per cent of the generator tubes in a nuclear plant in the state of Maine have cracks or potential cracks, a state official said on Thursday. Investigators have probed

nearly a third of the 17,000 tubes at the 23-year-old Maine Yankee plant, which is off-line while officials decide whether to repair or replace the three steam generators. State nuclear safety inspector Patrick Dostie said testing has indicated that between "50 and 60 per cent" of the tubes have indications of cracking problems. Plant officials have cautioned that the data is preliminary, and spokesman Marshall Murphy said it was still too early to say how many cracked tubes would be eventually discovered. The number of cracked tubes discovered so far is much higher than expected, but officials have cautioned that it is partly the result of the use of more sophisticated testing technology. Maine Yankee is owned by Central Maine Power, New England Power Co, Connecticut Light and Power and seven other New England utilities. Representatives of the 640 megawatt plant's utility owners are scheduled to meet on April 7 to begin debating if the three generators should be replaced or repaired. The troubled tubes carry radioactive water which is heated near the reactor and are used to create steam, which powers the plant's electrical generators.

Denuking Russia

APn 3/30/95 12:22 PM By CHARLES J. HANLEY AP Special Correspondent OBNINSK, Russia (AP) -- Their calculators once clicked out megatons. Now they count their every ruble instead. The scientists who design Russia's nuclear bombs and missiles are on their own downward trajectory these days, and they're getting desperate. But they're also getting a helping hand, from an unlikely corner. A "safety net" financed by old Cold War foes is catching thousands of physicists, engineers and others from Russia's nuclear-weapons workshops just as hard times are pushing them out the door. The theory: Stop "human proliferation." Keep them paid and at work on peaceful research, and you'll keep them from selling their nuclear-weapons expertise to a belligerent small state somewhere. The theory seems to have some basis. "There are a lot of young Russian scientists looking for jobs everywhere in the world," said Nikolai S. Rabotnov, deputy research director at the Obninsk nuclear institute, 60 miles south of Moscow. The $70 million fund, underwriting more than 90 projects ranging from theoretical science to dental technology, is only one piece of a major U.S. program to help "denuclearize" the ex-Soviet Union under arms-reduction agreements -- by helping dismantle warheads, chop up missiles, convert defense plants to civilian product lines. The ambitious plans, baring Russia's nuclear heart to an old adversary, leave them alternately nervous and dissatisfied in Moscow. Some Russian officials complain the Americans are too intrusive, moving too fast. Others say they're slow and miserly. In Washington, lawmakers grumble about the expense of Russian "denuking" -- an estimated $2 billion over five years -- or wince at the thought of aiding a nuclear corps that kept America in its bombsights for so many years. In places like Obninsk, however, few complain about the U.S. role. The Institute of Physics and Power Engineering has cut its staff to 6,300 from 10,000 in recent years -- as arms accords, the Soviet breakup and Russia's economic collapse reduced both the demand for weapons and nuclear power research, and the supply of government funds. So far, no Obninsk scientists have lost their jobs, "but our salaries have been reduced and reduced. And that's hidden unemployment," said physicist Evgeny I. Yefimov. "The ISTC's work is very helpful," Yefimov said of the International Science and Technology Center, formal name for the support fund. Yefimov, whose research over the years helped develop military reactors, is now part of an ISTC project investigating new ways to use up plutonium, the dangerous leftover from warhead dismantlement. "My salary last year dropped to about $110 a month in rubles," said the balding, soft-spoken scientist, 54. "Now, with the ISTC, I'm making $200." That's still half of what he once made, but his family is surviving. The year-old ISTC has 3,000 Russian scientists and engineers on its payroll, 70 percent of them nuclear-weapons designers or builders. They stay on their home institutions' payrolls and work part-time on the "safety net" projects, earning stipends ranging from $30 a month for a junior staff member working few hours to $35 a day for a senior scientist. Some do basic science, with no immediate applications. Others are working on laser dentistry, airport radiation detectors, nuclear waste disposal -- even research on vaccines, by those who once worked on biological weapons. The United States, the European Union and Japan share the $70 million burden equally. "Give me the funds and I can spend them," said the center's American finance officer, James A. Luedeke. "We're doing something," he said, in contrast to "a lot of other programs that are having problems." Problems -- political, bureaucratic, logistical -- have dogged the overall denuclearization programs, labeled "Nunn-Lugar" for the U.S. senators who sponsored them. The helping hand of Nunn-Lugar, administered by the Pentagon, has improved the security of Russian railroad cars transporting dismantled warheads; supplied armored blankets to protect warheads; bought tons of Russia's highly enriched uranium, a bomb material, to use in nuclear fuel. But there have been setbacks: Planning bogged down for a warhead storehouse; Pentagon inaction allowed $330 million in funding to lapse unused; and Nunn-Lugar plans to build housing for retiring missile officers have drawn fire from U.S. House conservatives, who want to cut $80 million from this year's $400 million Nunn-Lugar budget.

Sniping is not confined to the U.S. side. Russia's nuclear power minister, Victor N. Mikhailov, complained in an interview that "somehow all projects with the Americans are very slow." The Russians are irritated, too, by a feature that sells Nunn-Lugar in Washington: Much of the work it finances is awarded to U.S. contractors. The armored blankets, for example, were made in Florida, and the railcar security kits were developed at New Mexico's Sandia National Laboratory. "Nunn-Lugar is an initiative to support American industry," said Vladimir A. Orlov, an independent expert on Russia's nuclear complex. "And their products are much more costly than what we can do here." There's a "U.S. cut" in the scientist support fund, too. Yefimov and others receiving U.S. grants must sign away American rights to products of their research. Despite bickering and setbacks, Nunn-Lugar moves ahead. The support fund, for example, has 2,000 more scientists and engineers in the pipeline for its three-year grants. And the auditors are on their way -- surest sign of U.S. bureaucracy taking root. Mindful of the Washington criticism, U.S. General Accounting Office teams will soon fly to Moscow, calculators in hand, to check on how the historic "denuking" is progressing.

Official discounts Chernobyl danger

UPn 3/29/95 12:52 PM By MARTA KOLOMAYETS KIEV, March 29 (UPI) -- A top Ukrainian nuclear official said Wednesday there could not be another nuclear explosion at the Chernobyl plant but that the structure around the damaged reactor is cracking and that radioactive material is escaping. The head of Ukraine's state committee on the use of nuclear power summoned reporters to a news conference to denounce recent reports portraying Chernobyl as ripe for a new disaster and to assert that the power station was fit to continue operating as were others like it. "The demands of the West to close down the Chernobyl nuclear power plant are not substantiated technically," asserted Mykhailo Umanets, chairman of the state nuclear power committee. "Forty-three RBMK Chernobyl(--type) reactors function in at least six countries and nobody wants to close them down," Umanets claimed, ignoring Western concerns about the Soviet-built reactor's design and safety. A fire and explosion at one of the four Chernobyl reactors led to the world's worst nuclear power plant accident in April 1986, spewing a toxic cloud of radioactivity across the western Soviet Union and other parts of Europe. The controversy over the safety of Chernobyl was not buried when the damaged reactor was encased in a concrete sarcophagus. Increasing calls to shut it down are met with Ukrainian requests for the cash to do it. But Umanets's vociferous defense of Chernobyl seemed to be set off by a report in London's Observer newspaper of last Sunday citing a European report claiming that the pillars supporting Chernobyl's stricken fourth reactor were "in imminent danger of bursting." "We acknowledge the fact that the monolith is cracking and highly radioactive particles are escaping," Umanets said, while at the same time rejecting any suggestion that the plant posed a hazard of a new explosion "at any time" as alleged. Even while Umanets sought to dismiss suggestions of imminent and dire danger from the plant, he further acknowledged that some parts of the sarcophagus have not been fully studied and that this is because of the high radiation, according to Interfax-Ukraine. But he insisted that an explosion at the nuclear plant was out of the question. Western companies seeking a contract for rebuilding the cracking sarcophagus drew up a report for the government and the European Union on costs of cleanup and putting a new concrete hulk over the damaged reactor. While the debate over Chernobyl is picking up steam, Umanets declared, "We nuclear scientists in Ukraine and Russia will not engage in fighting." Ukrainian officials have said they cannot shut down the three remaining reactors at Chernobyl unless alternative energy sources are found, putting the pricetag of closure at $4 billion to $6 billion. President Leonid Kuchma and the Ukrainian Cabinet are to make a final decision on the fate of Chernobyl by April 10.

Belarus president dismisses new Chernobyl danger

RTec 3/29/95 3:21 AM By Ron Popeski KIEV, March 29 (Reuter) - The president of Belarus has dismissed suggestions that the Chernobyl nuclear power station in nearby Ukraine poses a danger nine years after the world's worst nuclear accident. "This is a normal place of work," Alexander Lukashenko told a news conference at the station after a visit to the plant on Tuesday. "Some sort of wild image has been created around this station and it terrifies people. I see that this is a normal working plant," he said. Lukashenko toured the station unexpectedly after its director dismissed a report in The Observer, a British weekly newspaper, published on Sunday suggesting that a new disaster could occur there at any time. Chernobyl lies about 30 km (20 miles) from the border of Belarus, the country which suffered most from the April 26, 1986, fire and explosion in the plant's fourth reactor. Radiation caused serious contamination to about 25 percent of the area of the former Soviet republic which is sandwiched between Russia,

Ukraine and Poland. About two million people there have been affected in some way. More than 10 percent of the budget in both Belarus and Ukraine are devoted to cleaning up the aftermath of the disaster. Ukraine says 8,000 people have died as a result. But Ukraine has rejected Western pressure to close down the station's two functioning reactors on safety grounds, saying it cannot manage without the seven percent of the country's electricity that they provide. Lukashenko said he went to Chernobyl as part of a three-day tour of affected regions in Belarus. He said he wanted a better idea of how to spend Western aid. "It is very important for a man who is to decide how to spend millions of dollars to have a look at the station. Radioactivity knows no borders," he told reporters in film obtained by Reuters Television. "My opinion and impressions have changed considerably. There is absolutely no information that something dangerous happened here recently," he said. The Observer quoted a report submitted by engineering firms as saying that pillars supporting "the tomb" hurriedly built around the strickened reactor were in danger of collapsing. It accused the European Union of suppressing the report. But the EU said it had not officially presented the report because doing so could have given the firms involved publicity ahead of a decision on which group was to build a new tomb. In Kiev, Ukrainian president Leonid Kuchma repeated his position that any decision to close Chernobyl required parallel measures to provide alternative energy sources. Ukrainian officials say that required $4 billion to $6 bnillion but the EU and other donors have offered only several hundred million dollars. "Closing down the two reactors will merely increase dangers," Kuchma told a news conference. "Ukraine is willing to take a political decision on this, but only if it is accompanied by a series of decisions linked to Chernobyl." Algirdas Brazauskas, president of the Baltic state of Lithuania which has a Chernobyl-type plant, took a similar position. "We fully understand what these stations are about, but I saee no alternative," he said talks in Kiev with Kuchma. "We must improve safety standards and allow these stations to work to the end of their normal term. Anyone casually proposing that we should propose them, should put up a few billion dollars from their pockets so we can build alternatives," he added. REUTER

Radiation book republished in Japan

UPn 7/11/95 3:35 AM TOKYO, July 11 (UPI) -- Japanese researchers said Tuesday they have republished a post-World War II book about the effects of radiation on human beings. "Even 50 years after the atomic bombings, people in the world are not quite aware of the aftereffects of radiation," said Shoichiro Doi, a member of a group of researchers who re-released the English-language book. "This book is a good text to show how terrible it is." "Atomic Bomb Injuries," was first published in 1953, eight years after the U.S. atomic bombings of Hiroshima and Nagasaki in western Japan. Under the U.S. occupation of Japan after World War II, publishing anything about the bombings was prohibited until 1952, when Japan and the United States signed the peace treaty in San Francisco. It was the first book written in English to describe how radiation affects human bodies. It includes color pictures showing organs of "Hibakusha," those who suffered from the bombings, and micrographs of their tissues and cells. "The book was unique because it shows immediate symptoms of those who had suffered the Hiroshima bombing," Doi said. "Nobody can be allowed to test it on a human being." The 107-page book was originally written and edited by Nobuo Kusano, a former professor of the University of Tokyo. He did research in Hiroshima soon after the nuclear attack in August 1945. It has been 42 years since the first edition was published, so the Japanese group decided to republish it and distribute copies to doctors, scientists and physicians worldwide through the International Physicians for the Prevention of Nuclear War. The doctors' association is based in Cambridge, Massachusetts.

Mutant mice thrive at Chernobyl

UPn 7/8/95 11:54 PM WASHINGTON, July 9 (UPI) -- Anyone who has tried to rid a home of mice knows how difficult it can be, but scientists were still amazed to learn the rodents not only survived Chernobyl's nuclear disaster but thrived -- in mutant form. American scientists found massive radiation released nine years ago when Chernobyl nuclear reactor No. 4 blew up in Ukraine caused mutation in many animal species, U.S. News & World Report said Sunday in its July 17 issue. Researchers affiliated with the University of Georgia's Savannah River Ecology Laboratory said the amount of evolutionary change in some species since the accident is greater than would normally occur in 10 million years. The researchers have good reason to be concerned about the effects of radiation -- Savannah River is site of the U.S. facility where plutonium was once produced for the nation's nuclear bombs. For more than two years, the magazine said, the researchers armed with respirators, dosimeters and protective clothing have gone to Ukraine to study Chernobyl's flourishing wildlife, especially the mice. "All of your life you're told of the dangers of radiation, and here are all these organisms living with it," said team leader Ronald Chessar. "How are they managing to survive?" Extensive studies from Hiroshima and Cold War

laboratories have shown radiation breaks chromosomes and the strands of the DNA double helix, which contain the blueprints for making the body's proteins. Usually genetic damage signals a cell to die or enlists repair enzymes to restore the genetic code. Problems arise when genetic mistakes aren't fixed and persist as mutations. Such genetic errors can lead to birth defects in offspring and cancer. While Chernobyl mice don't look like mutants they have many breaks in their DNA strands, the scientists found. To prove this, the scientists captured five field mice from the Chernobyl area and compared their DNA with the DNA of five field mice from outside the area. The scientists then examined a gene called cytochrome B that, because it is passed directly from mother to offspring and changes slowly, is considered a genetic clock. The field mice from outside the irradiated area had essentially the same cytochrome B gene. But in the Chernobyl mice the gene sequences as well as their proteins were all different. In fact, the difference in the genes between normal mice and the Chernobyl mice was greater than that found between mice and rats, species that diverged some 15 million years ago, the magazine reported. What surprised scientists was the large numbers of mice found in the area -- and why, despite the genetic changes, they seem to be doing better than other species, including humans who are suffering high cancer rates. The difference between mice and mankind tempered the enthusiasm of the American scientists about their discovery. "The research potential is very exciting," Chesser said. "But I also feel the sadness of all the people who were betrayed."

Nuclear Waste

APn 7/6/95 10:44 PM SAN FRANCISCO (AP) -- A federal appeals court on Thursday rejected the government's effort to resume nuclear waste shipments to Idaho. The 9th U.S. Circuit Court of Appeals ruled 2-1 against the government's bid for a stay and expedited appeal of an Idaho judge's order blocking the shipments. The ruling was the latest development in Idaho's long-running effort to block more nuclear waste until there is a guarantee the material eventually will be removed. The shipments were first blocked in 1993 while the Department of Energy completed an environmental impact report, which found there would be no substantial damage from the shipments. U.S. District Court Judge Edward Lodge blocked shipments again in May while the state prepared an appeal of the report's finding. Idaho contends the environmental study failed to fully consider the safety and health hazards caused by the existing stored waste. Lodge has indicated that he would rule by October on the state's claim. Some 261 tons of nuclear waste are already stored at the Idaho National Engineering Laboratory. The government wants to store another 165 tons of Navy and commercial waste at the site. The head of the Navy's nuclear propulsion program, Adm. Bruce DeMars, has argued since 1992 that any interruption in Navy nuclear waste shipments to Idaho would jeopardize national security. DeMars has said the refueling of the nuclear carrier USS Nimitz and its return to the war fleet would be delayed, and a cruiser and two submarines scheduled for decommissioning would have to remain docked with radioactive fuel stored on board.

U.K. film says dead children used in fallout tests

RTw 7/6/95 6:18 PM (Updates with reaction, more details from programme) LONDON, July 6 (Reuter) - A British television programme on Thursday accused the government of carrying out hundreds of secret experiments on the bones of dead children as part of experiments into nuclear fallout levels. It also said the government used people as unwitting guinea pigs in radiation experiments. Although the government has denied that secret human radiation experiments took place in Britain, the documentary, shows on Channel Four, alleged that between 1955 and 1970 hospital pathologists removed parts from 6,000 corpses. The programme said the parts were sent without permission to laboratories to be analysed for fallout levels. Children's bones absorb radioactivity more easily than those of adults. David Evered of the Medical Research Council, sid by the programme to have organised the experiments, told BBC radio: "I have no doubt that it (the programme) is highly alarmist and in many instances seriously inaccurate." Evered said that since the 1950s permission had been an "explicit requirement" before experiments could be carried out. But the programme quoted him as saying: "It was not standard practice to obtain such permission at that time." Channel Four tracked down Grace Brown, whose one-year-old son's bones, it alleged, were used to measure radiation without her knowledge. Its researchers concentrated on documents declassified under 30-year secrecy laws. "I was absolutely devastated. It came right out of the blue," said Brown, who agreed to a post mortem after her son died from a brain haemorrhage. "It almost feels like a violation. It spoils the image of a perfect baby and he

was a perfect baby -- he was beautiful." In another case, Jean Pritchard told the programme she had been prevented from dressing her baby, Valerie, before burial. She found out 28 years later that the child's body had been mutilated as part of an experiment. "No one asked me about doing things like that to her -- taking bits and pieces like that from her. Terrible thing to do," she said. The film also dealt with radiation experiments on pregnant women in the 1950s and 1960s. One woman being treated for migraine was given radioactive food to eat daily and was told it would help her. The Medical Research Council said this was a legitimate test. "Radioactivity was used to measure iron deficiencies in some Asian women," it said. "The quantity was minute and was in wheat specially grown, ground and then made into chappatis (bread)." It added that no secrecy was involved. "The experiments...have been written up in medical journals. They have not been kept secret and are available for inspection." John Brownlow, producer of the programme, said studies were often published in obscure journals. "Some of the files we have examined are clearly marked secret and later stamped declassified so clearly they wanted the work kept confidential." REUTER

CHERNOBYL ``TOMB'' POTENTIALLY DANGEROUS-OFFICIAL SAYS

RTw 7/5/95 2:30 PM By Rostislav Khotin KIEV, July 5 (Reuter) - Officials at Chernobyl nuclear power station said on Wednesday the concrete-and-metal sarcophagus encasing its wrecked fourth reactor was potentially dangerous and should be replaced. "The danger exists that the covering could collapse and that is why a replacement must be built. But in the meantime we are concentrating on stabilising this one," Valentyn Kupny, the director of the sarcophagus, told Reuters. But he said the tomb, hurriedly built after the 1986 fire and explosion at Chernobyl which spewed clouds of radiation over large parts of Europe, did not pose an immediate risk. "There are weak spots...but builders say there are no areas inside the sarcophagus requiring emergency action," Kupny said. Ukraine has pledged to close down the Chernobyl station, site of the world's worst nuclear accident, by the year 2000. But Kiev says the station cannot be closed unless the West helps pay to build a new gas-fired plant to make up for the energy it produces and to build a new covering for the reactor. Kupny said the station's personnel were patching up 1,000 square metres of cracks on the tomb's roof and walls and planned to strengthen the pillars supporting it. A French-led consortium is due next week to present a project for a permanent "Sarcophagus-2" to replace the covering. But as yet there are no sources of financing for the project. "Ukraine cannot deal with this alone. We lack resources and financing," Ilya Likhtarev, the director of the Ukrainian Institute for Radiation Safety, told a news conference. "All Ukraine can do is stabilise the tomb. There are no analogies in the world, no rules of the game, no experience, no ways to control what's happening inside." A statement from the Chernobyl station called the current tomb "potentially dangerous for personnel, the population and the environment." Steel pillars supporting the structure could collapse, it said. An earthquake could flatten the structure along with the tonnes of nuclear fuel still trapped inside. High winds could cause radioactive dust to escape and radioactive materials could leak into groundwater, it added. President Leonid Kuchma repeated appeals for help to deal with Chernobyl during a visit to Germany this week. But Bonn promised no new cash, and the European Union says it cannot go beyond current commitments of $700 million. The Ukrainian goverment said a team of experts from the Group of Seven industrialised nations was due to discuss financing Chernobyl's closure at a meeting next week in Canada. REUTER

INDIA-NUCLEAR LEAK

APn 7/3/95 4:54 PM By ASHOK SHARMA Associated Press Writer NEW DELHI, India (AP) -- Radioactive water leaked from a nuclear power plant near Bombay for three weeks in mid-April, India's top nuclear official said Monday. Authorities didn't disclose the leak at the plant near Bombay until the Indian Express newspaper on Monday quoted panic-stricken villagers as saying 20 animals had died inexplicably. A. Gopalakrishnan, chief of the Atomic Energy Regulatory Board, said the newspaper report was exaggerated. He told The Associated Press on Monday that the leak began in mid-April, lasted three weeks, and was "minor." However, the account in the Indian Express quoted him as saying the leak lasted 45 days and had caused above-average radiation in wastewater at the nuclear complex. The power station was built in 1969 by the General Electric Co. and has two 500-megawatt reactors. According to Gopalakrishnan, the leak came from a pipe at a wastewater-processing plant built a year ago by the Indian government to handle radioactive water from Tarapur and other nuclear facilities.

"There has been a minor leak of radioactivity within the plant," he said. "No radioactivity has found its way outside the plant boundary either through the waterways, soil or air." He blamed the accident on incorrect piping layouts at the waste plant and said the leaked water was confined to an area of roughly 40 square yards near the power plant and inside the nuclear complex. "The level of radioactivity was so low that it couldn't cause any harm," he said. "There is no basis for any fear." To allay the fears of local residents, engineers removed 3.5 tons of topsoil in May and stored it separately to be treated as low-level toxic waste, Gopalakrishnan said. The Tarapur plant nearly ran out of fuel last year when France and the United States stopped supplying enriched uranium. They want India to sign the Nuclear Non-Proliferation Treaty. The Indian government, which set off a nuclear bomb in 1974, says the treaty is discriminatory and wants a universal test ban instead. India bought the fuel from China.

Gore, Chernomyrdin Sign Deal to Find Oil; No ...

WP 6/30/95 11:00 PM Gore, Chernomyrdin Sign Deal to Find Oil; No Accord on Iranian A-Plant Issue By Fred Hiatt Washington Post Foreign Service MOSCOW, June 30 -- Vice President Gore and Russian Prime Minister Viktor Chernomyrdin concluded two days of talks today with the signing of a $15 billion oil exploration deal and progress in controlling weapons sales to third countries, but no agreement on Russia's planned sale of a nuclear reactor to Iran. Gore and Chernomyrdin, who on Thursday watched together as U.S. and Russian craft docked in space, claimed progress on issues including further space cooperation, defense conversion, environmental protection, health research and nuclear safety. Gore said Russia had provided details about its existing conventional-weapons contracts with Iran and promised not to sign new deals. With that agreement in hand, Washington now is to push for inclusion of Russia as a founding member of an organization aimed at controlling sales of conventional arms. Russia also agreed to limit sales of ballistic missile technology, another area of past disputes with Washington. This will allow it to join a parallel organization aimed at controlling the spread of such weapons, Gore said. The two sides signed a deal to develop oil fields off Sakhalin Island, in Russia's Far East, under which Exxon may invest as much as $15 billion. Japanese firms also have a share of that deal. Chernomyrdin hailed the signing as "a great event," more than 10 years in the making. The vice president said the talks also helped resolve price disputes over an existing agreement for U.S. purchase of uranium removed from Russian nuclear warheads. Although talks will continue, he said, "the bottom line is, this is being resolved." Gore also claimed progress in the dispute over Russia's planned sale of a light-water nuclear reactor to Iran, which Washington opposes on the grounds that it could help Tehran develop nuclear arms. The vice president said it was his chief topic in talks with both Chernomyrdin and Yeltsin. But the two sides reported no substantial steps forward on the dispute. The Russians agree that Iran should not be aided in obtaining nuclear weapons but argue that a light-water reactor has no bearing on weapons technology. "They have agreed to continue this dialogue with an open mind," Gore said. "I believe that after this week they understand the American point of view more clearly than they did before." Gore, whose previous trips here coincided with the shocking victory of ultranationalist Vladimir Zhirinovsky in 1993 parliamentary elections and with Yeltsin's invasion of Chechnya in 1994, arrived this time in the midst of a power crisis between Chernomyrdin and the parliament. Gore joked today that he could not imagine coming when things were "calm and normal" but said the crisis did not seem to have distracted Chernomyrdin.

Backyard Radium

APn 6/30/95 10:39 PM By YURI KAGEYAMA Associated Press Writer DETROIT (AP) -- A homemade Geiger counter. Jars of acids. Radioactive elements salvaged from old smoke detectors and lamps. A stash of radioactive material, chemical charts and other equipment was removed this week from a backyard shed housing the laboratory of an ambitious 18-year-old. The teen, whom the EPA refused to name, had found slightly radioactive materials from common household items that were burned and crushed until concentrated. "He was trying to isolate all the elements on the periodic table," said Jack Barnette, a radiation expert with the Environmental Protection Agency. "He was a pretty bright kid." The government spent about $50,000 on the cleanup in a quiet neighborhood in Union Lake, about 25 miles northwest of Detroit. An EPA team in protective gear took the shed and its contents away in 39 55-gallon drums from Monday to Wednesday. The material will be shipped to a radioactive waste dump in the Utah desert. "He didn't think he was doing any harm," Barnette said. Over four years, the teen isolated such material as thorium, from old lamps, and americium, from smoke detectors, both of which could be harmful if inhaled or digested. The youth declined a checkup. He also had some radium. "It's not clear where he

got that from," Barnette said. To help his search for radiation, the teen had put together a simple Geiger counter. He separated gases and concentrated some acids in jars. He also collected rocks. "He was using fairly crude methods," Barnette said. "It doesn't look like he was anywhere close" to gathering the more dangerous uranium or plutonium, or building a bomb. Authorities learned about the teen's experiments in August, when police pulled him over on suspicion of theft, opened up the trunk of his car and found tin-foil packets containing mysterious cubes of ash. The teen said his car contained a bomb and nuclear items, said Dave Minnar of the Michigan Department of Public Health. "It turned out the bomb was a hoax, but the radioactive material was not," Minnar said. Barnette said it took 10 months before the material was removed because officials needed time for tests and to make arrangements to store it. Because the shed was in a fenced yard there was no immediate hazard and no need to hurry, he added. The EPA has yet to decide if it will ask the teen or his family to repay any of the cleanup costs, spokeswoman Heidi Valetkevitch
said.

Nuclear agency chief warns against budget cut

RTw 6/28/95 5:01 PM WASHINGTON, June 28 (Reuter) - Nuclear regulatory commissioners warned Wednesday that budget cuts proposed by Congress would seriously damage the agency's ability to license a long-delayed permanent dump for high-level radioactive waste. Outgoing Nuclear Regulatory Commission chairman Ivan Selin also said spending priorities for the nuclear waste disposal programme laid down by the House energy and water appropriations panel could cripple the nation's long-term ability to deal with nuclear waste. "I sharply disagree with the appropriations," Selin told the House energy and power subcommittee, which authorises the Energy Department's spending. In its fiscal 1996 spending plan, the appropriations panel last week slashed the NRC's allocation by half to $11 million. Selin said the cut would force the agency to close its research arm, which would be needed to evaluate a license application for the permanent dump. "We would have to severely reduce our ability to deal with the technical questions for a high-level waste facility," said NRC commissioner Kenneth Rogers. The House appropriations panel also said the Energy Department should "downgrade, suspend or terminate" its study of Nevada's Yucca Mountain as a permanent burial for nuclear power plant waste, which to date has cost $4 billion. And it directed the Energy Department to focus its resources on developing an interim storage site, so that the government could start receiving nuclear waste from power plants in 1998 as required under a 1982 law. "I think it would be a great national mistake to let (interim storage development) come at the expense of characterising deep geological disposal," Selin said. Without the interim site, the Energy Department has said the earliest it would be ready to start taking toxic waste would be in 2010. The House is proposing to cut the Energy Department's budget for the Yucca Mountain programme to $425 million in fiscal 1996 from an administration request of $630 million.
REUTER

Little progress in Ukraine-EU talks on Chernobyl

RTw 6/28/95 1:59 PM KIEV, June 28 (Reuter) - European Union and Ukrainian negotiators made little progress on Wednesday at the latest round of talks to work out a plan to shut down the Chernobyl nuclear power station. Both sides acknowledged that major differences remained over how to finance the closure of the plant, site of the world's worst nuclear accident, and compensate for the power it still produces. Hans Van Den Broek, the EU's External Affairs Commissioner, said the Union had already committed about $700 million but could do no more pending studies by experts. "We wouldn't go any further at this point in time until we have the results of the studies which are to show us what sort of compensation or resources are needed for Chernobyl to be closed," he told Reuters. Prime Minister Yevhen Marchuk repeated Ukraine's contention that it could not assume sole responsibility for closing the plant without finding alternative energy sources, rebuilding the cracking "tomb" around the crippled fourth reactor and looking after Chernobyl's 6,000 staff. "There are differences and this is absolutely normal...We have varying figures," he said. "A group is working to bring these figures together." Accompanying Van Den Broek were the European Affairs Ministers of France, Germany and Spain -- the "troika" of the current, future and past EU presidents. Ukraine has pledged to close Chernobyl by the year 2000 but says it needs about $4 billion to decommission the plant and build a gas-fired station nearby to replace the five percent of the country's power generated by two

working reactors. The April 1986 explosion and fire in Chernobyl's fourth reactor sent radiation all over Europe and contaminated large stretches of the former Soviet Union. Ukraine and Belarus still devotes large slices of their budget to cleanup efforts. Ukraine's Environment Minister Yuri Kostenko had expressed frustration earlier in the day at slow progress in the talks and European doubts over whether to build a gas-fired station. He said only a gas-fired plant could be completed by 2000 and urged the EU to drop its objections or extend the deadline.

ARMENIA REOPENS NUCLEAR POWER PLANT

UPn 6/27/95 12:21 PM YEREVAN, June 27 (UPI) -- Armenian leaders held a gala ceremony Tuesday to mark the official reopening of the nation's only nuclear power plant, six years after the station was shut down in the wake of a devastating earthquake. Armenian President Levon Ter-Petrosian cut a ribbon at the entrance to the plant's Reactor No. 2, which began working on a low-level test regime last week and is slated to begin running at full capacity in fall. The Armenian religious leader Catholicos Garegin I blessed the station, prayed for its safety and success and said an altar would be erected on its grounds 26 miles (42 km) southwest of the Armenian capital Yerevan. Environmentalists have opposed recommissioning the plant, saying it does not conform to safety standards and could release radioactive material in the event of another strong earthquake in the seismically-unstable region. Armenians have suffered through years of severe energy shortages caused by its closure, the Soviet collapse and the sabotage of gas pipelines in connection with the conflict in Nagorno-Karabakh. Officials said the single revived reactor would provide 40 percent of the total current energy supply and 30 percent of the nation's energy needs when it is jacked up to full 407-megawatt capacity in the fall. The second reactor was originally commissioned in 1980, four years after its twin was turned on, but both were shut down several months after an earthquake rocked the nation in December 1988. Armenian Prime Minister Grant Bagratyan said Reactor No. 2 would begin providing electricity to industrial enterprises in September and that work to restore the older Reactor No. 1 would start soon after. Both reactors are of the pressurized light water-cooled variety, considered much safer than the Chernobyl-style graphite moderated model. Vice-Premier Vagen Chitechyan, who headed the two-and-a-half year drive to reopen the station, said the restored reactor was "in some ways safer than analogous Soviet reactors and even better than some Western atomic stations." Faced with disapproval from international nuclear regulators, Armenia turned to Moscow for help in bringing the plant back to life, and Russia reacted last year with a credit of 60 billion rubles, worth about $60 million at the time. Armenia had sought $100 million for the work, and observers believe much of an additional 50 billion rubles in Russian aid earmarked for general use went toward restoration of the plant. Russia, which is seeking to bolster its post-Soviet position in the Caucasus Mountain region, is slated to provide 42 tons of nuclear fuel needed to get the plant running at full capacity.

NUCLEAR WASTE-STATES

APn 6/26/95 12:31 PM By The Associated Press How states as part of regional agreements have progressed in developing disposal sites for low-level nuclear wastes: WASTE COMPACTS Southwest: Plans call for construction of a dump in desert area at Ward Valley, near Needles, Calif. A preliminary state license has been approved, with a likely startup in 1996. The Interior Department recently approved the transfer of federal land to the state after a National Academy of Sciences panel discounted likelihood of radiation migrating into nearby Colorado River. The facility will take wastes from California, Arizona, North Dakota, South Dakota. Northwest: Site near Richland, Wash., has accepted wastes for years, but in 1992 limited shipments to only the Northwest and Rocky Mountain regions. Regional wastes come from Washington, Alaska, Hawaii, Idaho, Montana, Oregon and Utah and states in the Rocky Mountain compact. Rocky Mountain: Colorado was freed from developing a waste site when Richland site agreed to accept the Rocky Mountain Compact's shipments. States include Wyoming, Colorado, Nevada, and New Mexico. Central: Site chosen near Butte, Neb., but approval has been held up by opposition from local citizens and the state's governor, and the discovery that part of the 320-acre site was a wetland. The site was reduced to 110 acres to avoid the wetland. A licensing decision by the state is expected in 1996. A startup date is uncertain, possibly 1998. The site would take waste from Nebraska, Arkansas, Kansas, Louisiana and Oklahoma. Central-Midwest: A site near Martinsville, Ill., was rejected by the Illinois Siting Commission. State officials are looking for new site, but so far no location has been found. Wastes would be accepted from Illinois and Kentucky. Midwest: Ohio became "host" for a disposal site after Michigan was kicked out of the compact when it refused to accept a site. No site has been found and no site operator selected.

States in the compact are Ohio, Indiana, Wisconsin, Minnesota, Iowa and Missouri. Appalachian: List of sites being narrowed in Pennsylvania. Wastes would come from Pennsylvania, West Virginia, Delaware, and Maryland. Northeast: New Jersey and Connecticut both had expected to have a site by now, but none is imminent. Connecticut has offered $1 million a year to a community willing to have one. Southeast: North Carolina has a proposed sight near Raleigh, but has not given final approval. Earliest a facility would open is 1998. The region currently sends wastes to Barnwell, S.C., disposal site. The South Carolina Legislature recently agreed to keep Barnwell open for wastes from around the country for another 10 years, anticipating $140 million a year in fees to go for education. It also has voted to bar North Carolina wastes from Barnwell because of a lack of progress by North Carolina to develop new regional site. North Carolina calls the move unconstitutional, a violation of interstate commerce and promises to sue to keep its access to Barnwell. Regional compact members are Virginia, North Carolina, Tennessee, Georgia, Alabama, Mississippi and Florida. South Carolina withdrew from the compact in dispute over North Carolina waste. Texas: Site proposed in Hudgpeth County near Sierra Blanca, Texas, will be operated by the state and accept Texas waste. The state also is seeking approval from Congress to accept waste from Maine and Vermont. Legislation creating a Texas-Maine-Vermont compact is pending in Congress. UNAFFILIATED STATES Michigan: Kicked out of Midwest compact in 1991 after refusing to accept a disposal site. The state legislature has authorized giving any community accepting a site $1 million a year, but so far there are no takers. New York: Efforts to find a site have floundered. The state commission charged with finding a site has gone out of business as part of budget cutbacks. Officials from West Valley, N.Y., site of a former nuclear reprocessing plant, have made overtures, but want a multimillion aid package in return. Site would accept fuel only from New York. New Hampshire: There is no effort to locate a disposal site within the state. New Hampshire would like to join Texas compact. Rhode Island: With only a small amount of waste, there is no effort to get an instate disposal site. Officials are looking out of state. Massachusetts: The state is looking both instate and out-of-state for a disposal site. Texas is a possibility.

Nuclear Waste-Low Level

 By H. JOSEF HEBERT Associated Press Writer BARNWELL, S.C. (AP) -- The trucks, hauling barrels of radioactive garbage, rumble down Highway 64 to Snelling (pop. 125) and turn right at the Chem-Nuclear sign just short of where the road dead ends. "We used to have seven or eight shipments a day, now there's one or two," says George Hurst, the retired Navy chief who oversees the daily management of one of the only two disposal site in the country for low-level nuclear waste. But the truck traffic is about to increase. The South Carolina Legislature recently lifted a yearlong ban on waste shipments from outside the Southeast region. To many, the Barnwell low-level waste dump seems benign when compared with its neighbor, the federal Savannah River complex, where the government faces a daunting and expensive cleanup from decades of nuclear warhead production. Yet the dump -- with its life recently extended perhaps another decade -- is yet another example of the nation's failure to grapple with a legacy of the nuclear age: the disposal of mountains of material contaminated with relatively low levels of radiation at nuclear power plants, hospitals, universities and research laboratories in every state. More than 12.6 billion cubic feet of such wastes have been generated over the past decade. As with the disposal of long-lived, highly radioactive reactor fuel, the problems in dealing with low-level waste have plagued electric utilities, government officials and citizens for years with still no clear solution. A decade ago, Congress directed that states assume the responsibility through regional compacts, but the effort has been largely a failure. Today, not a single compact-created disposal site has been built and, with the exception of a site in California, none is even close to construction. There remains "widespread concern about such facilities among the affected public and political officials," Congress' General Accounting Office said in a report last month. Meanwhile, Barnwell has served as a release valve for low-level waste from 39 states. The only other disposal site, located near Richland, Wash., accepts deliveries only from nine Northwest and Rocky Mountain states as well as Alaska and Hawaii. The South Carolina dump, operated by Chem-Nuclear Systems Inc., a subsidiary of the giant Chicago-based WMX Technologies waste disposal company, rests on 311 acres of red clay carved from a forest of Southern pine. Last year, 733,896 cubic feet of radioactive waste, from contaminated clothing to parts of a dismantled nuclear power plant, were hauled in for burial at a charge of $152 a cubic foot. A year ago, South Carolina barred shipments from outside the Southeast, complaining, as one legislator put it, that the state was becoming "the pay toilet of the country" in the nuclear waste debate. But earlier this month state lawmakers, looking at the possibility of $140 million a year in waste disposal fees, reopened the dump to shipments from across the country for the next 10 years. The money will go to help the state's financially strapped schools. It was

a major victory for Chem-Nuclear, which hired several of the state's best-connected lobbyists and reportedly spent more than $313,000 in a campaign to sway lawmakers. It also was a victory of sorts for officials from Maine to Colorado, where local communities prefer transporting their nuclear garbage hundreds -- at times thousands -- of miles to Barnwell, rather than building their own disposal sites. In California, the state recently received a land transfer from the federal government for the Ward Valley site in the Mojave Desert. Its disposal site could open as early as next year. Environmentalists and some citizen groups are worried that thousands of years from now radioactive material from the desert site will seep into the nearby Colorado River. A panel of scientists recently concluded such contamination is extremely unlikely. A proposal by Texas to operate a waste dump in Hudgpeth County near the Mexican border also has attracted local opposition and prompted charges of "environmental racism" because the area is poor and largely Mexican-American. Texas wants to also accept waste from Maine and Vermont, but needs approval from Congress. Efforts to build a new dump in North Carolina for eight Southeastern states have produced tough talk from neighboring South Carolina. South Carolina Gov. David Beasley is threatening to keep North Carolina waste out of Barnwell. North Carolina Gov. Jim Hunt says that would be unconstitutional. A dump to replace Barnwell was to have been completed in 1993, but now is likely in 1998 at the earliest. Other states have been just as dilatory: --In Nebraska, Illinois, Ohio, Pennsylvania and New Jersey, state officials have struggled for years to find a site, but have no clear notion when a dump will be built. --Despite offering $1 million a year to any town willing to have a dump, Connecticut and Michigan have had no takers. --In New York, the state waste dump siting commission recently disbanded because of money shortages. Past attempts to survey a site resulted in sometimes violent protests. Although the Nuclear Regulatory Commission says low-level wastes are being disposed of safely, there have been disputes over their potential danger, disagreement over what should actually be declared "low-level" waste and a history of environmental problems at waste sites that are now closed. "We've got the craziest, most unscientific wastes classification scheme of anywhere in the world," says Arjun Makhijani, a nuclear physicist and president of the Institute for Energy and Environmental Research in Tacoma Park, Md. "We do not classify wastes according to hazard and longevity," he said. "We classify it according to origin and low-level waste is considered a catchall." Medical syringes and surgical gloves from hospitals, protective clothing and booties from research laboratories, resins from filters at nuclear power plants, contaminated steam generators from a dismantled power plant -- all are classified by the NRC as low-level waste. All are buried at Barnwell. The waste, most of which arrives in steel drums or in some cases packaged in concrete, is buried in shallow trenches 16 to 22 feet deep. Yellow and green drums are piled along one end of a partially filled trench, or "cell" as the workers call it. When it is full, it will be covered by dirt and grass. Some of the radioactivity will decay within months or a few years. But some long-lived radioactive elements -- including small amounts of plutonium -- won't become harmless for hundreds of years. The NRC requires protected containment from the general public for as long as 500 years and limits exposure to no more than 25 millirems of radiation a year through contaminated soil, water or air. By comparison, normal background radiation is about 125 millirems a year, while a normal chest X-ray gives off about 10 millirems. "In 100 years, 98 percent will be decayed," says Hurst as he maneuvers a pickup truck past one of Barnwell's disposal trenches. He says there's no noticeable radiation beyond normal background levels and Barnwell has had a clean environmental record since opening in 1971. Environmentalists and citizen groups are not reassured. Four of the original, but now closed, low-level waste dumps in Kentucky, Illinois, Nevada and New York all have had environmental problems, especially ground water contamination, they say. And the closed Maxey Flats site in Kentucky now is on the EPA's Superfund toxic waste cleanup list.

NUCLEAR WASTE-BOX

 By The Associated Press Facts and figures about low-level nuclear wastes: Definition: Any radioactive waste that is not spent reactor fuel or products of irradiating uranium in a reactor, which is considered "high-level" waste. Examples: Nuclear plant components and pipes and rubble exposed to radiation; reactor control rods; resins, filters and sludges from spent reactor fuel storage pools; protective clothing and booties; syringes, surgical gloves; laboratory equipment exposed to radiation. How Much: Amounts have been declining sharply because of rising cost of disposal and active campaigns to limit exposure of clothing and other items to radiation. Volumes: 2.68 million cubic feet in 1985; 1.14 million cubic feet in 1990; 792,000 cubic feet in 1993. Waste Sources: Nuclear power plants and reactors, 51 percent; industrial, 35 percent; medical facilities, 1 percent; academic institutions, 2 percent; government, 12 percent. Radioactivity: Includes radioactive elements with half-lives ranging from a few days to thousands of years. While most radioactivity is short-lived, long-lived

radioactivity found in low-level waste includes: tritium (12 year half-life), strontium-90 (28 year half-life) and plutonium (24,000 year half-life). Three classifications, based on concentration of radioactivity and decay period: Class A (95 percent of waste), Class B (4 percent and decay 100 to 500 years.), and Class C (2 percent). Class A has shortest and Class C longest decay periods. A "half-life" is the time it takes for half of the radioactivity to decay. One half-life equals 10 years that an element poses a hazard. NRC Regulations: Shallow container burial allowed as long as radioactive releases into water, air, soil or through plants and animals result in less than 25 millirems of radiation per year to any person in the general population. Radiation from a normal chest X-ray is 10 millirems and general background radiation is 125 millirems per year. Requires controlled access to the material for 100 to 500 years, depending on radiation concentrations.

Some percentages total more than 100 percent because of rounding.

Nuclear Waste-Options

APn 6/25/95 11:05 AM By H. JOSEF HEBERT Associated Press Writer WASHINGTON (AP) -- Maybe it should be recycled, or transformed through a sort of nuclear alchemy into something less dangerous -- or perhaps shot into space. These are among the ideas for disposing the growing pile of highly radioactive waste at civilian nuclear power plants. For the most part, they have been discounted as either too expensive, not yet proven, or too dangerous when compared to burying it at a suitable site. Recycling, or reprocessing, used fuel fell into disfavor in the United States in the 1970s because of concern that plutonium -- one of the products of reprocessing -- might be diverted to make nuclear bombs. A revival of nuclear fuel reprocessing is still a longshot. But there has been talk about it again as a disposal option. While eventually some wastes would have to be buried, the amount would be much smaller. When spent fuel comes out of a reactor, it is made up of largely recoverable uranium, about 1 percent plutonium, and about 3 percent fission waste products. The plutonium and uranium are separated and both can be recycled as a fuel. The process can be repeated four or five times. It has been embraced by France, Britain and Japan because traditionally they have had less access than the United States to uranium. But today there is a worldwide uranium glut and reprocessing has become not only politically, but economically suspect. "It's uneconomic and its fiendishly dangerous because it introduces atom bomb material into civilian commerce," says Paul Leventhal, president of the Nuclear Control Institute, an anti-proliferation advocacy group. "It just doesn't make any sense because the risks far outweigh any benefits. The nuclear power industry, which once argued strongly for recycling nuclear fuel, has lost interest as well. "The economy of reprocessing isn't there anymore," says Theodore Garrish, vice president for nuclear waste management for the Nuclear Energy Institute, a trade group. The Clinton administration argues that reprocessing spent fuel would put tons of weapons-grade plutonium on the international commercial markets and hinder attempts to protect against nuclear proliferation. Other disposal ideas include: --Create glass compounds -- so-called vitrification -- from waste and then send it thousands of feet underground into the earth's granite shield. --Use a particle accelerator to transmute long-lived radioactive plutonium and uranium into more benign elements. Scientists at Los Alamos national laboratory are trying to perfect the technology, but their effort is likely to take 15 or more years. Even then, it's not sure it will be practical economically. --Develop more efficient ways to burn the waste. General Atomics, a nuclear waste company based in San Diego, is working with Russia to build a reactor that would burn up plutonium and generate electricity. But the process is slow and expensive. --Dump it into the ocean in titanium containers that would bury themselves deep into the sea bed. --Shoot it deep into space toward the sun. While attractive to some, high costs and the chance of a launching accident have dissuaded others.

Nuclear Waste-Yucca Mountain

APn 6/25/95 11:03 AM By H. JOSEF HEBERT Associated Press Writer WASHINGTON (AP) -- Already decades overdue and more than $4.2 billion spent, a proposed national burial ground for highly radioactive nuclear waste in Nevada is in danger of itself being buried -- by federal budget cutters. For years the government has tried to find a permanent resting place for an expected 86,000 metric tons of deadly spent fuel from the nation's civilian nuclear power reactors. Hundreds of tons of additional wastes, including large quantities of plutonium from the defense

nuclear weapons program, also await a place to be buried. But the Energy Department program, which has focused on a site at Yucca Mountain northwest of Las Vegas, has floundered for years and critics say the government is no closer to building the repository today than it was in the mid-1960s when the search for a location began. The House, in crafting its seven-year blueprint for balancing the federal budget, dramatically cut spending for the Yucca Mountain project, providing only enough to put it into cold storage. The Senate provides some additional money, but the program's future remains tenuous. Even some of the Yucca Mountain project's supporters, who still have a 2010 target for getting it built, give it only a 50-50 chance. "A repository will never be built at Yucca Mountain," declared Sen. Richard Bryan, D-Nev., who has called the plan ill-conceived, mismanaged, and troubled by technical and scientific uncertainties. Congress increasingly is shifting its attention to finding a temporary above-ground waste storage facility. Two key House chairmen -- Reps. John Kasich of the Budget Committee and Robert Walker of the Science Committee -- suggested it might be wiser and cheaper to concentrate on the interim above-ground site where spent fuel could be held for 100 years. Bills have been introduced in both the House and Senate to put a temporary storage site in Nevada. The political turmoil has sent tremors through the Energy Department's Yucca Mountain project office in Nevada where a huge boring machine -- at the cost, by some estimates, of $60,000 a foot -- is digging a massive tunnel into the desert rock. The tunnel, now more than 650 feet deep and 25 feet across, is designed as an underground laboratory to help determine if the rocky region can hold the nuclear material for tens of thousands of years. If congressional budget cutters prevail, the work would stop, say Energy Department officials. "It cuts the program to the bone. The Yucca Mountain project will be gone as we know it," Daniel Dreyfus, director of the department's civilian radioactive waste management program, said of the House-passed budget. The confusion over the Yucca Mountain program's future comes as utility executives across the country are running out of room for spent fuel and demanding the government accept the waste as it agreed to do decades ago. The 30,000 metric tons of spent fuel at reactors today are expected to double by 2010 when Yucca Mountain -- if it survives the latest assaults -- is supposed to open, and likely to nearly triple by 2030. "The waste is not going to disappear. We cannot wave a magic wand," says Samuel Skinner, president of Commonwealth Edison in Illinois, which operates a dozen nuclear reactors. Even before the latest budget battles, the Yucca Mountain project was rocked by other controversies. Two scientists at the Los Alamos national laboratory went public with their concern earlier this year about the possibility of a plutonium explosion amid the volcanic rocks thousands of years from now, sending radioactivity into the air and into groundwater. Plutonium would remain very highly radioactive for 50,000 years and dangerous for as long as 240,000 years, say nuclear experts. But canisters are designed to keep the wastes from leaking for only 1,000 years, relying on natural geological formations after that. The findings by the Los Alamos scientists are under intense review, but not yet discounted. But even if the explosion theory is disproved, the fact that it has surfaced at all could be a blow at a time when the program is battling to keep its funding. "The Energy Department has an obligation to disprove it," says Robert Loux, director of the Nevada Nuclear Waste Project Office. The government began its search for a place to bury long-lived nuclear wastes in the 1960s. The Atomic Energy Commission declared a group of abandoned Kansas salt mines as ideal, only to overlook -- as was later pointed out by state geologists -- that the site was riddled "like Swiss cheese" with holes that would allow radioactive material to wander freely. A dozen years later as many as six separate sites were suggested, unleashing a political firestorm that forced the number down to three and then at the direction of Congress in 1987 to only Nevada. By then, more than $2 billion already had been spent. Nevada officials have accused the Energy Department of waging a campaign to get the Yucca Mountain site approved at the expense of objective scientific analysis. They have fought the project along every step. Since 1987, $2.2 billion has been spent on nuclear waste disposal programs, including $1.7 billion at Yucca Mountain. Congressional and independent investigators repeatedly have cited poor management, cozy relationships and conflicts of interest between government officials and contractors in a program often described as unfocused, in disarray. In 1992, Joel T. Hall, a retired Air Force general and a program consultant, in a scathing letter to then-Energy Secretary James Watkins called the program "a disgrace ... (that) is doomed to failure." He accused managers of tailoring their data collection to support a successful license application, instead of determining objectively whether the site is scientifically suitable. For example, he wrote, one contractor working to determine if the site was suitable already had a contract to get the site licensed and built. The Clinton administration revamped the program's focus on site suitability, sped up drilling and vowed to determine whether a repository is suitable for Yucca Mountain by 1998 with construction to be completed by 2010. Last month, a consultant's review conducted for state utility regulators concluded that the Energy Department still has "failed to inspire any significant level of public trust and confidence" in the program. There have been other concerns such as the region's susceptibility to earthquakes, what the Nuclear Regulatory Commission staff called "poorly understood" volcanic activity in the area, and the NRC's concerns about "substantial gaps" in scientific data. And critics note that even with a proposed capacity of 70,000 metric tons, the Yucca Mountain site still would not be

able to accommodate all of the civilian spent fuel expected to have accumulated -- not to mention the government's weapons-related wastes.

Russian scientists head for wreck of nuclear sub

RTw 6/24/95 1:58 PM MOSCOW, June 24 (Reuter) - A Russian research ship left St Petersburg on Saturday on a mission to build a shield around a sunken nuclear submarine to prevent radiation leaking, Itar-Tass news agency said. Scientists will use underwater robots to install protective covers around the hull of the submarine Komsomolets which sank off northern Norway in April 1989 with the loss of 42 lives. The vessel is embedded in mud in international waters at a depth of 1,685 metres (5,530 feet). It was armed with 20 conventional and two nuclear-tipped torpedoes when it foundered and is estimated to contain about 10-12 kg (22-26 lb) of plutonium. Russian and Norwegian environmental experts have expressed fears that radioactive material from the submarine may pollute the seabed but Russian officials say it is closely monitored. The work is expected to continue until the end of July.
REUTER

Chernobyl's Young Victims Pay Toll; Thyroid, ...

WP 6/23/95 11:00 PM Chernobyl's Young Victims Pay Toll; Thyroid, Other Cancers Are Belarus's Legacy of Nuclear Disaster By Margaret Shapiro Washington Post Foreign Service BOROVLYANI, Belarus -- Bald and waif-like, dozens of children with translucent skin and sunken eyes wander through the corridors of the state cancer institute here, heartbreaking testament to the radioactive aftermath of the world's worst nuclear disaster. These tiny patients have cancers that in the past were seen rarely here: of thighbones, of the lungs, of soft tissue and, especially, of the thyroid. The Chernobyl nuclear power plant is in Ukraine, but when it exploded in 1986, 70 percent of its deadly radioactivity fell here, to the north and west, on the pancake-flat plains and forests of the now independent nation of Belarus. Ever since, the statistics of cancer, congenital malformations and illness, especially among children, have been rising. "At first people did not want to link these medical problems with Chernobyl and many accused us of radiation phobia," said Yevgeny Konoplya, director of the Radiobiology Institute of Belarus's Academy of Sciences and an expert on post-Chernobyl effects. "But now they know. All the problems they faced in Nagasaki we face here. There was no place as hard hit by Chernobyl as Belarus." And the blows keep coming. At the time of the accident in 1986 more than 2 million Belarussians were exposed to high levels of radiation, with only a belated warning and action from the Soviet government. Eventually, Moscow relocated thousands of people from some of the most hard-hit areas of Ukraine and Belarus to other spots. Since then, the collapse of the Soviet Union and the poverty of the newly independent countries that replaced it have offered little further relief. Experts say huge tracts of farmland from Gomel to Brest and Mogilev were contaminated with major doses of radioactive cesium, strontium and even some plutonium when Chernobyl exploded. They say very little is being done anymore to remedy the situation in Belarus, an impoverished nation of 10 million about the size of Kansas. "The government has no money, to resettle people, to provide fertilizers, to provide medical care," said Gennady Grushevoi, head of the private Belarusian charitable fund For the Children of Chernobyl. Some scientists suggest that fertilizers can reduce the amount of radiation absorbed by plants. The Children of Chernobyl fund raises money overseas and from some local businesses to support a wide range of medical and social programs for affected children and their families. According to the fund, hundreds of thousands of people still live in "dirty" areas and consume locally grown food and milk that tests often show are contaminated with unacceptably high levels of radiation, heavy metals and chemicals. More than 2 million people live in officially "clean" areas that nonetheless register substantially higher than normal levels of background radiation, the fund said. "The problem is the collective dose of radioactivity is increasing," said Vasily Nesterenko, an economist with the Institute of Radiation Security who is also a member of the Belarus parliament. "We get it through the food." The most dramatic sign of what experts here believe will be an epidemic of odd cancers to come from Chernobyl is the striking upsurge in cases of thyroid cancers and pre-cancerous thyroid conditions in children. In 1986, before Chernobyl, according to Yevgeny Demidchuk, director of the republic's Scientific and Practical Center of Thyroid Cancer in Minsk, Belarus registered just two cases of thyroid cancer in children under 14, about a typical number for a country its size. By 1992 that number had soared to 66 cases and last year to 82, a surge so sudden and severe that international experts, initially skeptical about Belarus's post-Chernobyl health claims, now acknowledge it can only be explained by Chernobyl fallout. "This is Chernobyl, for sure," said Demidchuk. Pre-cancerous thyroid conditions in children are even more widespread. "This is on a mass scale, several million kids who might develop

thyroid cancer," said Konoplya. At the Borovlyani cancer institute outside Minsk, more than 50 children are now being treated for brain tumors, bone tumors, kidney tumors and other cancers. Hundreds more already have come through this facility and left their mark. On the green walls of the children's floor, dozens of crayon drawings -- of rainbows, of forests, of smiling children -- are taped, many done by children no longer living. It is hard to work here, said Svetlana Petrovich, 30, one of the doctors on the ward. Not because the children are so sick, and many of them will die so young, but because in many cases a lack of equipment or medicine makes it very hard to treat them properly. The government can provide little funding; only through humanitarian aid does the facility continue to operate. Doctors get about $65 a month here and nurses about $40. Most of the nurses are clad in yellow medical gowns given as humanitarian aid by the Paris hospital system. Chemotherapy medications are provided also from overseas, but the medications that reduce the side effects of chemotherapy are not available. "We do not have the money to buy it," said Petrovich. Some antibiotics are available here -- unlike the average hospital in Belarus, where patients often must supply their own -- but the new medications needed by some children already resistant to old antibiotics are too expensive. Two weeks ago the cancer ward was getting low on intravenous tubes and was running out of catheters, so the nurses were finding other ways to administer medicines when possible. The ward no longer can use some chemotherapies that have to be monitored very closely through blood tests. "We don't have the lab equipment here, so we were sending it out to the hematology center in Minsk, but now they have run out of equipment too," said Petrovich. Anna Strakovich, 9, has been in the ward for several weeks now, getting chemotherapy treatments for cancer that began to eat away her thighbone. Belarus cannot afford to send Anna overseas for the $25,000 operation that doctors here say she needs; the doctors have told Anna's mother that in a few weeks they may have to amputate the young girl's leg. As Anna shyly looked out from her hospital bed at some visitors recently, her mother could barely conceal her bitterness. Pregnant with Anna when Chernobyl happened, Galina Strakovich said no one told her -- or her neighbors in the Brest region -- that anything was amiss, and, in fact, government officials assured them that everything was fine. "We ate the food we grew, we fed the kids local milk. Only years later did we learn the whole truth," said Galina. Petrovich, who hopes somehow some foreigner will hear about Anna and provide the money for her to get a transplant, said she cannot say for sure that Anna's cancer is caused byChernobyl's radiation. But Strakovich has no doubt. "It's related. Chernobyl is why my daughter is sick."

COMMISSION FUNDS STUDY ON SHELTER FOR CHERNOBYL ...

RTec 7/13/95 7:56 AM

Commission funds study on shelter for Chernobyl nuclear plant
EUROPEAN COMMISSION PRESS RELEASE: IP/95/758
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+
TACIS-FEASIBILITY STUDY FOR THE SAFE ENCLOSURE OF
UNIT 4 OF
CHERNOBYL NUCLEAR POWER PLANT
+ Following a decision in August 1993 by the Cabinet of Ministers of Ukraine to carry out a feasibility study for the stabilization of the existing Shelter and the containment of both the existing shelter and the damaged remains of reactor 4 at the Chernobyl Nuclear Power Plant, the European Commission agreed to finance this study under its programme of Technical Assistance to the Community of Independant States (TACIS) The corresponding contract was awarded in July 1994 to the International consortium Alliance, led by Campenon Bernard (France) and including AEA Technology (UK), Bouygues (France), SGN (France), Walter Bau (Germany) and Taywood Engineering (UK). The results of the first phase of the study were presented to a panel of Ukrainian and international experts in Kiev, between the 14th and the 16th of March 1995. At that stage, one of the main conclusions was that the existing "sarcophagus," which contains large quantities of radioactive materials, some of them with a considerable lifespan, is unstable and that its stabilization over a long period is technically impossible. The dismantling of the ruined reactor and the retrieval and conditioning of radioactive wastes for their storage and eventual disposal under safe conditions implies the construction of a new encasement isolating the works from the environment and preventing any release of radioactivity. The preference of Alliance engineers went to two possible

solutions, one "arch- shaped" building and a "box shaped" building, on which the second phase of the feasibility study has been focused. The results of the second phase were presented by Alliance to the Ukrainian and international experts in Kiev between the 11 and the 13 July, 1995. In this regard, it should be stressed that the conclusions and recommendations presented by Alliance reflect the judgement of Alliance experts and are not to be considered as a commitment of the European Commission. The Alliance experts presented their project for an arch type building. Alliance engineers opted for this latter solution rather than a "box-shaped" building because of advantages in construction. However, Alliance recommends in its final report that two options should be kept open of placing the containment solely over Unit 4, or whether it should include Unit 3, which is still operating, and the service building, known as Block B, between the two reactors. The cost of the proposed scheme to solve the problem is estimated by Alliance at about 1.2 billion ECU (1.6 billion US$) over a period of 10 years, including provision for temporary stabilization of the existing shelter, building of the new sarcophagus (either option) and management of the whole project. The European Commission considers the results and conclusions of the feasibility study as a preparatory technical element for the decision of the Ukrainian Authorities about the future of Chernobyl NPP Unit 4. In this regard, it should be remenbered that, in line with the arrangement reached with the G7 and the European Union, the President of Ukraine has taken the political commitment to close units 1, 2 and 3 of Chernobyl Nuclear Power Plant by the year 2000.

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New ``sarcophagus'' for Chernobyl reactor proposed

RTw 7/12/95 12:36 PM (Adds comments from Chernobyl official) LONDON, July 12 (Reuter) - An international consortium has submitted a $1.6 billion proposal to Ukraine's government to build a new "tomb" to encase the cracked structure containing the Chernobyl nuclear reactor wrecked nine years ago. In a statement issued in London on Wednesday, the Alliance consortium said it believed its plan would solve the problem of the cracking "sarcophagus" -- to be replaced as part of Ukraine's programme to close down the station by the year 2000. "Collapse of the sarcophagus would cause a new ecological disaster, and therefore taking no action cannot be considered an option," the statement said. "As it is, atmospheric and ground water pollution is already occurring." In Kiev, the official in charge of the "tomb" said he was satisfied with the study 10 months after it was commissioned and financed by the European Union. "The differences between what Western experts wanted and what we proposed have gradually narrowed. We now agree on most things, even the cost," Valentin Kupny said in an interview. "I am not satisfied with everything, particularly the speed with which things are proceeding. We must keep consulting. If we went ahead on our own, the West wouldn't take us seriously." Kupny had previously admitted that the cracks in the "tomb," hurriedly erected after the reactor exploded on April 26, 1986, posed a potential danger and had to be replaced. He said Ukrainian officials had persuaded Alliance that a plan to contain only the fourth reactor was the most effective option. But the consortium said it was keeping open a plan to cover both the third and fourth reactors. Kupny also said staff would complete a programme to patch up cracks in the concrete and steel structure by September. Alliance said the new structure would comprise a pre-stressed concrete arch built in sections with a waterproof membrane and a stainless steel lining inside. Alliance said any new containment building would have to act as a shield for the outside world while the ruined reactor and the sarcophagus were dismantled. Radioactive waste would also be stored under the new shield and eventually disposed of. "We are satisfied that we have proposed a practical solution to a problem which has been hanging over Europe since 1986," project leader Jean-Louis Le Mao said. "Once Shelter 2 is built, the experts can get on with the job of dismantling the remains of the reactor and making the waste safe." The sarcophagus contains an estimated 400 kg (880 lb) of plutonium waste and more than 100 tonnes of nuclear fuel and a huge amount of contaminated debris, Alliance said. The 1986 explosion spewed radiation over large areas of northern Europe. Alliance, led by Campenon Bernard (SGE) of France, also includes AEA Technology and Taywood Engineering of Britain, Bouygues and SGN of France and Walter Bau of Germany. Ukrainian officials say at least $4 billion is needed to close two functioning reactors and make the station safe, but Western countries have been cautious in pledging financing. REUTER

World marks 50 years of troubled nuclear age

RTw 7/13/95 9:30 PM By Nicholas Doughty, Diplomatic Correspondent LONDON, July 14 (Reuter) - Born in a flash of white light and enough heat to

turn desert sand into glass, the nuclear age that started 50 years ago offered humankind a bargain worthy of the Devil himself. As World War Two drew towards a close, a top-secret U.S. project to develop a new kind of weapon reached its climax. In the early hours of July 16, 1945, the first atomic bomb was detonated in the middle of a desert in New Mexico. Codenamed Trinity, the blast was equivalent to nearly 20,000 tonnes of high-explosive. The heat vapourised the tower housing the bomb and fused the sand into a sea of greenish glass. Harnessing the power of the atom would bring untold riches in energy, medicine and science. But it also meant for the first time that war could destroy the planet. For the people of Hiroshima, Nagasaki and Chernobyl, this new power brought only death and diseases brought on by radiation that sometimes took years to kill. Many eyewitnesses at the desert test site 50 years ago felt a sense of wonder at the forces unleashed. Robert Oppenheimer, who had led the U.S. Manhattan Project to develop the bomb, was more ambivalent and recalled the words of a deity from an ancient Hindu text: "I am become death, destroyer of worlds." Less than a month later, the United States dropped two atomic bombs on the Japanese cities of Hiroshima and Nagasaki. This time, it was people and buildings that were vapourised and Japan surrendered, ending World War Two. What no one could know at the time was that nuclear power would become the most dangerous element of a struggle lasting for four decades -- and that the bomb would remain hated, feared and revered long after its only use in history. Fifty years on, there is bitter debate over an exhibition in Washington to mark the bombing of Hiroshima and Nagasaki. Peace activists say the display, which features the "Enola Gay" B-29 bomber used for the Hiroshima mission, plays down the horrific consequences. Veterans argue that the action saved many thousands of U.S. lives by making an invasion of Japan unnecessary. Historians continue to argue over who is right. France, too, has stoked the nuclear debate by announcing it will resume underground nuclear tests in the South Pacific -- provoking outrage from countries such as New Zealand and Australia and protests from environmental groups like Greenpeace. "At least it could have been expected that the politicians who suck dry every anniversary...would have been aware of the peculiar foolishness of bringing nuclear testing back into focus 50 years after the first test," commentator Martin Woollacott wrote recently in the British newspaper The Guardian. New concerns have replaced the old fears that the U.S. and Soviet arsenals would be launched in a mad nuclear holocaust. Since the end of the Cold War, Washington and Moscow have negotiated big cuts in their arsenals. An entire vocabulary of military euphemisms -- "flexible response," "kill ratio" and "mutually assured destruction" -- has been scrapped along with the missiles. But the collapse of the Soviet Union in 1991 raised fears that material and technology used to make the bomb could become more easily available to governments or terrorist groups. Western countries worry that more countries could follow Iraq and North Korea in trying to develop nuclear weapons. Israel, India and Pakistan are widely suspected of having them. There is also the problem of what to do with tonnes of surplus weapons-grade plutonium and other nuclear materials which are highly toxic. Enthusiasm for the cheap energy provided by civilian nuclear power grew in the 1950s and 1960s. Here, too, it was not without cost -- the world's worst nuclear accident spewed radioactivity across much of Europe in 1986, following a fire and explosion at the Chernobyl nuclear plant in the Soviet Union. With the arms race over, the question of whether complete nuclear disarmament is either desirable or feasible is back on the agenda. Peace campaigners and many developing countries say the five declared nuclear powers -- the United States, Russia, France, China and Britain -- must now live up to commitments to dismantle their arsenals. Western allies, jealously guarding the political power and status that nuclear weaponry confers, say they need a small number of warheads to preserve security. At the same, they argue that other countries should renounce nuclear weapons for exactly the same reason. For some, the bomb helped keep the peace in Europe and prevented major wars. For others, the bright light over the New Mexico desert 50 years ago was a false dawn which made the world a more dangerous place. Two years after the Trinity blast, a group of atomic scientists set up a Doomsday clock in Chicago to monitor how close the world stood to the edge of the nuclear abyss. At the height of the Cold War the hands of the clock stood at two minutes to midnight. In 1991, they were put back 15 minutes in recognition of the thaw. It remains to be seen whether they will move back further in the next 50 years, or inch again towards the midnight hour. REUTER

Nuclear Rods

 COLUMBIA, S.C. (AP) -- A German company, frustrated with U.S. delays in accepting spent nuclear fuel rods at the Savannah River Site weapons complex, has decided to ship the controversial cargo to Scotland for reprocessing. The 52 fuel rods eventually will be put on the commercial market, an attorney for the Germans said Wednesday. Berlin-based Hahn-Meitner Institut signed a contract with Britain to process the highly enriched uranium. It had waited months for clearance to send the fuel rods to the United States, John Kyte, a Washington lawyer, told The Augusta (Ga.) Chronicle. The Energy Department's unwillingness to proceed with the latest shipment to South Carolina left the Germans with no other choice, Kyte said. The Savannah River Site

is in southwestern South Carolina, near Augusta on the other side of the Georgia-South Carolina state line. The Clinton administration has asked the 42 nations that received uranium for research to send the 24,000 spent fuel rods back to the United States. Officials fear the highly enriched uranium otherwise could end up in terrorists' hands. But South Carolina continues to fight in the courts, maintaining the U.S. government has no long-term plans for nuclear waste storage. The decision by the German company not to send the material to the United States "is a disaster for U.S. nonproliferation policy," said Alan Kuperman, a senior policy analyst with the Nuclear Control Institute in Washington. "If the U.S. reneges on its commitment to take the fuel ... the nonproliferation policy will come tumbling down like a house of cards," Kuperman said. Energy Department spokeswoman Jayne Brady acknowledged Wednesday that the agency has yet to schedule more shipments to Savannah River. Lawyer Joseph Egan, whose firm represents European countries with the rods, said the department fears South Carolina might thwart the shipments and embarrass the Clinton administration again. In September 1994, two shipments totaling 153 fuel rods waited off the North Carolina coast until the courts turned down South Carolina's challenges. Egan said Energy Secretary Hazel O'Leary is very reluctant to see a repeat of that situation, with "two ships on high seas carrying weapons-grade uranium with nowhere to go." But Ms. Brady said Energy officials were waiting for the courts to settle South Carolina's latest objections. A federal appeals court panel Tuesday issued a formal opinion reiterating its June decision allowing a shipment of 157 rods to be stored temporarily at Savannah River. However, the state has asked the full 4th U.S. Circuit Court of Appeals to rehear the case.

RUSSIA-NUCLEAR

APn 8/24/95 12:37 AM By CASSANDRA BURRELL Associated Press Writer WASHINGTON (AP) -- A terrorist would need less stolen enriched uranium than the amount that could fit inside a cola can to build a nuclear bomb that could wipe out the Capitol, the House and Senate office buildings and the Supreme Court, a scientist says. That's why the United States should do more to help Russia strengthen its nuclear weapons security, a panel of experts told a Senate subcommittee Wednesday. Russian security is inadequate, and the chance that nuclear bomb-making material will fall into the hands of terrorists is "the No. 1 threat to American national security today," said Graham Allison, director of Harvard University's Center for Science and International Affairs. Theft of radioactive substances "is not a hypothetical threat. It is a brute fact today and hard to ignore," Allison told Sen. Richard Lugar of Indiana, a Republican presidential hopeful and chairman of the Senate Foreign Relations Committee's subcommittee on European affairs. Lugar was the only subcommittee member to show up for two days of hearings. Congress is in recess until next month. It takes only a few kilograms -- less than 15 pounds -- of highly enriched uranium or plutonium to make a 1950s-style weapon big enough to cause massive destruction, said Thomas Cochran, senior scientist for the National Resources Defense Council. And that amount could easily be smuggled out of Russia, he said. To illustrate his point, Cochran pulled out a radiation meter that began clicking as he held it next to a cola can he said contained about 15 pounds of uranium -- although not the highly enriched uranium needed for a bomb. "And if this is one nuclear weapon, here is an arsenal," Cochran said, holding up a six-pack of cola cans. The scientists agreed the United States is spending far too little to help Russia keep track of its nuclear weapons, and the resulting disarray could compromise the security of the United States. The U.S. government spends $800 million a year to secure its own nuclear materials, but provides just $100 million in aid to help Russia keep track of a larger supply of radioactive substances, said John Holdren, a University of California professor and member of the White House's Council of Advisers on Science and Technology. No one knows how much Russia spends on nuclear security at hundreds of facilities, but said it's far less than the U.S. spends here, Holdren said. "U.S. government officials and support contractors who have visited some of these (Russian) facilities can give you hair-raising accounts of the lack of adequate physical security at some of these places," Cochran said. During Tuesday's testimony, CIA national security officer David Osias told Luger his agency has received more than 100 reports alleging that nuclear warheads or other components had fallen into unknown hands, "but to date the reporting has been unsubstantiated and unreliable." Most involved fraud or quantities too small to make a bomb, he said. Osias noted seizures of small quantities of weapons-usable material in the past year by police in Germany and the Czech Republic. All other reports, he said, were of frauds -- some involving low-enriched uranium, which is more readily available and unusable for nuclear bombs. The United States is making good progress helping the Russians put better security in place, John Gibbons, President Clinton's assistant for science and technology, told Lugar Tuesday. Clinton is deeply concerned about the problem and plans to continue discussions about it with Russian President Boris Yeltsin, Gibbons said.

Kazakhstan protests nearby Chinese nuclear test

RTw 8/18/95 7:50 AM ALMATY, Aug 18 (Reuter) - Kazakhstan protested on Friday against China's latest nuclear test near its southern border, saying such explosions threatened the former Soviet republic's health and environment. The test was the third over the past year in China's northwestern Xinjiang province to have upset officials and environmentalists in the neighbouring Central Asian state. The Kazakh Foreign Ministry issued a statement expressing deep concern that China had ignored its pleas to stop testing. "This (practice) creates serious damage to the environment and also to the health of our country's population," it said. Environmentalists have said the underground tests in Lop Nor, situated 1,200 km (750 miles) from the Kazakh border increased background radiation levels in the capital Almaty, located close to the Chinese frontier. "We urge the government of the People's Republic of China to abide by the world community's calls and join the moratorium on nuclear tests pending an all-embracing deal to end nuclear tests," the statement said. REUTER

Energy Dept. ends radiation experiments probe

RTw 8/17/95 12:39 PM WASHINGTON, Aug 17 (Reuter) - Energy Secretary Hazel O'Leary released Thursday the last set of records on human radiation experiments run by the Energy Department and its forerunners, closing out an 18-month investigation into test methods which had been cloaked in Cold War secrecy. The documents were earlier given to a presidential commission which at the end of September is due to release final recommendations on compensating test subjects of medical and weapons-related radiation experiments since the 1940s. While Energy Department officials said that some of the experiments were critical in developing medical technology now taken for granted -- such as diagnosing iodine deficiencies in children -- they questioned the ethics of the test methods in about 10 percent of the cases. "Of course there is a dark side," O'Leary told reporters. Three methods in particular raised ethical issues, including use of "vulnerable populations" such as prisoners and children, use of aborted foetuses and use of high doses of radiation on subjects who gained little benefit, said Assistant Secretary Tara O'Toole. Interpreting the experiments "is a complex story," she said. "It's difficult to judge the mores of the past in today's terms." Less than 5 percent of the 250,000 pages of documents reviewed by the Energy Department had to be declassified before being released. Many of the experimental methods had never been discussed before because "the culture of secrecy was so deeply embedded," O'Leary said. The presidential commission has reported that about 16,000 people were subjected to radiation tests. O'Toole said it was impossible to trace what happened to most of them, because in many cases, subjects were anonymous. REUTER

Scientists warn of Pacific nuclear radiation leaks

RTw 8/15/95 11:36 PM By Michael Perry BRISBANE, Aug 16 (Reuter) - New French nuclear tests beneath two small coral atolls in the South Pacific are unlikely to cause a major rupture of the atolls but there is a risk that leakage of radioactive waste could last millions of years, a new scientific report released on Wednesday said. The joint Australian and New Zealand study reviewed three independent environmental studies of Mururoa and Fangataufa atolls in French Polynesia, where Paris plans to detonate eight nuclear devices between September 1995 and May 1996. "It is unlikely that there will be major rupturing of the atoll as a result of the remaining eight tests, although there is insufficient evidence to be absolutely certain," said the report, released at a meeting of South Pacific environment ministers. "More significant is the risk of long-term leakage of the longer-lived radioisotopes into the lagoon and surrounding oceans," said the report, titled The Impact of Nuclear Testing at Mururoa and Fangataufa. It said the more than 180 nuclear tests at both atolls since 1966 had already caused fissures, submarine landslides and released radioactive material into lagoons. "The tests, which are conducted between 600 and 1,200 metres underground in volcanic rock, by their very nature result in localised fracturing of the rock around each test," it said. France says that immediately after each nuclear explosion, molten rock seals radioactive waste in an undergound tomb. However, the study, conducted under the umbrella of the Australian Nuclear Science and Technology Organisation, said the normal flow of water into the rocks of the atolls from the sea could provide a vehicle for leaching. "Should leakage occur there is the potential to affect the local environment of the atolls, the nearby ecosystems and the wider region," the report said. "The impacts of leakage would be greater on the atoll and would diminish

with increasing distance, due to dilution by the ocean," it said. The scientists said France's reluctance to release its data base on completed tests prevented them from reaching an accurate long-term conclusion on the environmental impact of nuclear testing on the atolls. "The group's assessments provide a sound scientific basis for concluding that nuclear testing at Mururoa and Fangataufa is extremely irresponsible," Australian Environment Minister John Faulkner said. REUTER

Nuclear Waste

APn 8/12/95 12:43 AM By BRENDAN RILEY Associated Press Writer CARSON CITY, Nev. (AP) -- An independent review of a proposed high-level nuclear waste dump at Yucca Mountain says the project has several major flaws, including no contingency plan for another site. The Energy Department is trying to determine whether the Yucca Mountain location is suitable to hold more than 70,000 tons of high-level nuclear waste, most of it used fuel from 104 commercial nuclear power plants. The $950,000 review, conducted by two independent consulting firms from Denver, Colo., concluded that the project lacks a contingency plan for an alternate site in case the present site is unacceptable, is unlikely to stay on schedule, and could see its costs increase by 49 percent if delayed for several years. Without a contingency plan, the project "will most likely suffer dire consequences if and when unanticipated events occur," the report said. The state has maintained that the area, 90 miles northwest of Las Vegas on the edge of the Nevada Test Site, is a known earthquake fault zone and unsuitable for a nuclear waste dump. Previous scientific studies also have warned of a risk of subsurface water leaking into underground nuclear storage casks. The latest report says there's little chance of the project staying on schedule because of uncertainties about whether Congress will ultimately fund the project, and potential problems posed by the earthquake faults and water infiltration. The two dumps envisioned in the project are supposed to be ready to take nuclear waste in 2010. The report states that delays of up to five years could push project costs from the federal Department of Energy's 1990 estimate of $33.6 billion to as high as $50.1 billion. The report, funded by the DOE, was sought by Nevada Gov. Bob Miller, who opposes the project, and federal Energy Secretary Hazel O'Leary. Miller said Friday that the report "demonstrates how politics, instead of science, is driving the Yucca Mountain project." "This final report reaffirms what Nevadans generally have already learned," he said. "DOE's performance has been riddled with inadequacy and poor judgment." DOE spokeswoman Samantha Richardson said the agency was prepared to take action on the recommendations "where appropriate." But she said the report also contained some positive findings, such as that the project's organization had improved over time. She said it was too early for the contingency planning cited by the report because the DOE hasn't yet chosen Yucca Mountain as a site. The study was conducted by Peterson Consulting Limited Partnership in conjunction with John Reiss Jr. & Associates. The two firms worked under a contract with the National Association of Regulatory Utility Commissioners.

Two hurt in gas explosion at Swiss nuclear plant

RTw 8/11/95 5:58 AM By David Christian-Edwards ZURICH, Aug 11 (Reuter) - A gas explosion shook the non-radioactive part of Switzerland's Leibstadt nuclear power plant on Friday, injuring two maintenance workers. Police said the explosion took place in the plant's machine room at 8.25 AM (0625 GMT). The nuclear reactor had been closed down since August 4 for annual maintenance work and was not affected. "The situation is not as serious as it may sound," Aargau cantonal police spokesman Rudolf Woodtli said. "There was absolutely no danger for the environment or population. Maintenance work goes on as planned." The explosion happened when two maintenance workers from ABB, the Swiss-Swedish power engineering group, entered a container in a turbine section. "There was a detonation of gases inside the container, the origin of which has not been established yet," a spokesman at the plant, Leo Erne, said in a statement. Erne said the two men suffered "moderately severe" burns and were flown by Switzerland's REGA air rescue service for treatment at a university clinic in Zurich, 51 kms (32 miles) away. "They were not contaminated. The plant was not damaged and no radioactivity escaped," he added. Erne told the Swiss News Agency (SDA) the machine room had been cordoned off, but 800 workers carrying out the annual maintenance continued to work as normal. Although the Leibstadt plant said the type of gas had not been established yet, police spoke of a so-called oxyhydrogen explosion, caused by hydrogen mixing with air or oxygen. The 990 megawatt Leibstadt nuclear plant is located on the river Rhine in northern Switzerland near the border with

Germany and is close to the German town of Waldshut. The Swiss energy ministry confirmed no nuclear radiation had taken place. "It does not seem one has to draw any consequences as a result of this explosion," ministry spokesman Adrian Luethi said. Switzerland generates 40 percent of its electricity with nuclear power plants, making it one of the countries most dependent on nuclear power in Europe. Virtually all the rest of its electricity comes from hydroelectric plants, with one small oil-fired plant in western Switzerland producing about one to two percent. Elektrowatt, a power utility with a 40 percent stake in the Leibstadt plant, said on Friday the Swiss nuclear power generating industry had never had a serious accident. "Past accidents have been small like today's. The reactor part of a plant has never been damaged," company spokesman Matthias Fankhauser said. The Leibstadt plant was given a favourable rating by an International Atomic Energy Agency (IAEA) team that inspected it in 1994, according to an official Swiss report published in June this year. The Chief Department for Safety in Nuclear Plants (HSK) said in the report that the IAEA officials were particularly impressed by the staff's high technical competence, the condition and cleanness of the plant, and the low level of radiation. The HSK said there were 13 small accidents in Swiss nuclear plants last year, but none had any consequence for the environment. REUTER

Ukraine impatient on West's help to close Chernobyl

RTw 8/8/95 10:21 AM (Adds background, Parashin and Kim quotes) By Ron Popeski KIEV, Aug 8 (Reuter) - Ukraine, showing growing impatience over the West's failure so far to pay for the closure of the Chernobyl nuclear power plant, said on Tuesday it wanted talks soon with leading industrialised countries to settle the matter. The country's powerful nuclear lobby, in no hurry to shut down the facility, said it was plain the West had no intention of providing cash for impoverished Ukraine. Officials said plans had been drawn up to operate the station -- site in 1986 of the world's worst nuclear accident -- into the next century. Environment Minister Yuri Kostenko said President Leonid Kuchma had written to Prime Minister Jean Chretien of Canada, current chairman of the Group of Seven industrial countries, seeking talks next month on Ukraine's plan to close the station by the year 2000. He added that Ukraine had the right to alter its pledge to shut the plant, where a reactor exploded and caught fire on April 26, 1986, if the requested $4 billion was not forthcoming. "The president reminds the prime minister that Ukraine has received no reply from G7 about its plan of action to close Chernobyl," he said. "Ukraine insists that this information be sent to Kiev as quickly as possible...If financing is not forthcoming, Ukraine has the legal and moral right to alter its decision." Kostenko said Western experts had described as "not entirely realistic" the Ukrainian proposals, which call for construction of a thermal plant to compensate for the five percent of Ukraine's energy generated by Chernobyl. But he said any assessment of Western intentions had to await the proposed talks with G7 representatives. Ukrainian officials have warned the West that they could continue to operate Chernobyl unless two main concerns were met -- construction of the thermal plant and safeguards for the welfare of the station's 6,000 staff. The station's officials say Chernobyl has been the safest of five stations operating in Ukraine this year. Visarion Kim, a top nuclear industry official, said his authority had drawn up the plan to keep Chernobyl operating for another 16 years before Kuchma's shutdown pledge last April. The plan called for upgrading two working reactors and a third closed by a fire in 1991. The cracking concrete and steel "tomb" around the stricken fourth reactor is to be replaced with Western help. "Ukraine had two paths before it -- working together with the West on Chernobyl and rebuilding Chernobyl on its own," Chernobyl's director, Sergei Parashin, said by telephone. "As the West obviously does not wish to help us, we are choosing the second way. Time is passing and there is no money...Chernobyl could continue to work for 16 years." Kostenko said he knew of no concrete plan to continue operating Chernobyl, although he added the nuclear industry was entitled to produce one. The 1986 Chernobyl disaster is known to have killed more than 5,000 people in Ukraine who were enlisted to help put out the fire. More than three million were affected by the accident in Ukraine, Belarus and Russia. REUTER

France unveils ``big secret'' of Pacific nuclear site

RTw 7/26/95 2:56 AM (Eds: date July 25 is correct since French Polynesia is east of the international dateline) By John Chalmers MURUROA ATOLL, French Polynesia, July 25 (Reuter) - France mounted a media counter-offensive on Tuesdsay to the storm of protests against its decision to resume nuclear weapons tests, giving journalists a rare visit of its South Pacific

test site. Mururoa, one of the 130 French Polynesian islands dotted over an ocean area the size of western Europe, means "big secret" in the local dialect. The military's aim in flying 37 journalists from Paris to this South Seas paradise was to lift a shroud of secrecy surrounding France's underground blasts -- and explode what French officials call the myths about the threat they pose to the environment. "We are trying to put the stress on dialogue," said General Paul Vericel, head of the nuclear experiments centre at Muroroa. "We aim to carry out the tests in an environment of openness." Within weeks of taking office in May, President Jacques Chirac announced that France would carry out eight tests at Mururoa and the nearby atoll of Fangataufa from September until next May before signing a Comprehensive Test Ban Treaty (CTBT) in late 1996. The decision has made France a pariah in the South Pacific and unleashed worldwide protests, spearheaded by the environmental lobby group Greenpeace. In an effort to assuage the concerns of Pacific Rim countries, the military has organised a second visit for a group of journalists from Australia, New Zealand, Japan and a handful of other neighbouring states later this week. France's first nuclear test took place in the atmosphere above the Sahara Desert in 1960. After 17 tests there, experiments were transferred to the two uninhabited volcanic reefs in the South Pacific in 1966. Here France conducted 175 controlled explosions -- the last 134 deep under the atolls or their coral-studded lagoons -- before President Francois Mitterrand declared a moratorium in 1992. Opponents of renewed testing argue that the explosions have deposited radioactive elements in the sea which threaten the regional environment. They say that further tests risk weakening the atolls' fragile coral geostructure and unleashing contamination several times greater than the 1986 Chernobyl nuclear power plant accident in the Soviet Union. Their voices went unheard during the press visit. Instead, journalists were run through a slick programme of lectures by science boffins, visits to the site and, if they dared, a dip in the azure waters of the lagoon. The Mururoa atoll, its palm fringes snaking for 40 miles (63 km) around the lagoon, is essentially the rim of a submerged volcano that has been shifting with the earth's plates since it erupted 70 million years. Experts at the site say one fear often raised, that tests could trigger a fresh eruption, was misguided because the source of the volcano is now 750 miles (1,200 km) from the atoll. Gerard Martin, head of radiological safety on the atoll, explained that exhaustive tests had shown the level of radioactivity in and around Mururoa was no higher than in Paris. This, his colleagues explained, was largely due to the fact that the test charge, lowered 600 to 1,000 metres (1,800 to 3,000 feet) underground, vitrifies the volcanic rock around it at the moment of explosion, sealing in the radioactive material. Despite all their scientific arguments, the experts admitted at the end of the first day of the visit they have constantly failed to convince the public their tests are safe. "People don't believe us...we just can't get ourselves believed," one said. REUTER

BRF--Russia-Radioactive

 OZERSK, Russia (AP) -- A small amount of radioactive material leaked out of a container at a nuclear plant near this Ural Mountains town, a plant spokesman said Tuesday. The amount of cesium-137 isotopes that leaked from the Mayak plant exceeded the state-approved monthly discharge level by 5 percent but posed no contamination danger, Alexander Suslov told the Interfax news agency. Workers were not exposed to radiation during the accident Monday evening, and no contamination of the plant's grounds was reported, he said. No further details about the accident were released. Mayak, also known as Chelyabinsk-40, was founded in the late 1940s to produce plutonium for the first Soviet atomic bombs.

France to repair controversial nuclear reactor

 GRENOBLE, France, July 25 (Reuter) - France's nuclear safety agency on Tuesday authorised repairs to the fault-snagged Superphenix fast-breeder nuclear reactor, shut since December after a leak of argon gas was detected in its cooling system. The repairs would take three to four days and cost 20 million francs ($4 million), plant director Bernard Magnon said. He told Reuters he would ask the DSIN nuclear safety agency for permission to restart the reactor within two to three weeks. The 18-year-old reactor at Creys-Malville, near the Alpine town of Grenoble, has been closed since Christmas last year, less than three weeks after being restarted following its previous shutdown. Plagued by expensive faults, the 1,200-megawatt Superphenix has functioned normally for only six months since it was built in 1976 and many ecologists want it closed for good. The government last year authorised it to operate

at up to 30 percent of capacity as a research unit for recycling nuclear waste, well short of its original design as a fast-breeder producing more plutonium than it burns when generating electricity.
REUTER

Dangerous Reactors

APn 7/23/95 1:26 PM WASHINGTON (AP) -- A federal intelligence report has identified 10 nuclear reactors in the former Soviet Union that are at high risk for failure. The 10 reactors at five power plants in Slovakia, Lithuania, Russia, Bulgaria and Ukraine are suffering from design flaws, poor regulation and weak local economies, according to the report, obtained by The New York Times. "These reactors continue to experience serious incidents, raising the specter of another Chernobyl," the report said. The world's worst nuclear disaster occurred in 1986 when a Soviet nuclear station in Chernobyl exploded, killing 31 people and releasing radiation across Europe. The Times obtained a copy of the Energy Department report from the Natural Resources Defense Council, a group advocating financial aid to improve the reactors. The NRDC wouldn't say how it obtained the report, the newspaper reported Sunday. "This is an intelligence report and it is prepared for policy people throughout the government to use," Barbara Semedo, spokeswoman for DOE, told The Associated Press on Sunday. "It was circulated widely throughout the government for people to see and use the information as they see fit, but it is not a policy document." Semedo said a copy of the report would be made available to reporters Monday. The NRDC didn't return telephone calls Sunday. Congress is considering cuts to a $121 million program that provides technical assistance to nuclear plants in the former Soviet Union. Semedo said this periodic report was initiated during the Reagan administration and is not related to the budget debate. Western experts have repeatedly expressed concern about the safety of the Soviet-built reactors. The DOE report ticked off a list of problems at the various reactors, including undersized cooling cores, reactors that rely heavily on human intervention to avoid accidents, rolling blackouts, and worker protests.

The Bomb-A Reconstruction

APn 7/20/95 1:32 PM "Dimples Eight-Two from North Tinian Tower," radioed the traffic controller. "Take off to the east on Runway A for Able." At 2:45 a.m. on Aug. 6, 1945, Tibbets gunned his overloaded bomber. "I never saw a plane use that much runway," said Brig. Gen. Thomas F. Farrell, Groves' deputy on the island. "I thought Tibbets was never going to pull it off." In his tail cubbyhole, gunner Caron in his Brooklyn Dodgers baseball cap asked: "Colonel, are we carrying a chemist's nightmare?" "Not exactly," Tibbets replied. "How about a physicist's nightmare?" he asked, taking a wild guess. "He gave me a really funny look," Caron recalled, and said: `That's about it.' " ------ Seven B-29s in all made up Operation Centerboard. One was standing by on Iwo Jima, captured in February at the cost of almost 6,000 Marine lives, in case Enola Gay broke down. Over Iwo, Tibbets formed into a V as two observer and instrument bombers joined him. Up ahead, three weather planes scouted the targets. One of the observers was Harold Agnew, a physicist at Los Alamos. He was the only one who also had been present at Enrico Fermi's historic squash court in Chicago in 1942, when man's first controlled nuclear reaction produced about enough energy to light a cigarette. He had come full circle, from spark to bomb. "I had lost a lot of friends in the Pacific war," said Agnew. "Some New Mexico National Guardsmen had been on the Bataan Death March. I had a chip on my shoulder." Cruising at 205 knots, Tibbets got the weather report for Hiroshima: A 10-mile hole over the city. "Advice: Bomb primary." Tibbets began climbing. At 31,600 feet, he turned to 264 degrees and slowed to 200 knots. Ahead, clearly visible, was the T-shape Aioi Bridge, Ferebee's aiming point. "She's yours, Tom," Tibbets said to the bombardier, veteran of 63 combat missions in Europe. "I've got it," Ferebee replied. The observer planes veered off. At 0815:17 Ferebee called: "Bomb away!" Co-pilot Capt. Robert Lewis, taking notes, wrote: "There will be a slight intermission while we bomb our target." Little Boy first fell broadside, then headed nose down toward the city. Tibbets threw his plane into a power dive. The bomb was to explode at 43 seconds. Lt. Morris Jepson, assistant armorer, counted off. At "43," he thought: "It's a dud." Then a light of incredible intensity filled the plane. ------ Air raid alarms had sounded at 0700 when a U.S. plane flew over to assess the weather, but nothing had happened. So when the sirens went off again for another plane high in the blue, Hiroshima kept on its way to work. The promise of a warm, sunny day ended at 0816:02 just 1,850 feet above the courtyard of Dr. Karo Shima's clinic, 550 feet southeast of Aioi Bridge. A white light

hotter than any sun, hot enough to burn human shadows into the pavement before disintegrating them to nothingness, enveloped Hiroshima. Cmdr. Mitsuo Fuchida, the flier who led the attack on Pearl Harbor, had been in Hiroshima the day before. He returned the day after, stunned at the charred graveyard of 100,000 of his countrymen. "My, God, what have we done?" wrote Lewis as Enola Gay flew homeward. The stunned Supreme War Guidance Council in Tokyo was not sure. Yoshio Nishina, Japan's leading physicist who had done some preliminary work for his own country's atom bomb, visited Hiroshima on Aug. 7. Yes, President Harry S. Truman's announcement was correct. Only a nuclear bomb could have done this. On Aug. 9, a second bomb, twin of the plutonium weapon tested in New Mexico in July, was dropped by Maj. Charles W. Sweeny's borrowed Bock's Car. As many as 165,000 people were killed outright or died from radiation over years to come. The two bombs Groves thought were enough to convince Japan to surrender had been dropped. Still, the War Council was equally split whether to continue the war -- one counterargument to those who say the second bomb was unnecessary. The impasse was all the more remarkable considering Russia had attacked in Manchuria with overwhelming force the day before. Nonetheless, the Council adopted its "fundamental policy" that anticipated the "honorable death of 100 million." Gen. Sadao Araki declared: "If we could have 3 million bamboo spears, we would be able to conquer Russia easily." But deep in his bomb shelter under the Imperial Palace, Hirohito had had enough. "The time must come when we must bear the unbearable," he said. Groups of diehard soldiers revolted and tried to stop Hirohito's recorded announcement of capituation. They were suppressed. On Sept. 2, on the battleship Missouri in Tokyo Bay, Japan signed the documents ending World War II. ------ Several days later a Navy freighter carrying grain docked at what was left of Nagasaki. "The place looked like it had been hit by a giant blowtorch," said Fred Dutton, a junior engineering officer. The governor of the province asked the ship's officers for dinner at his undamaged palace outside the city. "He had been educated in the U.S.," Dutton recalled. "We didn't talk about the bomb. He was just pleased there would be no more killing."

End Adv for Release Anytime

The Bomb-A Day in Hiroshima

APn 7/20/95 12:12 PM By ERIC TALMADGE Associated Press Writer HIROSHIMA, Japan (AP) -- It is a drab, misty morning in Peace Park. At this early hour, the park belongs to the doves -- pigeons, actually -- which sit cooing in the dampened trees or peck contentedly at scraps of food in the grass. Throngs of tourists and children on school outings can be expected even on the slowest of days, but for now there are no distractions along the broad paths to the Peace Bell, the Children's Peace Monument and the concrete-and-granite Memorial Cenotaph. Here, under a dull gray arch near what was once ground zero -- today, "city center" is the preferred term -- are enshrined the names of 186,940 people who lost their lives because of the world's first atomic bomb attack. The names are encased in a stone coffin, hidden from public view, but a weather-beaten inscription in its glistening face of stone offers this vow: "Let All The Souls Here Rest in Peace For We Shall Not Repeat the Evil." The promise has been upheld since the monument was unveiled in 1952. But because of bomb-related cancers and other diseases, the number of souls enshrined here grows with each passing year. ------ Hiroshi Harada has forgotten many of the details. He remembers being on the platform at Hiroshima Station waiting for a train that was to evacuate him to the countryside. It was morning. His parents were with him. He was 6 years old. Then came a flash. He remembers being buried alive. And he remembers fighting his way out. "I was saved by a series of coincidences," Harada says, pausing for a moment beside a particularly grisly painting in a gallery depicting what other survivors went through that day. "Had the station building not been between me and the bomb, had I not been able to get out from under the rubble, had any of those things been different, I could have died," he says, turning back to the painting. "It is still hard for me to look at these pictures. Every time I come here -- it never gets easier." Avoiding the gallery isn't an option. As director of the Hiroshima Peace Memorial Museum, he runs it. Showing people the horrors of Hiroshima's past is part of his job description. Something like 40 million people have visited the museum since it opened in Peace Park in 1955 with its wax statues of victims whose flesh drips from outstretched arms, its blocks of stone indelibly marked by the shadows of people long dead. But last year, the museum made a major addition. Context. In its new wing, exhibits delve into the reasons why Hiroshima was bombed, including the politically sensitive topic of Japan's military escapades in Asia and Hiroshima's often forgotten importance as a military port and garrison city. Unlike the uproar in America over the Smithsonian's attempt to create a similar exhibition around the Enola Gay, the plane that dropped the bomb, the change here has been widely acclaimed. "It is very important to look history straight in the eye," Harada says. "We must reflect on what we did that was wrong. The people of Hiroshima realize that because what happened here was so awful." ------ The sun is coming out, and the air is fresh and sweet. It's the lunch hour, and joggers are out en masse atop

Hijiyama, a quiet, tree-covered hill with a breathtaking view of the department stores and high-rise apartments in the crowded downtown area, about 1 1/2 miles away. Inside Hijiyama's most famous building, the Radiation Effects Research Foundation, geneticist Akio Awa begins his tour in the cryogenics lab, where a technician carefully loads a tray of blood samples for freezing in shiny metal vats of liquid nitrogen. Awa, affable and articulate, next leads the way to the tissue culture lab, where blood from the spleens of mice is being prepared for testing. From there, it's down the hall to the cytoscan lab and a roomful of researchers peering at "painted" chromosomes through powerful microscopes in search of mutants. Since 1947, medical researchers here have studied the effects of the bomb on both Hiroshima and Nagasaki, which was attacked three days later, and scrutinized the lives of the survivors. They have mapped out the pathology of radiation sickness, calculated cancer risks, helped set international standards on acceptable radiation levels and collected a mountain of data. But one big question remains unsolved. "In more than 40 years of investigation with different kinds of approaches, we have failed to demonstrate any increase in genetic damage passed down to the children of survivors," Awa says. "Theoretically speaking, there should be some. We have found it in experiments with mice, fruit flies, certain kinds of plants. But we have yet to find it in our experiments with humans." Does this mean the second generation, and the generations to follow, are safe? Maybe, Awa says. And maybe not. ------ A tape-recorded bell rings through the muggy, late-afternoon air. School's out at Honkawa Elementary. As his students flit out of their classrooms, laughing and sprinting for the gate, Principal Naoshi Sasamura points across a sandy playground to a tall "niwa urushi," or tree of heaven. "It began growing just after the bomb," he explains. "It's another reminder for us of how precious life is." Honkawa Elementary School was only 400 yards from ground zero. Miraculously, the building, though burned and severely damaged, remained standing. The people weren't so lucky. "The explosion came just 15 minutes before school was to start," Sasamura says. "Of about 400 children and 15 teachers here that morning, only two survived." Sasamura, a third-grader back in 1945, already had been evacuated to the countryside by the time the bomb fell. "When I came back for the first time months later, there was nothing," he recalls. "I had to collect scrap metal, anything that could be resold, to help our family survive." Sasamura and his family managed to rebuild. He went on to college, became a teacher, then a principal. Honkawa Elementary, meanwhile, became a symbol. Immediately after the bombing, it was used as a hospital. Part of the original schoolhouse has been preserved, and now serves as a museum. But after decades of peace and prosperity, Sasamura fears that, even here, the lessons of the past are beginning to fade. "Children today don't feel the importance of things, of life, of helping each other," he says. "We learned these things through the hardships we endured. It is our duty to pass them on." ------ Night is beginning to fall. Downtown, thousands of workers, well-groomed and neatly dressed, crowd the sidewalks and streetcars. A few stop in at Shanghai Renaissance, a popular watering hole with jazz on the stereo and a poster of Humphrey Bogart out front. Others head for Hiroshima Stadium -- just across the tracks from Peace Park -- to cheer on the local pro baseball team, the Carp. As the darkness deepens, crowds converge on oases of neon, where the smells of grilling chicken, cigarette smoke, rice wine and beer fill the muggy air. Along the rivers, pleasure boats set off for a long and rambunctious summer night. But in Peace Park, all is quiet. Floodlights illuminate the eerie skeleton of the A-Bomb Dome, left standing as a symbol. A few yards away is the Motoyasu River. In the bomb's aftermath, it was a floating mortuary, clogged with the bodies of dead and dying. Tonight, reflections of young lovers holding hands waver silently on the inky water, then disappear along a breaking wave.

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The Bomb-Fear Chronology

 By The Associated Press Key dates in the great atomic bomb scare: August 1945: U.S. drops two atomic bombs on Japan. February 1946: Federation of American Scientists publishes "One World or None," best-selling appeal for international government and nuclear arms control. June 19, 1946: Soviets reject U.S. proposal for international control of nuclear weapons, insist on production moratorium. July 1, 1946: U.S. begins A-bomb tests at Bikini Atoll in the Pacific. June 24, 1947: Soviets block access to West Berlin from West Germany; Allies subsequently launch Berlin Airlift to supply the city. 1948: Publication of Dr. David Bradley's "No Place to Hide," which emphasizes radiation danger of nuclear power and weapons. Sept. 23, 1949: President Truman announces Soviet Union has exploded an atomic bomb. Jan. 31, 1950: Truman says U.S. will develop hydrogen bomb; subsequently creates Federal Civil Defense Administration. 1951: Atomic tests in Nevada desert brighten nighttime skies over San Francisco and Los Angeles. Nov. 1, 1952: U.S. secretly tests first thermonuclear device at Eniwetok Atoll in the Marshall Islands; news leaks out over next few months. Aug. 12, 1953: The

Soviet Union's first thermonuclear test. March 1, 1954: U.S. H-bomb at Bikini produces blast twice as powerful as expected and 1,000 times more powerful than Hiroshima bomb. Blasts spread radioactive ash over 7,000 square miles of the Pacific, sickening crewmen of Japanese fishing vessel. One later dies. Oct. 4, 1957: Soviets launch Sputnik space satellite, indicating their advances in rocket science. November 1957: Gaither Report on U.S. nuclear preparedness leaks out. It describes Soviets as leading U.S. in weapons and calls for $25 billion shelter-building program -- a sum Eisenhower said the nation could not afford. 1958: Soviets install first intercontinental ballistic missiles. 1958: Soviets, U.S. sign atmospheric test ban treaty 1959: Strontium-90 begins to show up in milk; nation experiences "fallout scare." July 25, 1961: President Kennedy, in speech to nation during Berlin crisis, urges Americans to built bomb shelters. Sept. 1, 1961: Russians resume nuclear testing, exploding almost 30 bombs in a month's time. Oct. 27, 1961: Checkpoint Charlie closed in wall between West and East Berlin. 1964: Films released: "Doctor Strangelove," director Stanley Kubrick's Cold War satire, and Sidney Lumet's "Fail Safe," in which Moscow and New York are destroyed in nuclear war. 1971: New York Gov. Nelson Rockefeller, an advocate of civil defense in the '50s, dissolves state Civil Defense Commission and releases all but 16 of 250 staffers. June 12, 1982: Hundreds of thousands of anti-nuclear demonstrators march in New York City, part of campaign in U.S. for nuclear weapons freeze. March 23, 1983: President Reagan announces Strategic Defense Initiative, or "Star Wars," to protect nation from nuclear attack. 1983: "The Day After" broadcast on ABC. 1985: Mikhail Gorbachev assumes power in Soviet Union, concludes nation is on verge of economic collapse. 1987: U.S. and Soviet Union sign Intermediate Nuclear Forces Treaty. 1989: Berlin Wall comes down. 1992: Federal government issues its last national census of fallout shelters. 1993: Army Corps of Engineers holds conference on salvaging historic remnants of the Cold War, such as missile silos.
End Adv for Release Anytime

BOMB-FEAR UNLEASHED

 ------ The summer of 1961 was the scariest since '45. With the Soviets walling off West Berlin, President Kennedy went on television to call for fallout shelter construction and promise "to let every citizen know what steps can be taken to protect his family in case of attack." Soon, black and yellow shelter signs with the fan-shaped radiation symbol began appearing on buildings, such as the Cowtown Bowling Palace in Fort Worth, Texas. Many were stocked with enough food and water for two weeks, after which Americans were supposed to dust themselves off and get on with their lives. Schoolchildren learned to duck under their desks and cover their heads. "Remember what to do, friends," said Bert the Turtle, star of a civil defense film. "What are you supposed to do when you see the flash?" "Duck and cover!" everyone chanted. The poet Robert Lowell wrote: "All autumn, the chafe and jar of nuclear war; We have talked our extinction to death." We did more than talk. We started digging. In the Chicago suburb of Flossmoor, optometrist Lawrence Greenspan built a bunker in the corner of his basement. When neighbors came by for a look, they noticed the gun hanging from a nail near the shelter door. Next to it was a sign: "This bomb shelter was built for a family of five for two weeks. Trespassers will be shot." The neighbors laughed it off; Greenspan's son wasn't so sure his father was kidding. Downstate, in Pekin, civil defense officials sought volunteers to spend a week inside a new 11-by-13 foot shelter. Gene Fitzgerald, a steelworker recovering from a broken leg, stepped forward -- and brought along his wife and three daughters, aged 3, 2 and 9 months. Over the next week, the Fitzgeralds ate canned food, read by candlelight and broadcast daily reports to the outside world. Father kept busy taking blood pressures and temperatures and checking the air supply. The 2-year-old turned 3, and the baby cut a tooth. Over in Normal, a young minister named Jim Pruyne didn't think talk like "Better Dead than Red!" was very Christian. So, one Sunday, he took the pulpit at the First Presbyterian Church to advocate shelter construction, insisting that "it is our responsibility to live. So therefore, go forth and build a fallout shelter." Then he built one in his own basement. Between 100,000 to 200,000 Americans built a home fallout shelter. Most did not, partly because there was no good answer to the question that occurred to Patricia Munk as she watched a family on her street build a shelter: What about your neighbors who didn't have one? The alternative was a system of public shelters, but Eisenhower had rejected that in 1957; construction would cost $25 billion, and the nation couldn't afford it. Not and build bombs, too. ------ One of the strangest things about the great bomb scare was how it ended -- right after the greatest crisis of the Atomic Age. In 1962, the United States discovered the Soviets were installing missiles in Cuba. Kennedy told Nitika Khrushchev to take them out, or else. The Soviets backed down, but the civil defense craze already had peaked. Americans had worried too long about an attack that never came, and soon the nation began a decade-long lurch from assassination to riot to scandal to Vietnam. By 1970, polls did not even rank nuclear war as one of the country's top 10 problems. The Doomsday Clock turned back to 11:50. In the early '80s, as relations between the

superpowers soured, the bomb scare made a brief comeback. But in 1983, President Reagan announced a nuclear defense shield known as "Star Wars" that the Soviets could ill-afford to duplicate. A few years later, Mikhail Gorbachev unilaterally ended the arms race. Today, several smaller, unstable nations have nuclear weapons programs, but they are regional rather than global threats. No one has exploded an atomic weapon in anger since 1945, and no significant power has joined the nuclear club since China more than 30 years ago. The world remains dangerous, but not suicidal. The Doomsday Clock stands at 17 minutes to midnight, the safest time in the atomic age. Nuclear fear is giving way to nuclear nostalgia. This summer, visitors to the Smithsonian's National Museum of American History pass curiously by a family fallout shelter uprooted from a lawn in Fort Wayne, Ind. Some note the inside locks on the hatches. The government has not updated its census of public fallout shelters since 1992, when there were 536,225, including the Cowtown Bowling Palace. The signs are faded, the supplies long ago given away or thrown away. Family shelters have been beaten into wine cellars and playrooms. One bomb shelter is a mom shelter. In Flossmoor, night nurse Sheryllee Lowe sleeps by day in the shelter constructed 34 years ago by Dr. Greenspan, the house's previous owner. Mrs. Lowe, coincidentally, was a member of the Ribbon Project, a campaign to commemorate the 40th anniversary of Hiroshima by tying a ribbon around the Pentagon. Her basement was state headquarters for the effort, and hundreds of peace banners were stored there. The Rev. Pruyne, who practiced what he preached, chuckles at the memory: "I wish I had the money I spent to have it built, so I could afford to have it taken out." Patricia Munk is now 71, and a grandmother 10 times. Her son Richard, the boy born in the shadow of Hiroshima, is a pediatric orthopedist in Toledo, Ohio, and has raised three children of his own. Unable to do anything about war between nations, his mother stopped the war within herself, and found peace in a time of madness. "Although I was agitated by the bomb, underlying it all was the sense that there was something about life that was all right," she says. Hiroshima seems like a long time ago; when you read Patricia Munk the words she wrote that summer 50 years ago she can only murmur, "Oh my. ... Wow." She made it. Her little boys made it. We all made it.

End Adv for Release Anytime

Russia-Sunken Sub

APn 7/19/95 8:45 PM MOSCOW (AP) -- A scientist said Wednesday that a team of experts had sealed holes in a sunken nuclear submarine, preventing it from leaking radiation for decades. Anatoly Sagalevich said the scientists had patched the titanium hull of the submarine Komsomolets, which sank six years ago in the Norwegian Sea, the Interfax news agency reported. The Komsomolets "will no longer pose a serious threat over the next 20 to 30 years," Sagalevich told the Ministry of Emergency Situations. Environmental experts had urged Russia to seal the submarine last year, saying radioactive plutonium could leak at any time from the submarine's nuclear reactor or two nuclear-tipped torpedoes. The repairs, begun last month, were done with the help of Mir miniature submarines. The crew made 16 expeditions to the submarine, which is resting 5,600 feet under water, and sealed the holes with a special adhesive. Sagalevich said initial samples of water, silt and plankton in the wreckage area "revealed a normal radioactive and environmental situation," Interfax said. The Komsomolets sank in April 1989 after catching fire 210 miles north of Norway. Forty-two of the 69 Soviet sailors aboard died in the accident.

NIH-Radiation

APn 7/18/95 12:45 PM By PAUL RECER AP Science Writer WASHINGTON (AP) -- Investigators are checking radioactive laboratory materials seeking the source of an isotope that may have been added deliberately to a water cooler at the National Institutes of Health. At least 25 people, including a woman four months pregnant, were exposed to a radioactive isotope called P-32 that apparently was placed in a water cooler and near a refrigerator on one floor of a building on the NIH campus in Bethesda, Md., officials said Tuesday. NIH spokesman Tom Flavin said the isotope supplies are carefully monitored and inventoried. As a result, he said, investigators may be able to determine the specific source of the radioactive chemical. He said traces of radiation from the isotope were found in a water cooler and on the carpet in front of a refrigerator. "It is very unlikely that this happened by accident," said Flavin. The radiation exposure was discovered June 28, said Flavin, when a scientist turned on a geiger counter and began checking for radiation levels in a kitchen area on the fifth floor of the National Cancer Institute building. The scientist, who is the designated radiation safety officer for the area, was accompanied by his wife,

who also works there. As the geiger counter passed near the wife, said Flavin, the instrument registered a jump in radiation, indicating that she had been exposed. The instrument also found radiation traces on the carpet in front of a lunchroom refrigerator, but none inside the refrigerator itself. Radiation health officers checked the woman and found she had been exposed to 200 to 300 microcuries, about the effect of 10 chest X-rays and about half of the yearly radiation dose permitted by federal guidelines. Medical officials said the level was too low to cause a medical problem for the woman or for her unborn baby, but she was advised to avoid any further exposure. The NIH police called in the FBI to investigate. During the course of the investigation, geiger counters were used to conduct a radiation survey of the National Cancer Institute labs. Last Friday, investigators detected elevated readings in the reservoir and spout of a hall water cooler. Urine tests of the 120 people working in nearby offices and labs identified 25 with elevated radiation exposure. Flavin said the average exposure for the group was eight microcurie, a very low and non-harmful level. Officials, as a precaution, urged NCI workers to bring food and water from home. Flavin said investigators are looking into the possibility that the isotopes detected in the water cooler and on the kitchen carpet may have a unique radioactive signature. He said this would enable officials to trace the material back to a specific batch of isotopes. The NIH, which has scores of labs, receives radioactive chemicals by the case. The chemicals are stored in a central warehouse and then delivered, as required, to laboratories by a special courier. The material is packaged in vials that are carried in boxes. At each step of the process, Flavin said, workers record the movement, storage, use and disposal of the isotopes. Investigators were reviewing these records, he said. Radioactive isotopes are used are tracers in medical experiments and in some medical diagnostic tests.

Atomic Veterans

APn 7/18/95 12:25 AM WASHINGTON (AP) -- It is not feasible to conduct a valid scientific study of reproduction problems among descendants of veterans exposed to atomic fallout, a panel of experts concluded. In a study released Monday by the Institute of Medicine, a committee said that it would be virtually impossible and extremely expensive to attempt a study of how reproductive outcomes among the children and grandchildren of atomic veterans were affected by the possible A-bomb radiation exposure. "The means do not exist to obtain adequate and reliable information on the reproductive problems that affect spouses, children and grandchildren and whether these problems are linked to the veterans' exposure to radiation while in the military," committee chairman William J. Schull of the University of Texas said in a statement. The Department of Veterans Affairs had asked the Institute of Medicine to determine if it was feasible to study the reproduction outcomes of spouses, children and grandchildren of the 210,000 U.S. troops who were exposed to atomic bomb radiation during and after World War II. Atomic veterans were American service personnel who participated in atmospheric testing of nuclear weapons, or those who helped in the cleanup of Hiroshima and Nagasaki, Japan, targets of the only two atomic bombs ever dropped in war. Also included are U.S. prisoners of war in Japan who were in the areas where the A-bombs fell. Among the "insurmountable difficulties" would be finding and contacting enough descendants of atomic veterans to draw any statistically valid conclusions, said the report by the Institute of Medicine, an affiliate of the National Academy of Sciences. The committee also said it would be impossible to determine the specific radiation dose received by each of the atomic veterans and then relate that to the reproductive outcomes among their 500,000 descendants over the last half-century. For instance, the report said, about 15,000 children with birth defects would be expected in an average population of a half-million. It would be impossible to determine whether such birth defects among relatives of atomic veterans were related to radiation exposure in the World War II generation or whether other factors were involved. Reproductive problems would include such things as infertility, spontaneous abortion, congenital defects, stillbirths and infant death. The report said that if such a study was attempted, it would cost tens of millions of dollars and take at least 10 years. The National Academy of Science is a private, nonprofit organization chartered by Congress to provide scientific and technical assessments to the government. The Institute of Medicine provides health policy advice.

America's Ground Zero: Trinity Site Opens for ...

WP 7/16/95 11:00 PM America's Ground Zero: Trinity Site Opens for Atomic Anniversary By Bill Fischling Special to The Washington Post WHITE SANDS MISSILE RANGE, N.M., July 16 -- Traffic jams are an unusual occurrence in New Mexico, particularly 100 miles from anything that could arguably be called a city.

But thousands of cars lined State Route 525 today well before dawn, creating a five-mile traffic jam leading to the gate of the White Sands Missile Range. Families, protesters, veterans and Manhattan Project alumni waited to enter the Trinity Site where, 50 years ago to the day, at 5:29:45 a.m. Mountain War Time, the world entered the nuclear age with the successful test of the first atomic bomb. "I'm here to see the place that saved my life," said Melvin Burks, a World War II veteran. "This place is why I didn't have to go over to Japan to fight." Trinity Site, located on the White Sands Missile Range about 115 miles south of Albuquerque and 17 miles inside the gate on Route 525, bears small, unremarkable scars from the test. A slight depression made by the blast still remains. Scattered remnants of faintly radioactive Trinitite rocks, formed from the sand by the heat of the explosion, litter the area. Military police had to remind several visitors that it was strictly forbidden to remove anything, including the rocks. Insects and rabbits still make their home in the dried grass and dust of the basin, darting around the visitors and reporters who swarmed to the area. Ground zero itself is surrounded by a simple barbed wire fence. A mock-up of an atomic bomb and a photo exhibit are on display within the perimeter. At the center, a 15-foot obelisk built of cement and lava rocks in 1965 bears a plaque commemorating the test. A few feet away, a small metal support stub from the test tower, which held the bomb, remains. Most of the tower was vaporized in the blast. Though trace amounts of radiation linger, it is less than a dose one would receive from an X-ray, according to military literature. "This place doesn't look much different than it did 50 years ago, except for the protesters," remarked Robert L. Walker, who was responsible for measuring the blast effects of the historic test. A half-century ago, he sat in a bunker six miles north of ground zero, waiting to see if three years of his work would perform without a hitch. "The first thing I thought is `Wow, that's terrific,' " Walker said. "The bomb made a huge roar of thunder that echoed off the mountain. A large ball of fire rose up into the atmosphere. Though my gauges didn't work, there was no question that the bomb did." The gauges he had painstakingly assembled before the test spiked off their scales and promptly died within a second of the detonation. Keaton Keller had a different view. A metallurgic specialist on the Manhattan Project, he was not invited to the test. But he slipped off to watch it from a mountain 65 miles north of the site with a friend. "I saw the ball of fire rising across the desert, lighting the basin around it," Keller said. "The sound hit us five minutes later, like a thunderclap, except it went on for several seconds. I knew then we had won the war and that was a very big feeling." Small groups of protesters, despite military warnings, made it onto the site. At the monument, several people laid flowers at its base. One group of protesters laid a book, "The Living Gita," a philosophic dialogue that is a sacred Hindu text, by the monument. J. Robert Oppenheimer, one of the bomb's developers, quoted the Bhagavad Gita after the blast, saying, "Now I am become Death, the destroyer of worlds." Dozens of protesters gathered in a semicircle around ground zero to sing, chant and beat drums. Police removed several protesters, including a woman who had gotten into an argument with a man in front of a phalanx of television cameras. Outside the gate, several signs were set out. One placard bore a U.S. flag and the message, "We are the new abolitionists. We're sorry about Hiroshima and Nagasaki." The man who set it up, Ed Grothus, was a nuclear machinist for 20 years, building "better nuclear bombs" at the Los Alamos National Laboratory before he left in 1969 to protest the Vietnam War. "I am simply trying to change the world," Grothus said. "I can't change the past, but I certainly can change the future." The 51,500-acre site was declared a National Historical Site in 1975, though it is open to the public only twice a year: the first Saturday in April and in October. Usually, 1,500 to 3,000 people visit the site when it is open, Army Capt. Gary K. Matcek said. That number was exceeded today before the gates opened, he said.

UKRAINE OPENS NEW NUCLEAR REACTOR

UPn 10/6/95 12:01 PM KIEV, Oct. 6 (UPI) -- Workers at the Zaporozhe nuclear power plant in Ukraine switched on a new reactor Friday, making the six-reactor plant the most powerful nuclear power station in Europe. The new reactor brings the total capacity at Zaporozhe to 5,700 megawatts, replacing Gravelines in France as the largest on the continent, according to the NucNet watchdog agency. One of five working nuclear plants in Ukraine, Zaporozhe is now the third largest in the world behind stations in Japan and a plant in Canada, a spokesman for the Ukrainian State Committee of Nuclear Energy said. With the sixth unit at Zaporozhe on line, Ukraine has a total of 15 operational reactors in the former Soviet republic, providing just over 34 percent of the nation's energy needs. Hoping to avoid a repeat of the 1986 Chernobyl disaster, the Ukrainian parliament voted in 1991 to halt construction of new reactors. But with the economy in ruins and energy consumption still high, the moratorium was lifted in 1993 and work to complete the sixth unit at Zaporozhe was resumed. Each of the six units at the Zaporozhe plant in southwest Ukraine is a relatively safe VVER-1000 pressurized water reactor with a capacity of 950 megawatts. Ukraine has been haggling with the West over the price of shutting down Chernobyl, the site of the world's worst nuclear disaster, and plans to replace the station with alternative energy sources have moved slowly.

Kozyrev pledges to remove nuclear waste in Arctic

RTw 10/4/95 3:50 PM (Adds quotes by Kozyrev, Norwegian minister on nuclear safety) By Rolf Soderlind OSLO, Oct 4 (Reuter) - Russian Foreign Minister Andrei Kozyrev said on Wednesday he would speed up work to remove nuclear waste on the Kola peninsula, which borders Norway in the Arctic. Kozyrev was speaking before a meeting next week at which Russia takes over the presidency of the Barents Council, founded in 1993 to formalise cooperation between Moscow and the three Nordic countries. Kozyrev, in Oslo for talks with Norwegian leaders, said he would use the presidency to work harder to clean up the nuclear contamination on the Kola -- a major concern of neighbouring Norway. "For sure," he told a news conference. "I want to underline that the environment is one of the highest priorities in our cooperation." Kozyrev is to attend the Council meeting with the foreign ministers of Sweden, Norway and Finland in the Finnish town of Rovaniemi. Kozyrev and Norwegian foreign minister Bjoern Tore Godal signed bilateral documents on issues ranging from economic projects to a protocol on nuclear safety. "Cooperation in nuclear safety is an important new aspect to Norwegian-Russian relations," Godal said. Norway, which shares a 200 km (125 mile) Arctic frontier with Russia, has repeatedly expressed concern about the large amount of nuclear waste stored on the Kola, home to the former communist superpower's submarine-based nuclear missile arsenals. Kozyrev said Moscow was studying Norwegian plans to ease Cold War restrictions on NATO exercises in Finnmark province near Russia's strategic submarine bases on the Kola. Godal said Norway, a founding member of NATO and the only Alliance partner to share a border with Russia, wanted to ease the restrictions now that the East-West confrontation was over. Kozyrev said Godal and Prime Minister Gro Harlem Brundtland had assured him "this is not a change in Norwegian policy and that it will have no negative effect on relations with Russia." "If it had been an expansion of NATO area to new territory it would have been incompatible with our efforts to create an all-European security system," the Russian minister said. "We have agreed to exchange information on this question to remove the concerns that may arise." Norway introduced the ban on allied plane and troop operations east of longitude 24 in Finnmark in 1951 to avoid provoking the Soviet Union. For decades the superpowers sought supremacy in the strategic Arctic. Kozyrev, who before leaving Moscow fired an angry broadside at the Western alliance for its plans to expand eastwards, in Oslo toned down his criticism and said he did not wish to create new animosity between the Cold War foes.

REUTER

Study Details the Culture That Drove Experiments; ...

WP 10/3/95 11:00 PM Study Details the Culture That Drove Experiments; Scientists Worried About Safety, Not Consent By David Brown Washington Post Staff Writer The report by the Advisory Committee on Human Radiation Experiments presented to President Clinton yesterday has rewritten the history of medical experimentation in the United States. The product of 18 months of research and the length of three doctoral dissertations, the document will be required reading for medical ethicists for years to come. It probably will stir intense debate in some quarters of medicine. It may even find a popular audience. The 906-page report traces the history of radiation research from 1944, when government and university scientists worked secretly and furiously to build an atomic bomb, to 1974, when the federal Department of Health, Education and Welfare issued rules for protecting human subjects in government-sponsored research. Information about some of this research has trickled out in court cases, newspaper articles, and government admissions during the last two decades. Medical historians have written about a few of the thousands of research projects that exposed the healthy, the ill and, in some cases, whole populations to radioactive substances. Never before, however, has the era's story been told in such detail. Although it is difficult to generalize about the behavior of dozens of agencies and hundreds of researchers engaged in thousands of experiments, a general picture of Cold War medicine emerges from the report. It's a portrait of men endowed with what seems like surprisingly modern scientific insights and concerns -- laboring in an antique world of conformist and paternalistic morality. Like their counterparts involved in risky research today, the scientists and government officials of postwar America worried about lawsuits and bad press. At times they held sophisticated discussions of medical ethics. Even the seminal phrase "informed consent" was coined in 1947, 10 years earlier than medical historians had previously believed, according to secret papers the committee uncovered. Like present-day scientists, those of the 1950s worried greatly about the hazards of radiation, and strove hard to make their research safe. Another picture emerges, as well. Most medical researchers of 40 years ago felt little or no need to ask patients if they wanted to have experimental therapies that might treat or cure their illnesses. Few were troubled by secretly enrolling patients into studies that, though not expected to cause harm, could not help them. It was a time in which prisoners and retarded people were enticed into research with

small favors and deceptive explanations. It was a world in which agencies had high-sounding policies, but did little to disseminate or enforce them. Surprisingly, very few people were physically harmed or killed as a result of thousands of medical experiments and environmental tests involving substances that everyone agreed were dangerous. Equally surprising, very few real heroes or villains emerge from the advisory committee's meticulous reconstruction of those events. Unlike other morally objectionable research -- such as the Nazi death camp experiments or the notorious Tuskegee study of untreated syphilis in this country -- many of the radiation experiments provided data that were and remain useful. The report was written by the 14-member advisory committee, comprising mostly medical historians and ethicists, as well as one person representing the public. A staff of about 60 unearthed tens of thousands of documents, many of them declassified for the first time. The committee held 20 meetings, including four in places where survivors (or descendants of survivors) of medical experiments or "intentional releases" of radiation still live. The report is unusual because of the breadth of activity that went into its creation. The committee and staff are foremost historians. They analyzed letters, speeches, memos, minutes of meetings, press releases, medical charts and countless other documents, beginning with the Manhattan Project. They also functioned as investigative reporters, seeking out and querying subjects of radiation experiments and researchers who conducted them. Seeking to understand the research milieu of the 1940s and 1950s, the staff carried out an oral history project, interviewing scientists who were starting their careers in various nonradiation fields of research four decades ago. To gauge how much has changed, the committee performed its own field work, asking patients in hospital waiting rooms what they knew and how they felt about medical experimentation. Perhaps most important, the committee closely examined ethical principles and the question of how contemporary observers can judge the behavior of people, most of them dead, who lived and worked in another era. On that question, the committee distinguished between the rightness or wrongness of past actions, and the blameworthiness of those who carried out the actions. In general, the report is harsher on the actions than on the actors, many of whom were operating in a culture that accorded physicians and government agencies far more trust than it does today. The committee, however, did not refrain from judging the morality of decisions. In particular, the report's authors argued that timeless principles -- principles such as "one ought not to deceive others," which predate the "discipline" of medical ethics -- should have chastened postwar researchers. "Although there have been changes in ethical values in the United States between the mid-1940s and the present, it is implausible that these changes involved the rejection or affirmation of principles so basic as that it is wrong to treat people as mere means, wrong to inflict harm, or wrong to deceive people," the authors wrote. "Thus, the advisory committee's evaluations of the human radiation experiments in light of these basic principles is based on a simple and, we think, reasonable assumption that, even 50 years ago, these principles were pervasive features of moral life in the United States that were widely recognized and accepted, much as we recognize and accept them today." A major feature in the post-war ethical landscape was the Nuremberg Code, a statement of principles that came out of the court trial of Nazi physicians who conducted medical research on concentration camp inmates. Among the code's provisions were that subjects of medical research must give their consent, that the research must be for the good of society and "not random in nature," that risk must be minimized and that subjects must be free to remove themselves from the research at will. Some of these ideas -- in particular the necessity of getting consent from subjects -- were discussed as early as April 1947, when Carroll Wilson, the general manager of the Atomic Energy Commission, wrote to Manhattan Project officials, saying that "clinical testing" involving patients could go forward only if there was a prospect of medical benefit to the person, and only if consent was documented. The secretary of defense adopted the Nuremberg Code as policy for atomic, biological and chemical warfare research by the military in 1953. This action was secret, and not revealed until 1975. There is little evidence the government made a concerted effort to make these new rules known to all researchers under its control, or to clarify many ambiguous issues, notably what "consent" meant in practice. Nevertheless, the report shows, the notion that healthy people should not be exploited took hold earlier than the idea that sick people should not be exploited. In particular, the idea that patients could ethically be made part of "harmless" experiments that would neither improve nor worsen their conditions prevailed into the 1960s. The committee found, however, that scientists should have seen that the two groups -- the healthy and the ill -- were far more similar than different. "Moral consistency requires the advisory committee to conclude that, if the use of healthy subjects without consent was understood to be wrong at the time, then the use of patients without consent in nontherapeutic experiments should also have been discerned as wrong at the time, no matter how widespread the practice," the committee wrote. The report, however, is not a history of shocking moral obtuseness by the leading lights of science two generations ago. Overall, government agencies undertook more detailed ethical discussions than historians previously believed. Even during the Manhattan Project, there was widespread concern about exposure of workers to relatively low levels of radiation -- a concern that carried over to postwar research that employed radioactive tracers to study physiology and treat cancer. Scientists at times decided to forgo experiments because of potential risk to research subjects, as in the case of experiments that were proposed in the late 1940s as groundwork for a nuclear-powered airplane.

Ultimately, the aircraft project was scrapped because it would have been too hazardous to pilots. Curiously, national security was virtually never cited by either scientists or government officials as reasons to keep most of the experiments secret. Fear of legal liability and embarrassment were far more often mentioned. The committee found few examples where physical harm by government action could be proved. The major exception involved uranium miners in the Southwest, and the problem in that case was inaction. European research, some dating to the 1870s, had shown that uranium miners suffered greatly increased rates of lung cancer. By the late 1940s, there was general agreement that radon gas was the cause. Throughout the 1950s and most of the 1960s, however, the federal government did not require that uranium mines be ventilated to reduce radon levels. As the sole buyer of uranium, the government almost certainly could have made that a condition of buying ore from mine owners. Government scientists studied both the mines and the miners without adequately warning them of dangers, the committee found. More than 300 cases of fatal lung cancer might have been prevented if federal regulations for radon -- first announced in 1967 -- had been required earlier.

Clinton Apologizes for U.S. Radiation Tests, ...

WP 10/3/95 11:00 PM Clinton Apologizes for U.S. Radiation Tests, Praises Panel Report By Gary Lee Washington Post Staff Writer President Clinton yesterday apologized to survivors of thousands of government-sponsored radiation experiments and accepted an advisory commission's recommendation that some subjects of the Cold War radiation studies be granted financial compensation. "When the government does wrong, we have a moral responsibility to admit it," Clinton told a White House audience that included individuals who participated in the radiation research. "It offers an apology to the survivors and their families and to all the American people who must be able to rely upon the United States to tell the truth and do the right thing." Clinton's statement brought a dramatic end to one of the most bitter sagas in American history. For a 30-year period beginning in the mid-1940s, the Atomic Energy Commission and other federal agencies sponsored 4,000 controversial radiation experiments, involving tens of thousands of subjects, many of whom had no knowledge that they were test cases. The experiments varied widely, from a project in which researchers exposed subjects' entire bodies to heavy doses of radiation, to cases in which pregnant women were given radioactive iron to determine what levels would show up in their babies, to a series of tests in which radioactive substances were released into the atmosphere without nearby residential populations being informed. Yesterday Clinton praised the report of the Committee on Human Radiation Experiments, a panel he appointed in January 1994 to review federal involvement in radiation research and determine what -- if any -- steps should be taken to compensate victims and safeguard subjects of current government-sponsored research. Ruth Faden, director of bioethics at Johns Hopkins University and chair of the 14-member panel, formally presented the committee's 906-page report to Clinton yesterday. The panel's verdict, Faden said, was that wrongs were clearly committed. "What most troubled the committee was the lack of respect for the American people that seemed to permeate the conduct of research," she said. "The period we examined was defined by arrogance. People had trust in their doctors, but the doctors who did the research often took advantage of that trust." The panel's report concluded with more than two dozen recommendations, ranging from a proposal for new laws to safeguard the public against research abuses in the future to new regulations guaranteeing that future research will be conducted with full public knowledge. The panel also recommended that subjects in three studies -- about 30 individuals altogether -- should receive financial compensation for being subjected to dangerous experiments without their knowledge, sometimes with severe medical consequences. And it established guidelines under which subjects from other experiments might receive compensation or an official apology. The committee concluded that most of the experiments involved low doses that did not cause long-term medical damage to participants and said that it found no surviving subjects for whom it would recommend medical follow-up examinations. The panel nevertheless found that abuses of the past were still possible in contemporary research. In some cases, patients with serious illnesses sometimes have unrealistic expectations about the chance that they will benefit from participating in research, the report said. In others, consent forms appear to be overly optimistic in describing potential benefits. Responding to the recommendations, Clinton directed the interagency task force on radiation, composed of representatives from agencies responsible for the radiation research, to make provisions for compensating some of the victims and to prepare a point-by-point response to the panel's proposals. Clinton also established the National Bioethics Advisory Commission to help set new policies regarding research in human biology and a review of ongoing government research projects. Organizations representing radiation experiment subjects complained that the panel's definitions of who should receive apologies and financial compensation were too narrow. "Any unbiased observer would conclude that most, if not all the experiments violated prevailing ethical standards and that the subjects of the experiments deserve an apology," said David Egilman, a spokesman for the Task Force on Radiation

and Human Rights. Rep. Edward J. Markey (D-Mass.), who first raised questions about the controversial research in the mid-1980s, promised that Congress will consider proposals for laws protecting participants in radiation studies and other research. He said the tests' survivors will receive a full hearing before any laws governing guidelines for compensation are passed. Copies of the report can be obtained by writing to the U.S. Government Printing Office, P.O. Box 371954, Pittsburgh, Pa. 15250-7954, or by calling (202) 512-1800.

CLINTON WANTS PLAN TO COMPENSATE RADIATION SUBJECTS

RTw 10/3/95 1:51 PM (updates, adds details) By Vicki Allen WASHINGTON, Oct 3 (Reuter) - U.S. President Bill Clinton said on Tuesday the United States must right past wrongs against its citizens and ordered the government to find a way to compensate subjects of Cold War era radiation experiments. Clinton made the announcement while accepting a report from a presidential advisory committee that said people who were harmed by the long-secret experiments, or who were unwitting subjects of procedures with no possible medical benefit, should be compensated. "That's why I am instructing my Cabinet to use and build on these recommendations, to devise promptly a system of relief, including compensation, that meets the standards of justice and conscience," he said. In a news conference attended by some relatives of test subjects, he also apologised for the thousands of government experiments conducted at hospitals, universities and military bases, often on subjects who did not knowingly consent. He also ordered his Cabinet to review government research projects involving humans to ensure they were being performed according to the highest ethical standards and established an advisory panel to review ethics of government medical tests. He said many of the thousands of tests done mostly from 1944 to 1974 to determine radiation's effects on the human body appeared ethical. But, he said, "Some were unethical not only by today's standards but by the standards of the time. They failed both the test of our national values and the test of humanity." Clinton cited cases where 18 hospital patients were injected with plutonium without their knowledge and where indigent cancer patients and military personnel were subjected to excessive radiation doses. The secrecy with which these tests were conducted and the government's years of refusing to release information left a legacy of cynicism and distrust, he said. "The deception extended beyond the subjects themselves to encompass their families and the American people as a whole. They were shrouded not for a compelling reason of national security, but for the simple fear of embarrassment, and that was wrong," Clinton said. He pledged to "work with Congress to serve the best needs of those who were harmed. Make no mistake, as the committee report says, there are circumstances where compensation is appropriate as a matter of justice and principle." Ruth Faden, the ethicist who headed the advisory panel, said the government must work to see that "what happened then never happens again."
REUTER

US-RADIATION-REPORT

UPn 10/3/95 11:09 AM Clinton to receive radiation report By SUSAN MILIUS WASHINGTON, Oct. 3 (UPI) -- The Advisory Committee on Human Radiation Experiments unveiled its final report Tuesday on what can be reconstructed about Cold War-era experiments on humans, sometimes without their consent or even their knowledge. President Clinton appointed the 14-member committee of ethicists, scientists, a citizen representative and other specialists in 1994 as disturbing details emerged of Cold War-era researchers, such as Massachusetts scientists who lured retarded children into joining a "Science Club" that involved eating radioactive food as part of a study of effects. Chaired by Ruth Faden, a professor of biomedical ethics at Johns Hopkins University in Baltimore, the committee has recorded at least 4, 000 experiments that involved radiation -- both secret and fully public -- between 1944 and 1974. The records were fragmentary, so the said Dan Guttman, executive director of the committee. He estimates that the number of people in secret experiments was "in the dozens or hundreds" while unclassified research involved "tens of thousands." Some of the secret projects grew out of an accident at Los Alamos Laboratory in New Mexico in 1944, when a glass vial burst spattering the lab's entire supply of plutonium against a wall and the face of a 23- year-old chemist. Horrified at the setback to the war effort, he rushed to have his stomach pumped and retrieved some of the precious radioactive material from the contents. Later he and the lab director agreed that studies on the health effects of plutonium might be a good idea. Among all the studies involving radiation, "most experiments used tracer amounts of radioisotopes to measure bodily processes," said Guttman. "Hospitals do it every day." The doses for adults over the decades were "likely to be similar to those used in research today," said the committee report. Such amounts "are unlikely to have caused physical harm," he

said. But, the committee said, experiments on children involved "increases in the potential lifetime risk for developing thyroid cancer that would be considered unacceptable today." In one of the most famous cases, scientists laced breakfast foods with radioactive iron and calcium for a number of mentally retarded students at the Walter E. Fernald school in Massachusetts. In 1961, scientists again used mentally impaired children, at Wrentham State School in Massachusetts, to test a treatment thought to counteract the uptake of radioactive iodine after a nuclear explosion. In an another experiment, between 1963 and 1973, scientists used 131 prisoners in Oregon and Washington to study the effect of radiation on human testicles. The committee noted that researchers attempted to show some respect for the rights of the subjects, but that the attempts were not entirely successful. After reviewing a wide variety of experiments, many of them less sensational, the committee reported, "Government officials and investigators are blameworthy for not having had polices and practices in place to protect the rights and interests of human subjects." "What people were really angry about was the use of citizens without likely benefit to them," Guttman said. An experiment to answer some theoretical question of iodine metabolism upset the subjects a lot more than discovering they had received an experimental treatment for their cancer. The committee decided that people could deserve an apology even if they were not physically harmed. "We recognize your dignity was violated," said Guttman. The committee, in wrestling with the question of whether people in 1995 can judge the ethics of their 1945 counterparts, heard from researchers of decades past who described old attitudes about informed consent. "Even though it was the practice not to provide consent, it was wrong then," Guttman said. Their research uncovered a split in attitudes during the 1940s. Doctors collected consent forms from healthy subjects such as soldiers, but seemed to regard sick people as having given over the fates of their bodies to their doctors. One radiologist from San Francisco told the committee that in the late 1940s, the doctor "was king or queen. It never occurred to a doctor to ask for consent for anything." A doctor who did pain-management research on post-operative patients in a hospital said, "Mostly, I'm ashamed to say, it was as if -- and I'm putting this very crudely purposely -- as if you'd ordered a bunch of rats from a laboratory and you had experimental subjects available to you." To stamp out this attitude, the committee said, "It is essential that the research community come to increasingly value the ethics of research involving human subjects as central to the scientific enterprise."

PANEL URGES COMPENSATION FOR RADIATION SUBJECTS; ...

WP 10/2/95 11:00 PM Panel Urges Compensation for Radiation Subjects; Thousands of Victims of Cold War Research Could Be Eligible for Financial Remedies By Gary Lee Washington Post Staff Writer A presidentially appointed panel has recommended that the federal government compensate about 30 individuals who were subjects in radiation experiments sponsored by government agencies during the Cold War, and has established guidelines under which thousands more victims of the controversial research could be eligible for financial remedies. In a 1,000-page report scheduled for release today, the Advisory Committee on Human Radiation Experiments proposed that surviving subjects of three research projects -- or the families of deceased subjects -- should receive monetary damages and an apology from the government. The three experiments cited included a highly publicized case from the 1940s in which 18 seriously ill civilians were unwittingly injected with plutonium, another in which a single subject was injected with zirconium (a metal used in the construction of nuclear reactors) in the same period, and a third in which subjects were given total body irradiation during World War II. The 14-member panel, appointed by President Clinton in January 1994, was charged with setting the record straight in one of the darkest chapters of American history. After Energy Secretary Hazel R. O`Leary expressed outrage over the widespread use of human subjects in radiation research, Clinton responded by enlisting the panel. The group was asked to uncover the extent of experimentation, to determine whether they government had committed ethical mistakes during the experiments and to establish possible guidelines for compensating victims. Following an 18-month search of hundreds of thousand of documents from the Atomic Energy Commission and other agencies sponsoring the experiments, the panel found that the federal government backed approximately 4,000 experiments involving tens of thousands of individuals between 1944 and the mid-1970s. As startling as the range of the experiments was the apparently unwitting involvement of individuals from vulnerable population groups, including children, pregnant women and African Americans. In one case, mentally retarded teenagers at the Fernald School in Massachusetts were fed irradiated cereal. In another, the testicles of federal prisoners in Oregon and Washington state were irradiated with heavy doses of x-rays. The panel concluded that subjects should be granted remedies in cases where the government made efforts to keep information about the experiments secret from them or their families in order to avoid embarrassment or potential liability. The report pinpointed three instances, including the plutonium injections, that clearly fit those criteria. These experiments were "assaults on privacy and individual rights," the report said. The committee also proposed an elaborate set of conditions under which the victims of other experiments might be eligible for monetary remedies or official apologies from the federal government. For

example, it recommended that the government apologize to victims who received no direct medical benefit from participation in research, and provide financial compensation to those who suffered physical injury as a result of participation. But the panel rejected proposals that the government notify all known victims of the experiments or their families and provide wide-scale medical follow-up to survivors. The majority of the experiments involved adults who were given very low doses of radioactive tracers that were "unlikely to have caused physical harm" or to have prompted long-term health problems, the report said. Most of the experiments uncovered offered some potential medical benefit to participants, the report concluded. Clinton plans to respond to the panel's recommendations in a ceremony today, according to a White House spokesman. Copyright 1995 The Washington Post

Ukraine asks Canada to press G7 for Chernobyl help

RTw 10/2/95 10:54 AM Copyright 1995 Reuters Ltd. All rights reserved. The following news report may not be republished or redistributed, in whole or in part, without the prior written consent of Reuters Ltd. By Ron Popeski KIEV, Oct 2 (Reuter) - Ukraine asked Canada on Monday to put pressure on its G7 partners countries to provide financing to help it meet its commitment to close the Chernobyl nuclear plant by the year 2000. Prime Minister Yevhen Marchuk used a visit by the premier of the Canadian province of Saskatchewan to complain that some members of the Group of Seven industrialised countries, particularly France, were being unhelpful in trying to devise a plan to shut down the power station. "The United States has a constructive position on Chernobyl and Canada also views all parts of the problem with understanding," Marchuk told Premier Roy Romanow. "In view of Canada's good relations with France, I would ask you to help. The French are very negative about our plans for Chernobyl. We hope that during negotiations you will talk to G7 countries -- to France, Germany and Japan -- to help resolve all these issues." Romanow replied that he understood Ukraine's concerns but help for the former Soviet republic depended on federal authorities in Canada, which currently chairs the G7. Ukraine says it needs $4 billion to close the plant, the site of the world's worst nuclear accident in 1986, ensure the future of its 6,000 employees and make up for the five percent of the country's electricity still produced there. President Leonid Kuchma said last week Ukraine had agreed with an assessment by G7 experts that its plan to build a gas-fired plant on the Chernobyl site was inappropriate. The experts called instead for completion of unfinished nuclear reactors and modernisation of Ukraine's entire energy sector, including existing thermal and hydroelectric stations. The head of Ukraine's nuclear power authority, once an advocate of the thermal plant, changed tack on Monday and said authorities now viewed a reprocessing plant as the solution and were seeking Western help to build one. "If this option is not offered us, I can only quote our president (Kuchma) in saying that we will solve the problem on the basis of our means and national interests," Mikhail Umanets told a news conference. "Whoever is supposed to be giving us money wants to give us as little as possible. We cannot take less than what is required...Without this idea we cannot take the Chernobyl reactors out of service." Umanets estimated the cost of building a reprocessing plant at about $2 billion. Although Ukraine has uranium deposits, it has to rely on facilities in Russia to enrich the ore and reprocess spent fuel from five stations. Several international companies are competing in a tender to build a plant to enrich uranium and produce nuclear fuel. The fire and explosion in Chernobyl's fourth reactor in April 1986 sent radioactivity across most of Europe and is held to be responsible by Ukrainian authorities for thousands of deaths. Chernobyl officials say the station is the most efficient in the country and could operate well into the next century if no money is forthcoming from the West for an alternative. REUTER

BRF--Greenpeace-Nuclear Waste

APn 9/30/95 5:57 PM Copyright 1995 The Associated Press. All rights reserved. The information contained in this news report may not be published, broadcast or otherwise distributed without the prior written authority of the Associated Press. BERLIN (AP) -- Greenpeace activists chained themselves around two trucks laden with nuclear waste Saturday, trying to prevent them from driving onto a ship bound for a reprocessing plant in Britain. Police arrested 22 protesters after freeing the trucks with bolt cutters, said police spokesman Heinz-Joachim Becker in the port city of Bremerhaven, where the protest occurred. The activists were released after the trucks had been driven onto the ship. The waste reportedly is bound for the Dounreay reprocessing plant in Caithness, Scotland. Friends of the Earth, which issued a joint statement with Greenpeace about the protest, said further protests were planned for Britain. The trucks were carrying highly-enriched uranium from the research reactor at the Hann Meltner Institute in Berlin.

Fire extinguished at Chernobyl plant

RTw 9/29/95 11:35 AM KIEV, Sept 29 (Reuter) - A small fire broke out at a compressor station adjacent to Ukraine's Chernobyl nuclear power station but was quickly extinguished and posed no threat to the environment, station officials said on Friday. Olexander Slavis, Chernobyl's chief press officer, said by telephone the fire on Thursday afternoon was caused by a short circuit and broke out some distance from the plant's two reactors still in service. "The fire occurred far from the reactor, near the cooling pond. It did not in any way affect the work or safety of the station," Slavis said. "This is not classified under international standards as an incident - not even zero category." Only one of the two working reactors was functioning at the station, site of the world's worst nuclear accident. The other unit was undergoing planned maintenance. President Leonid Kuchma, who promised in April to close Chernobyl by the year 2000, told reporters on Friday he believed Western countries would come up with the necessary funds to meet that commitment. Ukraine says $4 billion is needed. Ukrainian authorities say the April 1986 explosion and fire at Chernobyl caused thousands of deaths and still takes up six percent of the national budget. A cracking steel and concrete "tomb" now covers the shattered fourth reactor while reactor number two was closed after a fire in 1991. REUTER

Ukraine minister slams Europe over Chernobyl plan

RTw 9/28/95 12:30 PM By Yuri Kulikov KIEV, Sept 28 (Reuter) - A senior minister accused Western Europe on Thursday of distrusting Ukraine over its pledge to close the Chernobyl nuclear power station and said the United States was more understanding of his country's difficulties. Environment Minister Yuri Kostenko made his allegations as Prime Minister Yevhen Marchuk met U.S. Vice-President Al Gore in Washington to discuss aid for the former Soviet republic. Ukraine says about $4 billion is needed to close Chernobyl, site of the world's worst nuclear accident in April 1986, by the year 2000 and is unhappy about the rejection this week by experts from the Group of Seven industrialised countries (G7) of its plan to build a new thermal plant to compensate. "The United States and Canada appear more prepared to make compromises. European countries have their own position and this is based on the premise that they do not trust us at all," Kostenko told a news conference. "The French told me openly: "We frankly do not believe that you intend to shut down Chernobyl. We do not want to give you financial help.' Of course the United States has great authority, but only one vote within G7." Ukrainian President Leonid Kuchma agreed in April to close Chernobyl by the year 2000 in response to pressure from Western governments which considered it unsafe. Most pressure originated in environment-conscious Germany and other European countries affected by radioactivity spread across the continent after a fire and explosion in Chernobyl's fourth reactor nine years ago. Interfax Ukraine news agency, in a report from Washington, quoted Marchuk as saying he had achieved "concrete agreements" in his talks with Gore. "Ukraine reaffirmed its intention to close Chernobyl," Marchuk told Interfax. "We felt Mr Gore understood that Ukraine cannot resolve this problem on its own." Ukrainian authorities have shown increasing impatience with the West's response to its pledge to shut down the plant. They have criticised G7 pledges of aid as far short of what is required and expressed exasperation at the rejection of the proposed new thermal plant. The G7 experts, meeting in Kiev this week, preferred completion of unbuilt nuclear reactors and a general upgrading of existing hydroelectric and thermal plants. Kostenko said the United States "unlike other G7 countries, does not reject Ukraine's plan to build a new thermal plant." He praised U.S. authorities for allocated $3 million to help build a research centre near the stricken plant. He also said the government had prolonged until October tenders for construction of a plant to produce fuel rods for Ukraine's five power stations and reduce the country's dependence on poor-grade Russian fuel. Officials at the station, 150 km (90 miles) north of Kiev, say Chernobyl is the most efficient of Ukraine's stations in Ukraine and could operate well into the next century if the West fails to come up with appropriate funding. The Chernobyl disaster contaminated large stretches of territory in the former Soviet Union and caused thousands of deaths. Cleanup operations still soak up six percent of the national budget in Ukraine and an even larger portion in Belarus, worst hit by the fallout. REUTER

West rejects Ukraine's Chernobyl plan - minister

RTw 9/27/95 12:03 PM By Ron

Popeski KIEV, Sept 27 (Reuter) - A senior minister on Wednesday said the West had rejected Ukraine's plan to close the stricken Chernobyl nuclear power station and was offering insufficient funds to undertake the job. Environment Minister Yuri Kostenko said experts from G7 industrialised countries meeting in Kiev this week had opposed Ukraine's proposal to build a thermal plant to compensate for Chernobyl's planned closure by the year 2000. Ukraine says about $4 billion is needed to shut the station. "The experts assessed the project and concluded that they could not agree with this approach as it does not meet the specific criteria of G7 countries," Kostenko told a news conference. Kostenko said the experts favoured modernisation of the entire energy sector to make up for the five percent of Ukraine's electricity produced by Chernobyl. This included completion of nuclear reactors under construction and upgrading thermal and hydroelectric stations. "They proposed using fewer resources to achieve greater effect. It is true that there are entire sites within the energy sector that are standing idle," he said. But he added: "Real financial resources given to us for examination do not in any way satisfy Ukraine's needs today to start the programme to shut down Chernobyl." Both Kostenko and Allan Culhan, Canadian chairman of the G7 group in Kiev, said they were satisfied with the latest round of talks and an exchange of "general principles" on closing the station, site of the world's worst nuclear accident in 1986. They said both sides hoped further talks would produce an agreement on closure to be signed in late November. Limited funding was agreed on certain issues, particularly studies on engineering and the social impact of closing the station. Ukraine has shown growing impatience with what it sees as Western foot-dragging in funding closure of the plant, where two reactors continue to function. President Leonid Kuchma bowed to Western pressure in April and promised to close Chernobyl, but says this depends on the West coming up with cash to help his impoverished country. Prime Minister Yevhen Marchuk, now in the United States, told reporters in Kiev earlier this week that Ukraine was tired of a lack of clarity in Western policy. "A nuclear station is like a capricious woman. It requires money to operate safely," he told reporters. "We demand clarity on this. Is our plan acceptable or not? If not, then we have to rely on common sense. Our partners have to be open with us." Officials at the station 150 km (90 miles) north of Kiev say their facility is the safest of five nuclear stations in Ukraine and could operate well into the next century if the West fails to come up with appropriate funding. The explosion in Chernobyl's fourth reactor sent radioactivity all over Europe and contaminated large stretches in Ukraine, Belarus and Russia. Belarussian Foreign Minister Vladimir Senko told the United Nations this week his country's birth rate had fallen 50 percent since the disaster. Ukrainian officials blame the accident for thousands of deaths and say cleanup operations still soak up about six percent of the national budget. Several Western companies are looking into how to proceed with closure, including construction of a new "tomb" to replace the cracking structure around the ruined reactor. REUTER

Belarus says Chernobyl cut its birthrate 50 percent

RTw 9/25/95 4:50 PM UNITED NATIONS, Sept 25 (Reuter) - Belarus Foreign Minister Uladzimir Syanko told the United Nations on Monday his country's birth rate had fallen 50 percent as a result of the April 1986 Chernobyl nuclear disaster. Coping with the after-effects of the catastrophe devoured more than 20 percent of Belarus's national budget, he added, in a speech to the 185-nation General Assembly. Referring to the fire and explosion at the Chernobyl power plant in neighbouring Ukraine, which released radioactive material over a wide area, especially Belarus, Syanko said his countrymen had been living for more than nine years "under the conditions of ecological disaster." "The republic spends annually more than 20 percent of its national budget to mitigate the economic, ecological and medical after-effects of the Chernobyl accident," he said. "But most horrible is what is happening to the ... health of the people. The incidence of thyroid cancer in children has increased many fold. The birth-rate has fallen 50 percent as against the period preceding the accident." Syanko, who spoke in English, said genetic diseases were conspicuously on the rise in the most contaminated areas. "As time goes by, it becomes more and more evident that the Chernobyl catastrophe has infringed upon the most sacred of human rights, the right to life." He welcomed the role of the General Assembly and U.N. agencies in drawing the attention of donor countries and international bodies to the problems resulting from Chernobyl. Syanko said an international conference would be held next March in Minsk, the Belarus capital, with the participation of the U.N. Educational, Scientific and Cultural Organisation (UNESCO) and the European Commission, to commemorate the "lamentable 10th anniversary" of the disaster. He hoped it would help step up joint efforts to study the after-effects of the radioactive fallout and increase the effectiveness of efforts aimed at mitigating the fatal consequences. REUTER

New microscope aids study of irradiation

UPn 9/24/95 2:13 PM ARGONNE, Ill., Sept. 24 (UPI) -- Scientists at the U.S. Department of Energy's Argonne National Laboratory have a new tool for studying the effects of irradiation. It's called the Intermediate Voltage Electron Microscope (IVEM), and when connected to an ion beam accelerator and ion implanter, it allows scientists to view how material samples respond while they are being bombarded by charged atoms. The ion instruments fire atomic "bullets" of varying energies into material samples, allowing researchers to study the changes produced by the ion irradiation. "Studying the damage created by this radiation treatment and identifying failures are key to understanding basic phenomena in materials," said Argonne scientist Charles Allen. By controlling the stress and energy of the ion bombardments, scientists can use the instument to observe the structural phenomena that contribute to the failure of nuclear reactor materials. Others might track changes as the IVEM's irradiation process converts a sample of material into an unnatural state. Images produced by the microscope are 1,000 times sharper than those of a standard light microscope, and are among the clearest available in the United States. "With this improved resolution capacity, scientists can distinguish between individual defects within a small cluster of defects -- like distinguishing individual trees in a forest that is hundred of miles away," Allen said. Argonne researchers said studies performed with the instrument could lead to safer storage materials for nuclear waste or more efficient high-temperature superconductors, which carry electricity without resistance. There is apparently no shortage of plans for the microscope. Argonne officials said the IVEM was booked solid for experiments by irradiation effect scientists from around the world even before the instument was fully installed. The IVEM and the high-voltage electron microscope (HVEM), another electron microscope connected to the ion accelerators, are the only ones of their kind in the Western hemisphere. The IVEM is part of Argonne's High-Voltage Electron Microscope (HVEM) Tandem National User Facility, and the lab allocates two-thirds of the facility's experiment time to scientists from universities and industry for studies of various materials, including metals, semiconductors and ceramics.

Emergency at Russian nuclear submarine base-Tass

RTw 9/21/95 2:35 PM MOSCOW, Sept 21 (Reuter) - A local power plant cut off electricity to a Russian nuclear submarine base on the Kola peninsula on Thursday, nearly triggering an accident, Itar-Tass news agency reported. Tass, quoting eyewitnesses, said power was cut off to a base of the Northern Fleet near Murmansk, about 1,500 km (900 miles) north of Moscow, where decommissioned submarines with functioning nuclear reactors are berthed waiting to be scrapped. The vessels' on-board generators failed to start, leaving the reactors without power for their cooling systems and at risk of suffering a meltdown. Tass said the military persuaded the power company to restore supplies in time to prevent a serious accident. No official confirmation was available. The Northern Fleet, like other Russian military units, owes billions of roubles in unpaid electricity bills. Last week power was cut off to a strategic missile test site at Plesetsk, also in the Russian far north. Alexei Yablokov, an environmental adviser to President Boris Yeltsin, told a German television programme on Monday that many decommissioned Russian submarines were "floating Chernobyls" which could explode. He said the navy had around 50 submarines which had reactors, fuel cells and atomic waste that had not been removed because of lack of storage. Russia's nuclear safety watchdog, Gosatmonadzor, said this month it was worried about supervision of military facilities since President Boris Yeltsin signed a decree in July excluding civilian inspectors.

REUTER

Class-action suit over radiation tests

UPn 9/21/95 1:51 PM By TRACY CONNOR NEW YORK, Sept. 21 (UPI) -- Lawyers filed a multimillion-dollar lawsuit in a New York federal court Thursday, charging that doctors performed painful and deadly radiation experiments on brain cancer patients at Massachusetts General Hospital, the Massachusetts Institute of Technology, and Brookhaven National Laboratory in the 1950s and 1960s. "We're charging them with using human beings as guinea pigs in radiation experiments without their consent," said Anthony Roisman, the lead attorney for the 140 plaintiffs. The lawsuit, which seeks $4 million in damages for each family, is one of several filed against research facilities since disclosures about government-sponsored testing two years ago. Roisman, who has also filed suit against the University of Rochester for plutonium experiments, alleged that the research done at MIT, Brookhaven and Massachusetts General had no therapeutic value and forced terminally ill patients to

spend their final days in pain. In some cases, the attorney said, doctors injected the cancer patients with boron and subjected them to radiation, a process known as boron neutron capture therapy. In other instances, the patients were injected with boron or uranium but received no radiation therapy. "They wanted to see where it went in their bodies," Roisman said. "But no one asked these people's permission, and the effects were terrible -- severe vomiting and uncontrollable defecation and urination." He said government documents show 10 died of the experiments, not the cancer. MIT and Massachusetts General declined comment, saying they had not seen the lawsuit. Massachusetts neurosurgeon Dr. William Sweet, one doctor named in the suit, told The Boston Globe last month the treatment offered hope. "It takes some courage to embark on a highly experimental procedure. .instead of settling for a known unhappy outcome," he said. Mona Rowe, a spokeswoman for Brookhaven, said the federally funded facility conducted the studies "ethically, in accordance with standards that existed at the time for research with human subjects." "These were not grand experiments to see the effects of radiation on people -- this was therapeutic," Rowe said. Although the experiments were abandoned in 1961, a more advanced version is taking place now at Brookhaven. "We've learned a lot, and research done 30 years ago laid the foundation for what we're doing today," Rowe said. Roisman said scientists told patients boron neutron capture therapy could provide relief -- even a cure -- but did not give enough detail for informed consent. But Rowe said Brookhaven obtained written permission from every patient, and all patients were told the tests were experimental. Roisman countered, "They were not told it would be painful. They were not told the first 10 died without any substantial improvement... These people were robbed of the chance to die with dignity."

Consumers ordered to pay for TMI cleanup

UPn 9/20/95 3:52 PM By GARY MILLER HARRISBURG, Pa., Sept. 20 (UPI) -- More than 16 years after a near meltdown at the Three Mile Island nuclear plant, the Pennsylvania Supreme Court has ruled that customers of the plant's owner must pay to clean up and dismantle the ruined reactor. In overturning a lower court ruling Wednesday, the Supreme Court upheld a decision by the state Public Utility Commission that allowed Metropolitan Edison Co. to bill customers for decommissioning costs. Under the ruling, Met-Ed, a co-owner of the plant, can charge customers $8.3 million a year through the year 2014. State Consumer Advocate Irwin Popowsky said it was unfair to force customers to foot the bill for the cleanup. "We felt that ratepayers should not have to pay for costs of decommissioning a plant that provided them with no service," Popowsky told United Press International. Popowsky noted that the March 1979 accident that crippled the Unit 2 reactor at the plant near Harrisburg, Pa., occurred just 90 days after the unit went on line. "TMI-2 was of no use to ratepayers, and we argued that as a matter of law, customers should not have to pay for it," he said. The high court disagreed, saying the plant would eventually have to be decommissioned whether or not the accident had occurred. Popowsky said there were no grounds for an appeal to the U.S. Supreme Court because the issue was a matter of state law, and the state Supreme Court has the last word. TMI-2 has been shut down since the mishap that is considered the nation's worst nuclear accident. A second reactor was undamaged and has continued to operate.

Colo. wants nuclear waste detour

UPsw 9/20/95 10:02 AM DENVER, Sept. 20 (UPI) -- Gov. Roy Romer prepared a letter Wednesday to formally ask Wyoming and New Mexico to allow high-level nuclear waste travel on their highways instead of through the Colorado mountains. Interstate 70 is the designated highway for thousands of truckloads of spent nuclear rods headed for a federal waste dump at Yucca Mountain, Nev., which will receive up to two trucks per day for 30 years starting in 2010. What scares Romer and other Coloradans is the risk of a truck loaded with dangerous radiioactive materials getting caught in an avalanche, crashing along I-70 or getting stuck in a traffic jam on a busy ski weekend. The matter was thought to have been closed in 1986 when Colorado formally removed the Denver-to-Utah stretch of I-70 from the nuclear transport system. But the federal government did not recognize the plan because state highway officials neglected to designate alternate routes. "Interstate 70 is not acceptable due to winter ice and snow, avalanches, road closures," Summit County Commissioner Gary Lindstrom said during a Department of Energy public hearing Tuesday. Summit County is among several along the designated route through the Colorado high country. Restrictions reroute hazardous materials from the Eisenhower Tunnel to Loveland Pass, which Lindstrom says is a "dangerous roadway" and the scene of two or three accidents per year involving such trucks. Colorado State Patrol Capt. Allan Turner said the state wants trucks to travel north and

south from Denver on I-25 to Wyoming and New Mexico to the best routes into Nevada. Copyright 1995 The United Press International

Russian subs ``floating Chernobyls,'' adviser says

RTw 9/18/95 9:15 AM Copyright 1995 Reuters Ltd. All rights reserved. The following news report may not be republished or redistributed, in whole or in part, without the prior written consent of Reuters Ltd. BONN, Sept 18 (Reuter) - Many submarines taken out of service by the Russian navy are environmental catastrophes waiting to happen, an adviser to President Boris Yetsin said on Monday, describing the vessels as "floating Chernobyls." Alexei Yablokov, chairman of the ecological safety commission in the Security Council which advises Yeltsin, said some 10 submarines had a defect in their reactors which could not be rectified by current Russian technology. Yablokov, whose remarks in a German television programme were circulated to media organisations ahead of broadcast on Monday night, said the reactors could explode if the "situation got out of control." The commander of Russia's Northern Fleet, Admiral Oleg Yerofeyev, said the submarines were in a critical condition. "They could sink at any time. That could lead to an ecological catastrophe," Yerofeyev told the "Report Baden-Baden" programme. Apart from those with the defect, the programme said Russia's navy had 50 more out-of-service submarines whose nuclear reactors, fuel cells and atomic waste had not been removed due to a lack of suitable storage. Yerofeyev said Russia's capacity for storing solid nuclear waste was 95 percent used. The programme also quoted from an internal report by the state regulator ATOMNADSOR saying Russia's Northern and Pacific fleets had accumulated 30,000 fuel cells weighing 535 tonnes in sub-standard temporary storage. "Their radioactive safety is absolutely insufficient," the regulator said. In Moscow, a Russian Defence Ministry spokesman said: "We cannot comment before the programme has gone on the air and even then we would need more details." REUTER

Flight attendants risk breast cancer

UPn 9/8/95 12:44 PM By SUSAN MILIUS UPI Science Writer WASHINGTON, Sept. 8 (UPI) -- Working as a flight attendant can double a woman's chances of getting breast cancer, said Finnish researchers. A study of 1,800 Finnish flight attendants found more breast cancer than could be explained by delays in having children or by having a lower number of children, said Anssi Auvinen from the Finnish Center for Radiation and Nuclear Safety in Helsinki. He worked with Eero Pukkala from the Finnish Cancer Registry in Helsinki on the study published in Friday's issue of the British Medical Journal. Exactly what aspects of airline life cause the jump in risk are not clear from the study, said Auvinen. Exposure to cosmic radiation would explain a two to three percent increase in breast cancer, but not the whole 90 percent jump that researchers found, he said. He speculated that lifestyle factors may play a part, such as diet and alcohol. Longtime flight attendants also have breathed a lot of their passengers' smoke, which may have affected their health. Repeated jet lag could also play a role. "Jet lag could interfere with hormonal rhythms, but that is just hypothesis," Auvinen told United Press International. The researchers also found a higher than expected number of skin cancers, leukemia cases and bone cancers, but the study could not show any statistical link between these rises and the job. Previous studies of airline occupational risks are not much help in interpreting the new findings because previous studies focused on pilots and other positions filled mostly by men. The flight attendants in the Finnish study included 1,600 women and 200 men. Since the new study is the first of its kind, "if this is confirmed elsewhere, we need a big epidemiological study," said Auvinen. "We have been planning a European study for more than a year," he said, and Norwegian, Danish and German researchers want to participate. Copyright 1995 The United Press International

Lithuania reports two incidents at nuclear plant

RTw 9/7/95 12:57 PM Copyright 1995 Reuters Ltd. All rights reserved. The following news report may not be republished or redistributed, in whole or in part, without the prior written consent of Reuters Ltd. VILNIUS, Sept 7 (Reuter) - Lithuania on Thursday confirmed press reports of two accidents last month at its Ignalina nuclear power plant, the largest of the Chernobyl-style models, but said neither was serious. The first incident occurred on August 7 when two cranes became entangled while replacing fuel rods in the second reactor block. Six days later, a 150 kg (330 lb) fuel rod broke while spent radioactive fuel was being lowered into a waste pool and it sank to the bottom. "These incidents were not serious and posed no danger to the public," a spokesman for the Lithuanian Energy Ministry told Reuters. The accidents only came to light in a press report on Wednesday. The two reactors at the Ignalina plant, which is about 120 km (75 miles) northeast of Vilnius, came on line in 1984 and

1987 and are currently undergoing a safety overhaul with a 32 million European currency unit (($40 millio) grant from the Group of Seven industrial nations's Nuclear Safety Fund. Four reactors were originally planned but a public outcry after the Chernobyl disaster in 1986 halted construction in 1988. The plant supplies about 90 percent of Lithuania's electricity. Under the terms of the G7 grant, the plant must be shut down around 2010, when the reactor channels need replacing. Western nuclear experts say Ignalina is the safest of the Chernobyl RMBK models and the chances of a serious accident are the same as at any plant in the West. But they also say it lacks a total containment system, which means that any accident outside the primary circuit would release radioactivity into the atmosphere. A local environmentalist criticised the plant's management for not releasing information earlier. "This behavious is typical. Officials at Ignalina always act secretively," Linas Vainas, head of the local Green Party, told Reuters. "Whether an accident is dangerous or not, they don't inform the public." REUTER

Russia ready to reprocess foreign nuclear waste

RTw 9/5/95 10:36 AM By Andrei Khalip MOSCOW, Sept 5 (Reuter) - Russia, keen to capitalise on the earning power of its nuclear industry, is ready to accept foreign nuclear waste for reprocessing and temporary storage, the nuclear energy ministry said on Tuesday. "We want to make money reprocessing the waste, but we will have to store it for a while until we build a proper processing plant," Georgy Kaurov, head of the ministry's public relations department told a news conference. Environmentalists said the decision was against the law. "The resolution is totally unlawful. Bringing in radioactive materials from other countries or storing them on Russian territory is prohibited by the law," said Ivan Blokov, a co-ordinator in Russia for the Greenpeace environmental pressure group. The Russian government approved controversial new rules on reprocessing used nuclear fuel on September 1, allowing waste from abroad to be stored at the nuclear city of Krasnoyarsk-26 until a new reprocessing facility is built. The new plant will process the fuel for a fee and Russia will use the resulting plutonium and uranium. The final waste -- still highly radioactive -- will be sent back to the country of origin. But Blokov said the environmental situation at storage sites was already unacceptable, with radioactivity at Krasnoyarsk-26 at around 700 million curie per sq km. "One cannot live at a place where radioactivity exceeds two curie per sq km, so we can imagine what is going on there," he said. But cash-strapped Russia sees the nuclear industry as a source of revenue and ministry officials said the sale of uranium from nuclear warheads to the United States had already brought in $120 million. Moscow is also selling three nuclear reactors and nuclear fuel to Iran, ignoring U.S. protests that Iran could use the technology to build nuclear bombs. "Not a single country has ever created nuclear weapons using nuclear power reactors," the ministry's international department head Mikhail Ryzhov told the news conference. "Americans say they are afraid qualified personnel at reactors will make nuclear bombs. That is like saying secondary education is a step towards creating nuclear weapons." Russian nuclear energy minister Viktor Mikhailov has long been an evangelist for nuclear power, and Kaurov said the storage complex at Krasnoyarsk-26 was only 30 percent full. "It will take about 10 years to build the plant there, and we will have enough storage areas to keep the waste which comes in until this time," he added. He dismissed as "green talk" recent media reports that Russia was becoming the world's nuclear dump site. Izvestia newspaper said last week Russia did not have capacity to process its own nuclear waste or store it properly, so bringing in foreign waste would fill storage areas to the brim by 2000. Blokov said storage of nuclear materials in Russia was nothing short of criminal. "Bringing in or storing the fuel is a crime and we will fight against this by suing the government and the president," he said.

War refugees find paradise in Chernobyl zone

RTw 8/31/95 9:34 PM By Larisa Sayenko VERBOVICHI, Belarus, Sept 1 (Reuter) - Natalya Yakovleva lives in the 30 km (19 miles) "dead zone" around the stricken Chernobyl nuclear power station, but she thinks it is paradise. One of 400 war refugees living in part of the zone evacuated by Soviet authorities after the 1986 disaster at the plant, she says anything is preferable to the conflict she left behind in one of the former Soviet Union's ethnic "hot spots." "Of course, I am afraid of radiation. I am afraid for my children," she said. "After all, I am a paramedic. But things were much worse where we came from." Yakovleva used to live in Dushanbe, capital of Tajikistan on the Chinese border, where a civil war after the collapse of Soviet rule pitted rival clans against each other. Russians, though outside the internecine conflict, were not welcome. "Every day Grad missiles would rain down on our district. Earth tremors would shake the building at night," she said. "So now we're Chernobyl people. No one in Russia wants us and at

least here we have a roof over our heads." Local councils in the region are sympathetic to the plight of the refugees, who have taken over boarded-up homes. But nearly all requests for citizenship and residence permits from refugees living in the "dead zone" have been rejected by angry Belarussian authorities in Minsk, 500 km (300 miles) to the northwest. "Contaminated regions could be turned into a sort of transit zone from which radiation could be spread across the entire country," said Alexander Sidorenko, the top government official responsible for the evacuation zone. Government agencies say they have received 30,000 applications for refugee status. New laws providing grants for refugees, they say, cannot go into effect because the government has no money to pay out. Belarus bore the brunt of the April 1986 fire and explosion at Chernobyl, just over the border in Ukraine, as winds carried radiation northwest across its territory. One-fifth of the country wedged between Russia and Poland was severely contaminated. In their bungled attempts to cope with the disaster, Soviet authorities took several days to evacuate tens of thousands from the area immediately surrounding the station. Others were evacuated later in great confusion, some twice after being moved initially to contaminated locations. But readings of 40 curies per square kilometre (0.4 sq mile) in the 30-km zone, far in excess of recommended norms, are of no consequence to refugees fleeing post-Soviet chaos in Armenia, Azerbaijan, Georgia, Tajikistan and, latterly, Chechnya. "You won't find anyone who chooses to live here. We've come here to escape war," said Anna Krasyukova, who left behind a flat full of possessions in the Chechen capital, Grozny. "Maybe radiation can kill you too, but not as quickly as a bomb. If I had a sackful of dollars, I'd go further. But there's no money, so there's no choice." Trickling into the region along with the refugees are Belarussians returning illegally to homes they abandoned nine years ago. The village of Bely Bereg was evacuated in September 1986 and an initial attempt by some residents to return was repelled by force. Police piled belongings high on trucks and smashed windows and furniture to ensure no one would come back. Four families returned three years ago for the second time and have lived on crops planted on abandoned collective farms. Their main fear is not radiation, but of new eviction. One local entrepreneur who sold them food was given an official warning to stop. "I cannot understand how governments relate to people. All we want is to die in our own homes rather than being beggars in a strange place," said Anyuta Artyushenko, 64, now virtually paralysed by a stroke. "They used to conduct tests for nuclear bombs and when they poured ammonia all over the fields you could feel it was bad for you. I can't feel radiation." Narovlyansky district, part of which is in the "zone" is among the poorest regions in a country where millions have been hurled into poverty by post-Soviet economic changes. Workers in towns where Belarussians are entitled to live despite high radiation readings earn the equivalent of up to $70 per month. Farm workers get less than half. State compensation for living on contaminated territory amounts to just over $1 per month. Valentina Gadjieva, who left turmoil in Azerbaijan to resettle in the region is one of the lucky few to obtain Belarussian citizenship, a residence permit and a job. "I can't complain about my health, though I get headaches and feel tired all the time," she said. "After Soviet troops entered Baku in 1990, we Russians went wherever we could to find a place in the sun. Everyone is really envious of my luck." REUTER

RUSSIA-NUCLEAR

 By VLADIMIR ISACHENKOV Associated Press Writer MOSCOW (AP) -- The potential nuclear disaster that lurks in Russia is especially threatening in Moscow, where scores of reactors are not receiving adequate upkeep and are tended by poorly trained workers, environmental experts warned Thursday. The experts told a news conference that severe nuclear accidents are possible at deteriorating facilities throughout the country. The main danger, they said, is from the country's 160 research reactors, 53 of which are in Moscow. "No one makes any effort to modernize the aging equipment," said Vladimir Kuznetsov, head of the Russian Nuclear Emergency Prevention Center. Many of the research reactors are more than 40 years old. "We also have a nuclear waste storage facility in Moscow with a capacity equaling the amount of radioactivity released in Chernobyl," he said. In April 1986, a reactor at the Chernobyl power plant in Ukraine exploded in the world's worst nuclear disaster, spewing a radioactive cloud across Europe. Kuznetsov, who headed the Moscow branch of the government's nuclear watchdog agency, was fired last year after he accused industry officials of neglecting safety standards. Among other problems, Kuznetsov said, authorities recently decided to reopen an airport less than a mile from Moscow's Kurchatov Institute, the country's leading nuclear research center, which has several reactors. "These facilities weren't built to withstand an aircraft falling on them," Kuznetsov said. "That plan is fraught with new disasters." Of the 29 operating reactors at power plants, 11 are the same type as the one that exploded in Chernobyl. Efforts to modernize them have faltered and workers of 10 lack the training to operate the facilities safely, said Robert Tilles, chairman of the International Chernobyl Fund for Nuclear Safety, another non-government group. Another serious problem is lack of capacity to store used nuclear fuel and other

radioactive waste. The situation is especially alarming in the European part of Russia, where the waste storage facilities of three nuclear plants are filled almost to capacity. "At the Kursk and Leningrad plants, waste storage is filled to 95-96 percent," said Kuznetsov. "In violation of the basic safety regulations, these plants don't even have a place to unload fuel from their reactors in case of emergency." Vladislav Petrov, a spokesman for the Nuclear Power Ministry, denounced the environmentalists' claims as incompetent and unfounded. "Don't try to scare us with new Chernobyls," he lashed out at the critics. Alexei Yablokov, who heads the ecological safety commission of President Boris Yeltsin's Security Council, said the Russian nuclear establishment has grown increasingly secretive and aggressive, hatching plans to resume nuclear tests as well as underground nuclear explosions for industrial purposes. Nuclear officials have even devised a concept of using underground nuclear blasts to dispose of the vast stockpiles of chemical weapons Russia has to destroy under international agreements, experts said.

Ukraine to repair, restart damaged Chernobyl block

RTw 8/30/95 11:08 AM KIEV, Aug 30 (Reuter) - Ukraine intends to repair a damaged reactor at the Chernobyl nuclear power station and then restart it, despite a pledge to close the plant by the year 2000, its director said on Wednesday. Sergei Parashin said in an interview on state television that the station planned to restart Chernobyl's second reactor in 1997, five years after it was shut down after a fire. "We plan to reconstruct the reactor to increase safety. In any case, despite any decisions, this is our obligation -- greater safety," he said. "We've never stopped working to repair the reactor but lately we have intensified our work." A fire and explosion at Chernobyl's fourth reactor in 1986 sent a cloud of radiation across Europe in the world's worst nuclear accident. Its first and third reactors still churn out five percent of Ukraine's electricity. President Leonid Kuchma has promised to close Chernobyl within five years, under heavy pressure from the West, which considers the plant dangerous. But Kiev says its closure is conditional on $4 billion in aid to build a new, gas-fired power station and to replace the crumbling "tomb" covering the ruined fourth reactor. Ukraine's a powerful nuclear lobby has cast doubt on the West coming up with adequate assistance, and says it will carry on with its nuclear programme until the money is in hand. Parashin said Chernobyl's first reactor will be closed for reconstruction in 1997, at which time the refitted second reactor will be brought on line. Last week Ukraine loaded nuclear fuel into a new reactor at its Zaporizhya plant -- Europe's largest -- built on a different model than Chernobyl. It is to be brought on line by the end of the year.
REUTER

France says ``insignificant'' radioactivity in ...

RTw 8/25/95 11:48 AM France says "insignificant" radioactivity in Polynesia PARIS, Aug 25 (Reuter) - The French nuclear safety board said on Friday that radioactivity lingering in French Polynesia from nuclear tests was only one third of that remaining in mainland France from the 1986 Chernobyl nuclear disaster. In a report that excluded the Mururoa and Fangataufa atolls where France plans to resume nuclear tests next month, the agency said radioactivity left from testing was insignificant compared with natural radioactivity. The Institute for Nuclear Protection and Safety (IPSN) delivered its report to European Union experts on Thursday. It said monitoring in French Polynesia over the past two years had found caesium 137, strontium 90 and plutonium released into the atmosphere by nuclear tests at Mururoa and Fangataufa before France decided in 1975 to carry out its test blasts underground. "As a global indicator, the average concentration in caesium 137 was equivalent in 1994 to one third of the measurements in mainland France," it said. It said contamination from the Chernobyl disaster was still measurable in mainland France, while contamination from nuclear tests had fallen below below detectable levels in many parts of French Polynesia. French Polynesians were exposed last year to 1.4 to 7.2 microsieverts a year -- while natural radioactivity amounted to 500 to 1,000 microsieverts. In mainland France natural levels were 1,000 to 5,000 microsieverts, it said. IPSN said it does not monitor the nuclear weapons testing sites because they are under military control. French plans to resume nuclear tests in the South Pacific after a three-year moratorium have triggered protests around the world and environmental groups are calling for independent studies on the impact of testing on the environment. In earlier reports, the Defence Ministry said contamination from nuclear blasts was 100 times weaker than natural radioactivity and posed no health hazard. It said concentration of radioactive

elements in the lagoons of the atolls was higher than in the Pacific Ocean, but was nonetheless at about the same insignificant level as in the Baltic Sea or the North Sea. A report by scientists from Australia and New Zealand released earlier this month concluded the tests posed minimal health risks to people living in the region although the main testing site at Mururoa could leak radiation within 50 years. France has agreed to allow independent scientists, including some chosen by the EU Commission, to visit the testing sites but has ruled out requests for an environmental survey to be conducted before the tests begin. REUTER

Ukraine says plan to close Chernobyl unacceptable

RTw 11/22/95 1:13 PM By Ron Popeski KIEV, Nov 22 (Reuter) - Ukraine said on Wednesday it would modernise the stricken Chernobyl nuclear power station -- implying a prolonged life -- unless the West offered more money for closing it. Interfax Ukraine news agency quoted Prime Minister Yevhen Marchuk as saying funding proposals from the Group of Seven industrial countries were "absolutely unacceptable for us." The world's worst nuclear accident happened at the Soviet-era Chernobyl station in April 1986. "Ukraine will be obliged to take a decision on modernising at least two reactors of the Chernobyl station if there are no real agreed figures," Marchuk said after a session of Ukraine's National Security Council. But he said President Leonid Kuchma's pledge in April to close the plant by the year 2000 still stood. Kuchma said this month the closure could be put back unless funding was provided more quickly. Talks on funding the closure of Chernobyl and replacing the lost electricity by upgrading Ukraine's inefficient power system were launched in April. G7 diplomats under the chairmanship of Canada are currently trying to draw up a final memorandum. A G7 plan discussed at the last round of talks proposed $2.25 billion in grants and credits for Ukraine, with the former Soviet republic putting up $900 of its own. Ukraine initially sought $4 billion to close Chernobyl and make up the five percent of the country's electricity produced by two reactors still functioning there. But Marchuk last month suggested authorities had been rash to name a concrete figure and diplomats reported progress for a time in the talks. Canadian Deputy Prime Minister Sheila Copps is due to sign the agreement in Kiev but diplomats have said she will come only if there a document ready. Marchuk said Ukraine would sign such an undertaking "only when all questions linked to financing are resolved." A statement issued by Kuchma's office said negotiations had "so far failed to produce acceptable results. The question of the size and disbursement of financial help for Ukraine remains unsolved as does the level of delegations at the talks." The government had been instructed "on the basis of national interests to ensure the implementation of Ukraine's strategic policy in resolving the problem of Chernobyl." The explosion and fire in Chernobyl's fourth reactor contaminated huge stretches of Ukraine, Belarus and Russia and sent radiation over most of Europe. Ukraine says thousands of people died and cleanup operations still account for six percent of the national budget. A 1991 fire closed down the second reactor and parliament agreed to shut the station within two years in the face of anti-nuclear sentiment. But post-Soviet Ukraine's severe energy problems prompted a rethink and the decision was reversed. Ukraine's big nuclear lobby says Chernobyl is the safest of the country's five nuclear stations and could function into the next century in the absence of a shutdown agreement.

British nuclear workers fear for sell-off safety

RTw 11/22/95 12:25 PM LONDON, Nov 22 (Reuter) - Britain's nuclear engineers said on Wednesday they were worried that safety could suffer if the government goes ahead with a plan to privatise the industry. "We have a lot of faith in the institutions in this country which maintain nuclear safety, but we fear there will be strains on that," Tony Cooper, secretary of the Electricity Supply Trade Union Council (ESTUC), told a news conference. ESTUC and the Institution of Nuclear Engineers both warned Parliament's Trade and Industry Committee that under privatisation the owners of nuclear power stations must not be allowed to focus on profits at the expense of safety. The government has said it aims to privatise most of the industry next summer. But there have been reports in some newspapers that the move, which could bring in 2.5 billion to three billion pounds ($3.9 to $4.7 billion), will be brought forward to April. Britain's ageing Magnox reactors, which are at or near their closure dates, would not be included in the sale. The unions and the Institution say that already many experienced staff have left the industry as staff numbers have been cut by 38 percent in the past five years. "Facing managers and staff with repeated organisational changes and commercial challenges may yet cause a lack of attention or delay corrective actions with devastating effects," the Institution said in a memorandum to the committee. Cooper claimed the government was rushing ahead with privatisation in order to fund tax cuts ahead of a general election which cannot be delayed beyond May 1997.

UN health chief urges global unity on Chernobyl

RTw 11/20/95 10:22 AM By Robert Evans GENEVA, Nov 20 (Reuter) - World Health Organisation (WHO) chief Hiroshi Nakajima urged wider international cooperation on Monday to deal with the consequences of the 1986 nuclear disaster at Chernobyl in the former Soviet Ukraine. He was speaking at the opening of a four-day conference on the health effects of the Chernobyl power plant explosion -- now described as the world's worst nuclear accident -- which spread radiation across Europe. "In the future, international cooperation must be maintained and enhanced to further improve our understanding and our ability to mitigate the consequences of the Chernobyl accident," Nakajima said. Officials from Russia, Belarus and Ukraine, the three former Soviet republics which suffered the most, say a total of some five million people had been exposed to radiation on their territory. Recent studies have shown a sharp increase in the incidence of thyroid cancer, especially among children in the main contaminated areas. The WHO said that in Belarus, 30 percent of whose territory was contaminated by the accident, an increase of 100 times the previous levels had been recorded in the Gomel region which came under the direct path of the initial fall-out cloud. In Ukraine, seven percent of whose territory was rendered unusable according to a U.N. report, thyroid cancer among children had increased eight times over pre-accident levels. Nakajima told the conference, the first of a series of U.N. sponsored events on Chernobyl, there had been no significant increase in the incidence of leukaemia or other blood diseases so far. But he added evolution of these diseases would need long-term study and follow-up. After atomic bombs were dropped on the Japanese cities of Hiroshima and Nagasaki at the end of World War Two, the incidence of leukaemia began to climb sharply only 10 years after the explosions. The conference will also look at the psychological effects of the Chernobyl accident, whose significance and extent was minimised by the Soviet authorities at the time. Many of the psychosocial effects -- including stress and trauma related to compulsory evacuation and fears of radiation related illness -- resulted from the lack of official information after the disaster, the WHO said.

Scientists discuss Chernobyl accident

UPn 11/20/95 9:45 AM GENEVA, Nov. 20 (UPI) -- Almost 10 years after the world's worst radiological accident at the Chernobyl nuclear power p discussions Monday on the results of health studies and observations. The meeting, scheduled to last four days, is the first of three international conferences related to the Chernobyl accident, in which almost 5 million people were exposed to nuclear radiation. "This will help us better understand the type, magnitude and severity of observed health effects of the Chernobyl accident and to be better prepared for their future evolution," said Hiroshi Nakajima, director-general of the World Health Organization. On April 26, 1986, the world waited in horror as news of the Chernobyl accident spread. The blast was 200 times stronger than the atomic bombs dropped on Hiroshima and Nagasaki in World War II. People in three countries, Belarus, Russia and Ukraine, were contaminated by radiation. While only two deaths were reported in the first days following the accident, its long-term effects are only now beginning to be seen. "There has been a sharp increase in thyroid cancer incidence, especially among children living in the radio nuclides contaminated areas," Nakajima said. "An increase of about 100 times the pre- accident levels was recorded in the Gomel region of Belarus, immediately north of Chernobyl, and in the direct path of the initial radioactive fall-out cloud." he said. Twenty-eight people died from radiation in the three months following the accident, while 134 others became seriously ill and were diagnosed with radiation. One of the long-term side effects being discussed this week is the incidence of leukemia or other blood disorders. Scientists believe it could take up to 25 years before these types of illness evolve. Japanese studies following Hiroshima and Nagasaki showed a steep increase in the number of leukemia cases only 10 years after the bombings. To date, 565 children under the age of 14 have developed thyroid cancer; 333 from Belarus, 24 from Russia and 208 from Ukraine. While the gathering of scientists brings together specialists from 59 countries, the conference itself has been criticized for ignoring the fact that three of Chernobyl's four reactors are still operating. Ukraine has asked for international funding to replace its nuclear power plants. It has estimated it would cost about $4 billion to phase out the working Chernobyl reactors and replace them with more modern and safer electricity installations.

Taiwan says undecided on nuclear waste disposal

RTw 11/18/95 1:36 AM TAIPEI, Nov 18 (Reuter) - Taiwan said on Saturday that it has not decided whether to ship its nuclear waste to Russia but added that negotiations with Russian counterparts are underway. Officials in Murmansk said on Friday that a first shipment of nuclear waste from Taiwan will arrive in the Russian Arctic port next April. "The report is completely inaccurate. We are still in the stage of discussion with our counterparts in Russia...there is no time-table and no substantial plan at the moment," a senior official at state-run utility Taiwan Power Company (Taipower) told Reuters. Taipower operates Taiwan's three nuclear power stations and a fourth is under construction. Russian journalists said the ecology committee of the regional authority in Murmansk announced that 2,000 litres of low-level radioactive waste would arrive in the city, little more than 100 km (60 miles) from the Norwegian and Finnish borders, for onward carriage to a Russian waste processing plant in the Moscow area. International environmental groups have urged Russia against expanding its nuclear waste reprocessing industry. The Taipower official, who declined identification, said Taipower signed a letter of intent with a Russian nuclear research body in June, but did not reach any agreement on disposing of the island's nuclear waste in Russia. "Russia is a possible site and we do not rule out the possibility of shipping our nuclear waste to Russia in the future," the Taipower official said. Waste is currently dumped on Orchid Island just off Taiwan's southeast coast, but the site will be full within two years. Construction of additional nuclear dump sites in Taiwan proper is strongly opposed by local environmentalists. Besides Russia, Taiwan has considered sending waste to China, the Marshall Islands in the Pacific and elsewhere. REUTER

Ukraine reactor repaired a month after start-up

RTw 11/16/95 1:34 PM KIEV, Nov 16 (Reuter) - The sixth reactor at the Zaporizha nuclear plant was shut down for 10 days after a small radioactive leak less than a month after being brought on stream, Ukrainian authorities said on Thursday. The 10-day shutdown, which ended on Wednesday, occurred just after the latest inconclusive round of talks between Ukrainian and Western experts on how to finance the closure of the Chernobyl nuclear power station and was not previously reported. "During 10 days of repairs, defects were eliminated in a steam generator," an environment ministry spokesman told UNIAN news agency. "There was a small leak of radioactive water from the reactor's equipment into a generator." Ukraine's nuclear authority said there was no radioactive leak in the atmosphere and no contamination. "There was no danger. Things like this happen when you start a new business and it's only natural that there are some faults in a new reactor," Olexander Ivanov, a duty officer for Derzhkomatom said by telephone. Ivanov said the reactor was operating at 40 per cent of capacity and would soon be boosted to 75 per cent. There were no immediate plans to increase capacity to 100 percent. The sixth reactor at Zaporizha in eastern Ukraine -- Europe's largest station -- was the first to be completed in the post-Soviet era and attached to the national grid on October 6. In 1993, parliament in the former Soviet republic lifted a moratorium imposed on construction of new reactors two years earlier, when anti-nuclear feeling was at its height over the 1986 explosion and fire at Chernobyl. Negotiators reported progress in the latest talks on meeting President Leonid Kuchma's pledge to close Chernobyl by the year 2000 and finding ways to replace the five percent of Ukraine's electricity still produced there. But no final agreement was achieved. Diplomats on Thursday said contacts were being pursued to try to forge an agreement within the next month. Kuchma has said the shutdown could be delayed if financing cannot be arranged. REUTER

Lithuania reports fire at nuclear plant

RTw 11/13/95 1:40 PM VILNIUS, Nov 13 (Reuter) - Fire broke out in a turbine room of Lithuania's Ignalina nuclear plant at the weekend but officials said on Monday there was no danger to the reactor. The Sunday morning fire was the latest incident at the plant after two accidents during August. The power station's two reactors are the largest of the RBMK models that were in use at Chernobyl, site of the world's worst nuclear disaster in 1986. "The fire was not in the reactor sector and posed no danger," Donaldas Jasulaitis, a senior adviser on nuclear affairs at the Ministry of Energy, told Reuters. "On the nuclear safety scale of zero to six, this incident rated a zero," he added. In August, two cranes became entangled while replacing fuel rods in the second reactor block. Several days later, a 150 kg (330 lb) fuel rod broke while spent radioactive fuel was being lowered into a waste pool and it sank to the bottom.

Lithuania said neither accident was serious. Western donors are racing to give Ignalina a much-needed safety upgrade and avoid a repeat of the Chernobyl disaster. Ignalina, which provides more than 90 percent of Lithuania's electricity, is slated for closure in 2010, when its reactor channels are due for replacement. REUTER

Ukraine may delay Chernobyl closure - Kuchma

RTw 11/11/95 7:45 AM By Yuri Kulikov KHARKOV, Ukraine, Nov 11 (Reuter) - President Leonid Kuchma said on Saturday that Ukraine might have to delay its promised closure of the Chernobyl nuclear power station by the end of the century if the West failed to provide sufficient help. "I can say clearly that if the question of assistance is not settled in a complete manner, including Western help, then this could in fact happen," Kuchma told a news conference after a two-day visit to Ukraine's second city, Kharkov. "Initially, we adopted a political decision on this. If the world, particularly Europe, is really concerned about safety, then let us look at the issue from this very standpoint." Ukrainian officials and experts from G7 industrialised countries failed to reach agreement at their latest round of talks last week on how to finance the closure of Chernobyl, site of the world's worst nuclear disaster in 1986. Environment Minister Yuri Kostenko, who heads Ukraine's delegation, raised the possibility of a postponement after the talks, saying the West was not coming up with funding quickly enough to allow a start on various projects. Since Kuchma promised last April to close the station by the year 2000, however, both sides have noted progress in drawing up projects to modernise Ukraine's inefficient energy network. A G7 plan discussed at the latest talks proposed $2.25 billion in grants and credits for Ukraine, with the former Soviet republic putting up $900 million of its own. Ukraine insists any settlement must make up the five percent of power produced by the two reactors still functioning at the plant nearly 10 years after the explosion and fire there. Kuchma told reporters he would be able to provide a more definite answer after the next visit by a G7 delegation, which he said was due to take place in late November and be headed by Canadian Deputy Prime Minister Sheila Copps. Any delay in closing Chernobyl would invariably provoke a fierce reaction in the West, particularly in Western Europe, where fears of a new nuclear disaster from Soviet-era technology run high. Ukrainian officials say Canada and the United States have a better understanding of Ukraine's financial problems and complain that Europe, France in particular, is putting undue pressure on them in negotiations. Ukraine's powerful nuclear lobby says Chernobyl is the safest of its five nuclear stations and complain that the West is not seeking the closure of other Chernobyl-type reactors working in Russia and Lithuania. Industry officials said Chernobyl is capable of working well into the next century if the shutdown cannot be financed. The Chernobyl disaster sent radioactivity throughout most of Europe and contaminated large areas of Ukraine, Belarus and Russia. Ukraine blames the accident for thousands of deaths. REUTER

BRF--Russia-Nuclear

APn 11/9/95 11:38 AM MOSCOW (AP) -- Russia is considering building five more nuclear power plants in areas of the country with serious energy shortages, the Interfax news agency reported Thursday. Two of the proposed plants would be built in the Russian Far East, one in central Russia and one in the Ural Mountains, the agency said. It did not say where the fifth would be built. Russia now has 28 nuclear power plants and they supply about 10 percent of the country's electricity. Nuclear power plant construction in the former Soviet Union fell following the 1986 Chernobyl disaster. Interfax quoted Vitaly Lebedenko, president of the Rosenergoratom company, which is responsible for atomic power plant construction, as saying people have recovered from the shock of Chernobyl, the world's worst nuclear accident.

Ukraine, G7 draw up plan to close Chernobyl

RTw 11/2/95 6:17 AM KIEV, Nov 2 (Reuter) - Ukraine and Western experts on Thursday extended talks on the closure of the Chernobyl nuclear power station, with negotiations focusing on a plan to extend $2.25 billion in credits and aid to the former Soviet republic. A spokesman for Ukraine's Environment Ministry said the talks had been prolonged to iron out differences in

financing Ukraine's pledge to close the stricken plant by the year 2000. He said the preliminary plan discussed during the two-day meeting called for Ukraine to provide some $900 million. "The talks have been extended to work out uncertainties in this financing scheme," spokesman Volodymyr Martinyuk said by telephone. "The Ukrainians want the scheme to be guaranteed to the last kopeck. We want to know all details of financing -- which bank, which account and when." Martinyuk said the plan under discussion provided for $1.8 billion in credits and $450 million in grants to modernise Ukraine's energy system and make up for the five percent of the country's electricity generated by Chernobyl. This round of talks, attended by experts from the G7 leading industrialised countries, is the last planned before what both sides hope will be the signature later this month of a memorandum on closing the station. President Leonid Kuchma bowed to Western pressure in April and promised to close Chernobyl, where an explosion and fire in April 1986 sent radioactivity throughout Europe in the worst civil nuclear accident. REUTER

Fire breaks out at Ukrainian nuclear plant

 KIEV, Nov 1 (Reuter) - A fire broke out in an office building at Ukraine's Zaporizhya nuclear power station on Wednesday, but firefighters put out the flames, Interfax Ukraine news agency said. A short circuit caused a fire in a ceiling lamp, which fell and set light to a communication panel in the building. But "technological and special communication" was undamaged and working normally, Interfax quoted plant officials as saying. It was not clear how serious the fire was and officials at the station could not be reached for comment. The Zaporizhya station in eastern Ukraine is Europe's biggest, with six nuclear reactors. Ukraine has five nuclear power stations, including the Chernobyl plant, site of the world's worst nuclear accident. A delegation of Western experts opened talks with Ukraine on Wednesday on financing the Chernobyl's closure. The G7 proposes, in part, to upgrade and expand Ukraine's existing nuclear stations to replace the power Chernobyl produces. REUTER

Study sees no thyroid cancer risk from X-rays

 WASHINGTON, Oct 31 (Reuter) - A new study by a U.S.-Swedish research team has found that X-rays do not seem to be a cause of thyroid cancer, scientists said on Tuesday. In research being published in the Journal of the National Cancer Institute, the team examined the detailed medical records of 484 men diagnosed with cancer in central Sweden between 1980 and 1992, and compared them with a similar group of men without cancer. "These data indicate that the risk of thyroid cancer due to medical diagnostic X-rays, if any, is very small," wrote epidemiologist Peter Inskip, who was at the National Cancer Institute and is now at Texas A&M. He did the work with colleagues at University Hospital in Uppsala, Sweden, and the Harvard School of Public Health. The team paid particular attention to X-rays taken of the head, neck and upper body, which would have the potential for the most radiation exposure to the thyroid gland. They did not find a consistent pattern of thyroid cancer in patients who had more of those X-rays, or who had many when they were young and feared to be more susceptible. There was no statistically significant assocation between the thyroid cancer and the number of these X-rays, or the estimated cumulative dose of radiation exposure in X-rays. In fact, the healthy control group had slightly more X-rays than the cancer group. Noting that diagnostic X-rays are the largest human-made source of exposure to ionising radiation for the general population, the authors said the results should be reassuring but also said doctors should not prescribe unnecessary X-rays. In the United States, thyroid cancer is relatively rare and quite treatable. It is more common among whites than blacks, and among women then men. The median age at diagnsosis is 44. REUTER

Chernobyl reactor shut down after defects found

 (Adds background) By Rostislav Khotin KIEV, Oct 27 (Reuter) - A reactor at the Chernobyl nuclear station was shut down because of defects in its refuelling system on Friday, days before Western experts were due in Ukraine for talks on closing the plant for good. Station director Sergei Parashin told Reuters that technicians had discovered the defects while refuelling one of the two working reactors at Chernobyl, site of the world's worst

nuclear accident. "Problems were discovered inside the system for loading fresh fuel into reactor number one," Parashin said by telephone from the station. "We are in the process of taking the reactor off line gradually for a week's time." Parashin said no radiation had escaped from the reactor and the incident registered "zero" on an international seven-point scale. The refuelling procedure takes place regularly twice a day, he said. "There was no release of radiation. There is nothing serious about this, but we are very careful about safety so we decided to take precautions," he said. The stoppage of the reactor occurred ahead of a November 1-2 visit to Ukraine by experts from the Group of Seven (G-7) industrialised nations for talks on closing the Chernobyl station. President Leonid Kuchma has pledged to close Chernobyl by the year 2000. But he says Ukraine needs Western help to do so. Ukraine's government and G-7 experts appeared to move closer to agreeing on a solution on financing the station's closure in the latest round of talks earlier this month. A fire and explosion at Chernobyl's fourth reactor in 1986 sent a cloud of radiation across Europe. Its second reactor was closed after a fire in 1991, but the third and first reactors still produce five percent of Ukraine's electric power. Parashin says Chernobyl is the most reliable of Ukraine's five power stations and contends it could operate for years. Ukraine, which has uranium deposits but little oil or gas, intends to develop and update its nuclear industry. A sixth new reactor at the Zaporizhya nuclear station, Europe's largest, was brought on line officially on Friday. REUTER

ARMENIA TURNS UP NUCLEAR REACTOR

UPn 10/27/95 11:37 AM By DMITRY PISARENKO YEREVAN, Oct. 27 (UPI) -- Energy-starved Armenia launched a return to nuclear power Friday, bringing back on line a reactor that was shut down six years ago after an earthquake devastated the former Soviet republic. But government officials said even with the 440-megawatt light water reactor back on line, the republic's power problems will not be over. "In winter the population at best will get eight hours of electricity a day," Deputy Energy Minister Yuri Minasyan told reporters. The second reactor bloc at the Medsamor Atomic Energy Station, just 24 miles (40 km) southwest of the capital Yerevan, had been running in a low-level test mode since an official opening ceremony four months ago. "In Armenia, a shut-down reactor has been restarted for the first time in the world," Vladimir Manoyan, head of the government press service, said. The 15-year-old reactor will begin producing electricity in two weeks and will take another 20 days to reach its full output capacity of 9 million kilowatt hours per day, government spokesman Lavrenty Asroyan said. In 1989 the Soviet Union shut down the station, located along a seismic fault line, amid public outcry over a possible Chernobyl-type disaster after a major earthquake rocked the country and killed 25,000 people. But Armenia's desperate energy needs have outweighed concerns from environmental groups and the United States that the station is not safe. Armenia has been wracked by an economic and energy blockade imposed by neighboring Azerbaijan after a dispute over the Nagorno-Karabakh enclave sparked a war between the two countries following the 1991 Soviet breakup. Natural gas, oil and electricity have been in critically short supply, with Yerevan's inhabitants usually receiving no more than two hours of power a day. The reactor's first bloc, built in 1976, is also being overhauled and is slated to be fully operational in five years. Both of Medsamor's reactors are of the pressurized light water-cooled type, considered much safer than the Chernobyl-style graphite moderated model. The Russian Atomic Energy Ministry has played a major role in helping Armenia restart the station and Moscow has largely footed the bill, supplying more than $60 million of credits to finance the project.

RUSSIANS GO FROM ATOMS TO LOW-TECH; NUCLEAR ...

WP 10/24/95 11:00 PM Russians Go From Atoms To Low-Tech; Nuclear Scientists Push New Consumer Goods By David Hoffman Washington Post Foreign Service MOSCOW, Oct. 24 -- Nicholai Smotrov held a small glass dish of grayish diamond dust in his hand, just one of the latest industrial products that Russia is offering the world. "Look at this," he insisted, pointing to the microscopic crystals formed by a powerful explosion. What makes the diamond dust unique is that it was manufactured in Chelyabinsk-70, once one of the Soviet Union's top-secret nuclear weapons laboratories. In earlier years, Chelyabinsk-70 and nine other "closed" cities were not even identified on a map of the Soviet Union because they were a hidden and remote network for the design and production of nuclear bombs. The closed cities are still isolated in many respects, but today's hard times have forced them into the open. Once totally dependent on the government for generous subsidies, they no longer are cosseted and protected. They still have fences and special security arrangements, but they are now looking outside their gates for economic support. At a Moscow conference center today, nuclear scientists and engineers from Chelyabinsk-70, Arzamas-16, Tomsk-7 and the other closed cities opened a joint public exhibition of civilian projects for which they are seeking investors. While it is not unusual for Russian military and space industries to

hold such an open exhibit, participants said the nuclear scientists' conference was the first of its kind. Five years ago most of the participants would not even have been permitted to talk to foreigners without permission, much less propose to do business with them. Worried about brain drain from the nuclear weapons laboratories and re ports that some scientists have been lured for large sums to countries keen on their know-how, the United States and other Western governments set up special programs after the collapse of the Soviet Union to help the nuclear engineers and scientists find useful work. Vladimir Kruchenkov, director of the International Science and Technology Center here, said the multinational effort has approved about $73 million for 180 projects so far in Russia, Kazakhstan, Georgia, Belarus and Armenia. About 10,000 people have received grants, one-third of which are in the closed nuclear cities, on topics ranging from nuclear safety to developing new medicines. The Moscow exhibition hall was not filled with do-it-yourself nuclear spinoffs. Most of the scientists fell silent when asked what they did in the secret laboratories. "It's still classified," said one. But from the exhibits, it was clear that those pinning their hopes on civilian products have turned their attention to low-tech, everyday pursuits and to industrial needs. For example, Igor Motorny, chief technologist at the Instrument-Building Factory, stood proudly by a model of the Jet 500 Water Motorcycle. With a 30-horsepower engine, the 242-pound vehicle can reach 34 mph, and the company hopes to market it for $4,500 apiece. So far it has produced only a few dozen but plans to make 180 next year, he said. What makes his project different from most jet skis is that the engineers began building it in their shop at the closed city of Zlatoust-36, where they also constructed parts for nuclear weapons. "We have the ability to work on plastic and other compounds, and welding on steel, with great accuracy," he said. "We only use the best materials. We have a special commission which examines everything for quality." Kiril Belousov also worked in a closed city, Sverdlovsk-45, where bombs were fabricated. But then he and members of his family decided to strike out on their own, making remote-controlled gas-powered model race cars and airplanes, using skills they had learned at the plant. They manufacture small piston engines that run on a mixture of castor oil and methanol. Belousov is the sales manager, trying to drum up a market for the toys in Russia, with partners in Germany and the United States. In the closed city, he recalled, "I can't say life was very hard. You knew the state would always take care of you. You just lived. Now, it all has changed. I have to earn a living and create a market. I have 50 employees under me. It doesn't make a difference if you are in an open or closed city, the situation in the country has changed." Smotrov, a mechanical engineer and first deputy director of the Institute of Technical Physics at Chelyabinsk-70, said that civilian projects now occupy about one-third of the work force of 14,000 people. Among the institute's civilian proposals is an egg sorting machine, which it claims can automatically weigh, sort, mark and illuminate up to 9,000 eggs an hour. They also are seeking investors for such ideas as art castings in iron, bronze and aluminum alloys; a tilting hospital bed; a humidity-measuring device for concrete; an electrochemical generator; and a host of products for industry, including the diamond dust. The prospective businessmen in the closed cities have their own set of problems. Foreign and domestic investors can't just come for a visit, but need special security permits to get inside, although phone, fax and electronic mail communications have opened up. "Being a closed city means a physically closed city," Smotrov said. Nicholas Lubnetz, chairman of an association of the 10 cities, told reporters that the trade show did not mean the end of secrecy and nuclear weapons work. "We shall be closed," he said, "as long as the state wants us closed." But the cities also feel the urge to reveal themselves. "Perfectly Open" is the title of a glossy new magazine trumpeting the civilian activities of the closed cities. The subtitle is, "Illustrated journal about towns which could not be found on the map." A recent cover story was, "Atomic explosions for peace, ecology and life of the Earth."

Ukraine Switches to Shiver Time; Fuel Shortages ...

WP 10/23/95 11:00 PM Ukraine Switches to Shiver Time; Fuel Shortages Force Limits on Heating By James Rupert Washington Post Foreign Service KIEV, Ukraine, Oct. 23 -- When it's October in Ukraine, the forests turn from gold to bare, the winds begin to cut -- and back in Soviet days, the heat used to come on. Nighttime temperatures have dipped below freezing, but there is no heat in Ukraine's cities this month; the government is hoping to keep it off until mid-November. Ukraine is hunkering down for its second winter of tough economic reforms and too little money to keep the country heated and lit. Kiev residents bundle up in chilly apartments and step carefully through the blackness of unlit streets. Officials have warned that this winter will bring at least as many blackouts as last, when, in a daily game of power roulette, Ukrainian engineers cut off whole towns and cities for hours each day to try to spread the available power nationwide and prevent a crash of the system. Ordinary Ukrainians, who have seen their utility rates soar this year, worry about how they will pay for the little heat and light available. Communist and socialist politicians opposed to reformist President Leonid Kuchma have played to public anxiety over energy, and the government is trying to avoid political upheaval over the shortages. The issue also is being exploited by those opposed to shutting down the accident-damaged Chernobyl nuclear

power plant, which produces about 5 percent of Ukraine's electricity. When it was part of the Soviet Union, Ukraine for decades burned and wasted huge amounts of cheap oil and gas from Russia and Turkmenistan. Since 1990, Ukraine has slashed its energy use by a third, but it still has paid a higher total energy bill, as ex-Soviet suppliers raised their prices to those of the world market. Ukraine is perilously dependent on imported oil, gas and coal, and thus has huge tanks to store reserves. They are now empty. "We've been told that many electric power stations are operating off deliveries, pumping oil straight from the trucks into the burners," said Alex Sundakov, an energy specialist with the International Monetary Fund (IMF). "Our situation is like in Arthur Hailey's novel "Overload," about a huge blackout in California," said Igor Koblok, press officer for the Energy Ministry. "We are unhappily close to that. Our energy complex is like a house of cards. If one piece falls, it could all go down." The government has stunned Ukrainians this year by passing on the real costs of energy. A year ago, Ukraine still offered Soviet-style mass subsidies that let residents pay only 5 percent to 8 percent of the real cost of electricity, according to a World Bank estimate. But bills that once totaled a few cents a month have ballooned, eight times for city dwellers and 16 times for more heavily subsidized farmers and villagers. For many, the bills seem unpayable -- and are going unpaid. "Our rent and utility bills are 4 million karbovantsi," said Irina Vladov, 45, a housewife shopping at one of Ki\ev's main markets this week. That amount, about $24, is a typical monthly salary. "If we pay it, what shall we do for food? The government will not force us to pay it in the end. There will have to be some change." The government recently authorized cutoffs for nonpayment but appears cautious about actually denying power, heat and other utilities to residential customers. Still, increased cutoffs of nonpaying local governments and businesses have improved the national authorities' collection rates to 78 percent from June's 50 percent, a Western energy specialist said, citing government figures. The campaign against nonpayment for energy has accompanied an overhaul of the electrical market. With help from the World Bank, Ukraine has dismantled its old monopoly, creating regional power companies such as those in the United States and a national market in which power plants will be forced to compete for the first time to produce and sell the most economical electricity. The new system, which still requires a final decision by the president or the cabinet to begin live market operations will be "one of the most competitive, well-regulated in Europe," said a foreign energy specialist who backs the plan. "The big question now is, how will they get themselves through this winter?" For that, Ukraine has quietly approached Western donor nations and lenders for a quick loan of at least $30 million to provide as much as a three-week cushion of oil, diplomats said. A loan could help Ukraine avoid the worst of last year, when it clawed through winter by begging, borrowing and, according to its neighbors, filching all the energy it could. Russia accused Ukraine of siphoning off Russian natural gas as it passed through Ukrainian pipelines on its way to Russian customers in Eastern Europe. Moscow suspended an electricity-sharing arrangement with Ukraine because, it said, the Ukrainian power grid was only pulling electricity from Russian lines, sending none in return. But mostly Ukraine went into debt last year, falling billions of dollars behind in payments to Russia and Turkmenistan. Both foreign suppliers cut off gas to Ukraine and restored it only after prompting by the United States and other Western nations. "We've been paying all year to clear those debts," said Vasil Yevtukhov, vice prime minister for energy. He noted that Ukraine now must limit its debt to keep receiving funds through a loan from the IMF to stabilize its economy. "We can't stand another debt" like last year's, he said in an interview. Ukraine now has money to buy only about 85 percent of the minimal amount of gas it will need this winter. "I'm still short about 140,000 tons of heavy fuel oil and . . . 500,000 tons of coal," Yevtukhov said. While Ukraine has coal, it is ill-suited for electrical generation, so the country must buy coal from Poland.

BULGARIA SAYS CLOSING REACTOR WOULD COST $1.5 BILLION

RTw 10/22/95 7:58 AM By Liliana Semerdjieva KOZLODUY, Bulgaria, Oct 22 (Reuter) - Cash-strapped Bulgaria will lose $1.5 billion if it closes a controversial Soviet-made nuclear reactor, officials said on Sunday. Differences between this small Balkan country and the world's richest nations over Kozloduy's 21-year-old Reactor Number One have cast a shadow over an environmental conference that starts in Sofia on Monday. Nuclear power is expected to be one of the main topics on the agenda of government ministers, bankers and green activists attending the three-day Environment for Europe conference. "Reactor Number One has another 13 fuel cycles until the end of its design life and its output for that period will be worth $1.5 billion at market prices (3.5 cents per kilowatt hour)," Ivan Ivanov, deputy managing director of the Kozloduy nuclear power plant told Reuters in an interview. The 440-megawatt reactor was restarted on October 6 after seven months of safety upgrading in spite of international fears about the strength of the metal in its pressure vessel. The French state electricity company, Electricite de France, recalled its experts from the Kozloduy plant in protest. Bulgaria's largest environmental movement Ecoglasnost says the

Kozloduy reactors are more dangerous than Chernobyl, scene of the world's biggest nuclear plant disaster in 1986. Bulgaria, which lacks energy resources, says the reactor is safe, citing studies made by Bulgarian scientific and technological institutes and Russian main designer Gidropress. "We are responsible for ensuring sufficient safety margins during the operation of reactor number one and it is safe," said Kozma Kuzmanov,.the Kozloduy's plant managing director. Plant engineers insist they have done all that was needed for the reactor's safety. "The world of nuclear experts knows that Kozloduy fulfills all safety measures in line with international requirements and the recommendations of the International Atomic Energy Agency," said Sabin Sabinov, operation manager of reactors one to four. Asked whether he feared an apocalypse, Sabinov said: "I am afraid of the theatre play which is performed around the Kozloduy plant. I do not believe that the Western experts I have met are happy about what they see written in the Western mass media." Officials warned that closing Reactor Number One would bring back the electricity cuts common before 1992. The 3,760-megawatt Kozloduy plant, located on the River Danube by the Romanian border, produced 46 percent of Bulgaria's power last year. France has proposed that the European Union supply free 400 megawatts to Bulgaria to close its reactor. Deputy Prime Minister Kiril Tsochev told reporters last week that technical talks should be held on ways of transmitting power from Western Europe to Bulgaria or supplying coal. "Then we can talk about closing, restarting and studies," he said. REUTER

Ecologists Accused of Espionage; Russian Security ...

WP 10/21/95 11:00 PM Ecologists Accused of Espionage; Russian Security Agency Says Anti-Pollution Groups Reveal Secrets By Lee Hockstader Washington Post Foreign Service MOSCOW, Oct. 21 -- Russian counterintelligence agents have accused a Western ecological organization of divulging military secrets and have suggested that foreign environmental groups are fronts for espionage. The accusations by the Russian Federal Security Service, a successor to the KGB, follow an investigation into the activities of a Norwegian group that has detailed nuclear waste disposal problems linked to submarine bases and other military installations in Russia's far north. On Wednesday, the security service said the Bellona Foundation could be formally charged with revealing state secrets. Bellona, a nine-year-old organization based in Oslo that has been working on radioactive storage problems and other ecological issues in the Russian north since 1989, insists it has used only public sources of information and has divulged no secrets. The Russian accusations have rattled Western environmental groups, whose work in the former Soviet Union has focused on nuclear waste and storage problems connected to military facilities. They also match a pattern of statements in the past year by Russian authorities and the media suggesting that a number of Western nongovernmental organizations -- including the Carnegie Endowment for International Peace, the Soros Foundation and the environmental group Greenpeace -- are engaged in spying. "It's obviously very worrying because it casts a strong shadow over any type of environmental work," said Joshua Handler of Greenpeace's Washington office. "A good portion of serious environmental problems in Russia can be traced back to the military-industrial complex, especially in the problems around the [far northern] coast." Bellona officials have insisted that their work is strictly limited to concerns about radioactive waste in areas of northwestern Russia near the Norwegian border. "The Bellona Foundation is only interested in the waste and the handling and creation of waste," the group said in a statement. "We find the [suggestion of espionage] outrageous." In the case of other Western organizations, such as those sponsored by the American financier George Soros, the Russian accusations have not amounted to more than vague and unsubstantiated statements, an echo of Cold War distrust and Russia's traditional suspicion of foreigners. But the Bellona episode has gone considerably further. On Oct. 5, security service agents removed a Russian environmental activist working for Bellona from an airplane at the airport in St. Petersburg. The activist, Sergei Fillipov, was questioned at security service headquarters for about three hours and told before he was released that he would be contacted again as a witness against the Bellona Foundation. The next day the security service carried out coordinated searches of six locations in St. Petersburg and the northern port of Murmansk. The searches included the Bellona office in Murmansk and the apartments of Bellona's Russian employees. At the Bellona office, agents seized computers and computer diskettes, a video camera, documents and other equipment. Agents also searched the home of Alexei Klimov, an environmental activist linked to Greenpeace, in the northern port of Severodvinsk. The security service also questioned and searched the homes of a number of Bellona's Russian contacts, including retired rear admiral Nikolai Mormul, a former commander of Russia's nuclear submarine fleet. "This is not only an action against Bellona," said Bellona managing director Frederic Hauge in a telephone interview from Oslo. "This is an action against the Russian environmental movement, which has many contacts with the West." The security service, he added, is "trying to scare our sources." Security service spokesmen have been relatively tight-lipped, saying only that a criminal investigation is underway against Bellona on suspicion of divulging state secrets. On television, they have also suggested that Western environmental groups generally are engaged in spying. Russian law allows up to eight years in prison for the offense but also says that ecological data cannot be classified as a state secret. In a 1994

report, Bellona provided detailed information on sources of radioactive contamination around Murmansk and in other areas of the Russian Far North. The main danger posed to the environment there was from military installations, the report concluded. Bellona circulated a draft version of a follow-up report in Russia about a month ago, which foundation officials believe may have attracted the attention of the security service and sparked this month's investigation. Russian military and environmental officials have been fairly forthcoming in their assessments of the danger from radioactive waste from dismantled nuclear submarines and other sources in the far north. The commander of the Northern Fleet, Adm. Oleg Yerofeyev, said last month that 95 percent of the storage capacity for solid nuclear waste had been used, and the situation was critical. Alexei Yablokov, an environmental adviser to Russian President Boris Yeltsin, has called the decommissioned submarines in the far north "floating Chernobyls."

APN--X-Ray Anniversary

APn 10/21/95 11:00 PM Quickly following the announcement came signs of fear. The mysterious new rays would endanger everyone's privacy, a concern in America then as now. One state legislature introduced a bill that would ban X-rays from opera glasses or any other aids to vision. (That was decades before Superman's X-ray vision allowed him to see through walls into the next room.) The New York Times interviewed Thomas Alva Edison who said he was already at work on a salable X-ray machine that would use a screening device he called a fluroscope. In typical Edison fashion, his team of technicians was working dozens of hours straight through. Then one of them, his glassblower, showed visible skin damage from the radiation. Edison dropped the project. A warning sign, but clearly due to abuse. The glassblower had suffered numerous radiation burns demonstrating the miraculous rays at the New York Exposition of 1896 and died of their effects in 1904. He was the first person known to die of radiation in the United States. Roentgen himself went on trying the versatility of the rays. He made an X-ray photograph of his hunting rifle and found a flaw in the metal of the barrel. It was the beginning of a new use for the rays: non-destructive testing, still widely used in commercial product inspection. X-rays revealed that Thomas Gainsborough's "Blue Boy" was painted over a painting of a man. X-rays have also revealed the skeletons of Egyptian mummies. In the meantime, sandwiched between honorary degrees and almost 30 medals, prizes and plaques, countless interviews and trips, Roentgen's own work went on within the shelter of his simple laboratory. Others were probably making more progress than he had time for. He refused to have his device patented. The result was that its design was open to anyone to use. A number of entrepreneurs pursued him because, as X-ray uses multiplied, potential licensing fees would have been worth a fortune. Mixed with such benefits was a growing awareness of the damage X-rays could do. At the same time there was promise that X-radiation therapy could destroy tumors, there were alarms that it could cause cancer. There was promise that it could detect tuberculosis, but no hope of a cure. People who worked with the rays began to register a large number of premature deaths and genetic mutations. Slowly, information accumulated which led to proper shielding with lead aprons and walls. The design of X-ray equipment became more sophisticated over time. Better focused, more powerful rays cut down peripheral damage. Nevertheless a certain naivete seemed to tag along with the new science. Shoe stores in the midcentury installed X-ray machines so that mothers could see for sure that a pair of shoes really fit their child and didn't cramp the feet. That practice was ultimately eliminated, but not before generations of children and their mothers were irradiated unnecessarily. In the 1960s, rules were laid down to circumscribe the use of X-rays. In his careful, precise way, Roentgen himself probably avoided the dangers that befell many others. He was allowed to smoke at the age of 15 as was the custom in the Netherlands where he spent his childhood. An uncle gave him a meerschaum mouthpiece and warned him to be careful because until it cured it would leave a bad taste in his mouth. Seeing no reason for this inconvenience, young Roentgen built a small suction device which smoked his first two cigars for him. Such caution continued all through his life. One reason he avoided the X-ray burns and skin damage that beset other researchers was the metal box in which he performed most of his experiments in his simple laboratory. His love of fine Dutch tobacco followed him all through his life, however. He died of heart failure in his 78th year. If his X-rays have outgrown even his own expectations, they have fallen short of others'. A professor in New York wanted to project X-rays of the anatomy directly into the brains of medical students to speed up the memorization process. A college student wanted to use X-rays to transmute common coins into gold. And a leader of the temperance movement wanted to use the rays to show drunkards the effects of demon rum on their bodies. Wilhelm Roentgen may have forseen fanciful uses some might find for his marvelous rays. But he also was well aware of their potential in matters of life and death. In 1898, several years after his discovery, X-rays were used to locate bullets lodged in soldiers wounded in the Spanish-American War. Today, a century later, they are a fixture at airports -- to locate guns. END ADV

Radiation and Responsibility

WP 10/18/95 11:00 PM By Kenneth R. Feinberg The press disclosures a while back of radiation experiments on unwitting American citizens triggered the expected government response: shock, dismay and a compassionate promise by the Clinton administration to find out exactly what went wrong and who is responsible. The Advisory Committee on Human Radiation Experiments was the result. Established in January 1994 to uncover the whole story and make recommendations concerning an appropriate government response that would cover both past wrongs and future research activity, the 14-member committee was provided a wide-ranging mandate to get at the truth. Its members -- doctors, scientists, ethicists and lawyers -- met for almost two years, conducted more than two-dozen public hearings throughout the country and reviewed more than 4,000 government-sponsored radiation experiments conducted over a 30-year period. The committee's 900-page report, released earlier this month, was accepted by President Clinton with great fanfare. He cited it as an important contribution to openness in government and to restoring people's confidence in government. But most of the press accounts so far have ignored the president's wise words, focusing instead on those committee recommendations calling for government compensation and apologies to the victims of radiation experiments conducted during the Cold War. After reviewing the 4,000 experiments, the committee concluded that only a handful of victims, perhaps no more than 25 to 30, should receive compensation, and no more than a few hundred should get a formal government apology. Nor did the committee recommend that the government notify those American citizens who were subjects of experimentation. The reasons underlying the committee's unanimous decision to sharply limit these recommendations deserve consideration both by the public and by policymakers all too eager to find wrongdoing and write a blank check to the victims. The mere possibility of compensation breeds a proliferation of grievances -- real and imagined. The committee concluded that legitimate outrage over random, unauthorized radiation experiments should not automatically lead to an open-ended run on the federal Treasury. Both judicial precedent (Agent Orange) and the congressional experience (the Black Lung Program), counseled the committee against pot-of-gold compensation awards for any and all alleged radiation victims asserting a wrong. In its deliberations on compensation -- who should receive it and how much should be awarded -- the committee followed these principles: Finding the facts: The committee spent almost two years gathering all the evidence. As the president emphasized, having the government come clean by "telling the whole story" was of paramount importance. The committee concluded -- on the basis of the available record before it -- that compensation should be limited to those few cases where the government clearly engaged in a deliberate effort to cover up its radiation research activities or promoted unsound radiation experiments in which physical injury resulted. It found an obvious distinction between a handful of willful radiation experiments performed on unsuspecting victims that resulted in serious or even fatal illnesses and testing done with patient consent and appropriate government disclosure -- and with no subsequent ill effects. The plutonium injection experiments, in which individuals were injected with zirconium or had their entire bodies irradiated, were an aberration justifying compensation rather than an example of widespread government policy. Determining which illnesses should be compensated: Did the radiation exposure cause the alleged illness or injury? The committee came to grips with the fact that the doctors and scientists could not give definitive answers in individual cases. The historical record was too cold and the medical and scientific evidence too conflicting. The committee recommended that in certain cases -- involving, for example, atomic veterans and uranium miners -- government officials conduct additional research to determine whether the medical case can be made justifying new compensation awards in addition to those already available by federal law. Compensating for government wrongdoing: The committee concluded that the key prerequisite for compensation must be hard evidence of government wrongdoing. After a thorough review of the historical record, the committee found only rare examples of government willfulness in promoting radiation experimentation without true victim consent or hindering disclosure of the nature of such experiments. In such few cases, the committee concluded that compensation is justified regardless of the medical claim asserted by the victim. Limiting the scope of the remedy: We were aware of requests by various members of Congress and others calling for an expansion of the committee's investigation to include human experiments involving environmental pesticides, mustard gas and other hazardous substances. These were understandable, well-motivated initiatives, but the committee was leery of turning the relatively discrete radiation experimentation inquiry into a new broad-based federal compensation program. Beyond economic considerations is the cruel act of heightening victim expectation that financial recovery is warranted in every case, even when it is not. Nor was a broad-based notification program deemed appropriate to inform test subjects. Only those few still alive and confronting an increased medical risk as the result of such radiation exposure should be notified. To contact all other test subjects would merely heighten anxiety and fear without any real medical benefit. Guided by these principles, the committee was able to fashion

a fair, workable remedies program. It also produced a number of recommendations -- the bulk of its work -- for future radiation experimentation. Their goal is to ensure that the mistakes of the past are not repeated, and the recommendations will, I believe, have more significance and pervasive impact than the limited compensation remedy tied to a relative handful of past wrongs.
The writer, a Washington lawyer, was a member of the Advisory
Committee on Human Radiation Experiments.

Russians face radiation threat from health checks

 By Elaine Monaghan MOSCOW, Oct 18 (Reuter) - Thousands of Russians are dying each year because of faulty equipment, outdated attitudes to health care and inadequate training in Moscow's hospitals and X-ray centres, a senior medical official said on Wednesday. Roman Stavitsky, who heads a laboratory studying the subject, told a news conference that Russians undergoing medical checks were exposed to radiation levels up to three times as high as those in "civilised" countries. "The annual death rate in Moscow due to irradiation during X-ray investigation is about 8,000 people," he said. Stavitsky said the number had been calculated using international norms. It included deaths due to cancer-related diseases in subsequent generations. Under Soviet law, adults had regular lung X-rays to check for tuberculosis and other diseases. The practice officially ceased a few years ago, but even in 1994, half of Moscow's adult population had an X-ray of some kind. The effects of the policy are still being seen. "We consider this a big problem, all the more so since it happened in a country which suffered the Chernobyl catastrophe," said Sergei Okhrimenko, deputy head of a city department which checks radiation sources. Officials say a new healthcare system introduced in 1992 has encouraged health workers to carry out such examinations. "The number of X-ray procedures and investigations which are medically unnecessary has doubled," a press release from the city's health department said. Doctors said a lack of training, low-quality equipment and "inertia" were some of hundreds of reasons for the problem. Shielding from radiation was often inadequate and the health service did not have enough experts to cope. "The figures are pretty tragic. It is a problem which must become a key issue in the social defence of the population," said Nikolai Blinov, an expert on X-ray equipment. But Yuri Varshavski, Moscow's most senior X-ray doctor, said a new diagnostic centre set up at last month would help solve the problem by creating a coordinating centre -- the first of its kind in the world. The experts aim to introduce a "radiation passport" so every patient can keep track of their exposure to X-rays. "We don't want to create a kind of "radiophobia'. A dose of radiation is necessary to diagnose diseases. The problem is that the dose is too high," said Igor Nadezhda, press spokesman for Moscow's department of health. REUTER

Ukraine tackles problems - Chernobyl, economy, Russia

 By Ron Popeski KIEV, Oct 15 (Reuter) - Ukraine tackled three of its most critical post-Soviet problems last week with varying degrees of success -- closing the Chernobyl power station, advancing economic reforms and smoothing difficult relations with Russia. Western experts in Kiev to discuss how to finance the shutdown of Chernobyl, site of the world's worst nuclear accident in 1986, reported progress in drawing up projects. Prime minister Yevhen Marchuk said Ukraine had abandoned its initial demand for $4 billion in aid, but the country's powerful nuclear lobby remained sceptical. Parliament passed a revised economic reform plan to boost sagging production despite vocal opposition from Communists who said it would do nothing to help the impoverished masses. And the country's foreign minister went to Moscow for the latest round of talks to remove obstacles delaying signature of a friendship treaty -- mainly the dispute over the Black Sea Fleet. But he appeared to come back empty-handed. Volodymyr Gorbulin, powerful head of Ukraine's Council of National Security, said the West mistakenly believed that Ukraine was merely begging for money on Chernobyl. The issue was one of safety that concerned the entire world. "I think it is generally supposed that Ukraine is simply begging. We are not begging. Chernobyl is not a problem merely for Ukraine," Gorbulin said in an interview. "We are therefore doing everything possible to bring in serious foreign partners to solve this problem." Gorbulin rejected statements by nuclear industry officials that Chernobyl could operate into the next century if the West did not provide the necessary funds. Anyone deviating from President Leonid Kuchma's pledge to close the station by the year 2000 would be called to order. "A decree is being prepared to create a commission made up of different departments," he said. "If

someone again says something out of line, he will be asked to appear before the Council of National Security." The revised economic programme, which forecasts the first modest increase in production next year for the first time since 1989, was drawn up after industrialists complained that nothing was being done to assist floundering enterprises. It calls for more government involvement in the economy during the transition to the market and has been received without qualms by Western financial institutions. "There is no magic wand which will improve the economy. We must grit our teeth and dig our own way out," Gorbulin said. "Everyone is afraid of declaring benkruptcies. But our energy crisis will act as a stimulus to weed out uncompetitive firms." Foreign Minister Hennady Udovenko's day of talks in Moscow on Friday did little to eliminate the bumps which have plagued ties between the two most important former Soviet republics. "We spent an entire day in difficult talks with Andrei Kozyrev and we did not quarrel," Udovenko told reporters on his return to Kiev. There was no mention of the friendship treaty and a prospective visit to Ukraine by Yeltsin, delayed five times in the past year. The two sides merely undertook to prevent "the emergence of new lines of division in Europe." "All important issues are being discussed by experts and not governments," Kuchma complained in an interview with the weekly Zerkalo Nedeli. "The two presidents have communicated of late only through the media and only rarely exchange letters." REUTER

Ukraine, West appear closer on Chernobyl closure

RTw 10/12/95 10:31 AM By Ron Popeski KIEV, Oct 12 (Reuter) - Ukraine and the West appeared on Thursday to be edging closer to a solution on financing the closure of the Chernobyl nuclear power station. Ukrainian Prime Minister Yevhen Marchuk said Ukraine was partly to blame for difficulties in the negotiations and had been hasty in seeking $4 billion in Western aid. Western diplomats following talks conducted this week with experts from G7 industrialised countries noted flexibility on both sides. They were optimistic a programme would be produced soon to close the site of the world's worst nuclear accident by the year 2000 as promised by President Leonid Kuchma. "This has been complicated partly because of problems on our side," Marchuk told a news conference. "There was no point in naming a figure of $4 billion. Perhaps it will be more, perhaps less. The figure of $4 billion frightens people." Marchuk expressed frustration at conflicting positions adopted by cabinet ministers and officials within the influential nuclear industry. He said he was confident the G7 would produce a proposal to meet Kiev's demands -- including a way to make up the five percent of Ukraine's electricity currently produced by Chernobyl's two reactors still in service. "We know the sums currently being examined by the G7. These are large figures," he said. "I am looking at this from an optimistic standpoint, that the question will be dealt with." Interfax Ukraine news agency quoted Kuchma as telling a delegation of senior German officials that a solution to the financing had to be found by the end of the year at the latest. "What we need is a programme, not conceptions," he was quoted as saying. Diplomats in contact with the G7 delegation, the second to visit Ukraine in three weeks, said the talks were going well. "Marchuk is quite right to say the $4 billion figure was hasty. No one has ever shut down a plant like this before, so costs are difficult to pinpoint," said one diplomat. "But the atmosphere is excellent. The Ukrainians have done a lot of thoughtful work on very complicated issues concerning their power system. I am confident a solution will be found." Since Kuchma agreed under Western pressure last April to close Chernobyl, nine years after its fourth reactor exploded, Ukraine has said the West must put up $4 billion to help complete the operation. Ukrainian officials abandoned an initial proposal to build a gas-fired station near Chernobyl in view of G7 opposition. The head of Ukraine's nuclear power authority then called for construction of a plant to reprocess spent nuclear fuel from Ukraine's five power stations -- an expensive undertaking for a country with no closed nuclear fuel cycle. A government economic plan approved by parliament on Wednesday calls for the nuclear share of Ukraine's electricity production to rise from 33 to 40 percent by next year. REUTER

Ukraine draws plan to close Chernobyl

UPn 10/12/95 9:14 AM KIEV, Oct. 12 (UPI) -- Ukrainian President Leonid Kuchma says (Thursday) his government will have a final program outlining the closure of the Chernobyl nuclear power plant by the end of the year. Kuchma stressed that said fulfillment of his pledge to shut down the ill-fated sattion by the year 2000 hinges on Western cash Ukraine is seeking to fund alternative energy sources.

Russia-Rebel Radiation

APn 12/22/95 4:48 PM By VLADIMIR ISACHENKOV Associated Press Writer MOSCOW (AP) -- The most notorious of Chechnya's rebel fighters on Friday threatened to contaminate a large area of Russia by blowing up a large container of radioactive material. Shamil Basayev made the threat in an interview conducted with independent NTV television at his base in Chechnya's snowy mountains. Basayev made a similar threat last month and, to back it up, revealed the location of one such container. NTV unearthed the container in a Moscow park and found it contained radioactive cesium-137. Experts said that container did not contain enough of the isotope to pose a danger unless someone stood next to it for a long time. But in the Friday interview, Basayev displayed what he claimed to be a 167-pound container of an unspecified radioactive substance. "We can blow it up in the water, or in the air to spread radiation," Basayev, clad in combat fatigues and a black ski cap, told the NTV correspondent. Igor Sobolev, the director of an agency charged with cleaning up radioactive contamination, told NTV that Basayev's threat was a bluff. "They blow it up and so what? Our experts come and clear it up in five hours," he said. If the container displayed by Basayev contains cesium-137, it would emit radiation of about 500 roentgens. It was not clear how much radiation an individual would receive if that much cesium-137 were scattered over a wide area. A radiation dose of about two roentgens a year is considered acceptable. With a broad grin, Basayev boasted on Friday that he had received many offers for radioactive substances from unidentified Russian smugglers, including some for weapons-grade materials. But he said he had to reject many of them because he was short of money. Thefts of non-weapons grade substances have become increasingly common at Russian plants. Basayev, recognized as Chechnya's most daring guerrilla, brought the war home to Russia in June with a bloody hostage-taking in a southern Russian town. He has threatened more attacks if the Kremlin does not withdraw its troops. Although Chechnya's drive for independence was declared by former president Dzohkhar Dudayev three years ago, Basayev was the one who brought Russia to the bargaining table this summer, freeing his hostages in exchange for peace talks. The talks led to an agreement for partial Russian withdrawal and Chechen disarmament. But neither side complied and the talks later broke down. Fighting in Chechnya sharply intensified last week, as rebels tried to thwart Russian-backed elections of a local leader and delegates to the Russian parliament. Rebels seized Chechnya's second-largest city of Gudermes and successfully have resisted federal troops' attacks. The Kremlin sent more than 40,000 troops into Chechnya a year ago to crush Chechnya's independence bid. Fighting has claimed tens of thousands of lives, mostly civilians.

BRF--Russia-Sub Blocked

APn 12/21/95 4:19 PM MURMANSK, Russia (AP) -- Shipyard workers in northern Russia on Thursday reportedly ended a three-day blockade of a nuclear submarine that grew from a dispute over unpaid back wages. Workers in the naval yard in Polyarny had been preventing the recently repaired submarine from sailing out to sea because they had not been paid since August, the ITAR-Tass news agency said. ITAR-Tass said the workers reached agreement with the shipyard's management after being assured they would receive some back pay within the next four days. Earlier, the blockade nearly led to a clash when some navy officers tried to bring a tugboat into the dock to tow the submarine out into the Barents Sea, the report said. The Russian armed forces and defense industries have long been plagued by funding shortages. In recent months, there have been several power cutoffs to Northern Fleet bases because of debts to the power industry. One nearly resulted in a nuclear accident when a nuclear submarine reactor's safety system collapsed from a lack of electricity.

Canada-Chernobyl

APn 12/20/95 11:08 PM OTTAWA (AP) -- Ukraine agreed on Wednesday to shut down the Chernobyl nuclear power plant with financial assistance from the seven leading industrial nations. Chernobyl is the site of the worst-ever commercial nuclear power accident. Some 5 million people were exposed to radiation in the 1986 reactor explosion. Since them, leukemia and other varieties of cancer have shot up in Ukraine, where Chernobyl is located, and neighboring Belarus. "Anyone who watched the horror of Chernobyl a decade ago will know that Chernobyl's children are the world's children," said Canada's deputy prime minister, Sheila Copps, signing the agreement on behalf of the Group of Seven nations. "It really is a Christmas present to Chernobyl's children," she

said. Signing for Ukraine was its environment minister, Yuri Kostenko. "We want this document to be the first step in a new partnership with the countries of the G-7," said Kostenko. The memorandum signed Wednesday is not legally binding but is considered a signal that Western countries are determined to prevent similar disasters. Under the deal, the G-7 countries are promising $500 million to help close Chernobyl's two remaining reactors by the year 2000. The agreement also provides for completion of two unfinished Soviet-designed nuclear reactors at other sites in Ukraine, an effort to compensate for the loss of electric power from Chernobyl's closure. However, anti-nuclear groups say those two reactors have serious design flaws, and Western nations should not be funding them. "Funding additional unsafe nuclear reactors to address Ukraine's energy needs is not only short-sighted but adds insult to injury for the Ukrainian people," said Antony Frogatt of Greenpeace International. The memorandum leaves unresolved the fate of 15 other nuclear reactors in the former Soviet Union -- two are in Ukraine -- with the same design as those at Chernobyl. Earlier this year, Ukraine's Health Ministry said more than 125,000 people had died by 1994 from Chernobyl fallout. Official Soviet accounts put the number of deaths at 32, mainly plant operators and firefighters who soaked up heavy doses of radiation immediately after the explosion. The G-7 countries are Canada, the United States, France, Britain,
Italy, Germany and Japan.

Small fire halts Ukraine nuclear plant output

RTec 12/20/95 3:01 AM KIEV, Dec 20 (Reuter) - A small fire at Ukraine's Khmelnitsky nuclear power plant forced the partial shut-down of the sole reactor on Tuesday but no radiation escaped, a Ukrainian nuclear authority duty officer said. "There was a leak of hydrogen from the cooling system and then a flame was burning for seven minutes," Ihor Bocharov told Reuters by telephone. "We took the reactor off the electricity grid, but we didn't shut it down completely." The incident rated zero on the international seven-point scale, he said, adding: "There was no danger, no radioactive leak." He said the reactor would be restarted later on Tuesday. Earlier this month, a steam leak shut down a reactor at the Zaporizha nuclear plant -- Europe's largest. The latest incident occurred on the day a Ukrainian delegation flew to Canada to sign a memorandum on the closure of the Chernobyl nuclear plant, site of the world's worst nuclear incident. REUTER

Japan reactor leak causes political fallout

RTw 12/9/95 3:04 AM By Paul Eckert TOKYO, Dec 9 (Reuter) - Japan faced demands for sweeping changes in its ambitious nuclear power programme on Saturday as officials began investigations of a massive coolant leak at a prototype fast-breeder nuclear reactor. Japan's most advanced reactor, Monju, was manually shut down on Friday after liquid sodium leaked from the cooling system, reactor operators said. Heavy smoke caused by a reaction between the leaking sodium and air delayed technicians' efforts to investigate the leak, officials of the governmental Power Reactor and Nuclear Fuel Development Corporation (PNC) said. Politicians from the western coastal prefecture of Fukui, where Monju is located, blasted the PNC for its delay in announcing Friday's accident. Fukui Governor Yukio Kurita criticised the corporation for waiting nearly one hour after the shutdown before contacting his government. "Along with the delay in the advisory bulletin, subsequent reports were insufficient," the governor said in a statement. "This is an extremely regrettable loss of the prefecture's trust in the overall safety of Monju." Kurita demanded a thorough investigation of Friday's leak, a "change of consciousness" about accident public relations and a complete revision of Monju's operating schedule. The non-governmental nuclear watchdog Citizens Nuclear Information Centre called for the immediate closure of Monju. "This accident is the final alarm before a massive radiation disaster," said Centre head Jinzaburo Takagi. "We demand that the government freeze its plutonium programme and immediately begin a total revision of policy." Although the PNC acknowledged the sodium leak was "a very serious setback for the fast-breeder reactor," it said there was no radioactive harm to the environment from the accident. Masayasu Miyabayashi, head of the Science and Technology Agency's Nuclear Safety Bureau, told a news conference he took the first such accident in Japan "seriously." An official of the environmental group Greenpeace told Reuters the sodium coolant leak -- a technical fault common in fast-breeder programmes -- could prove politically fatal to Monju. "Even if there has been no radiation leak, the political embarrassment is so great that it could spell the end of the Monju programme," said Greenpeace Japan Director John Willis. Monju, at Tsuruga, 320 km (200 miles) west of Tokyo, started operations in August after a decade

of technical delays and a cost of 590 billion yen ($6.2 billion), double that of a conventional 500 megawatt light-water reactor. Named Monju after a goddess of wisdom, it was to begin a test run on Tuesday generating 14 megawatts of power. Japan launched the project in 1985 to build the "dream" reactor, one that produced more nuclear fuel than it consumed. Monju will eventually produce 280 megawatts of electricity, making it the world's second largest fast-breeder reactor after the French Super-Phenix. PNC planned the start-up last April but a pre-test run was shut down in March because of a problem with its steam control system. It was restarted in May only to be shut down again due to further problems. PNC hoped Monju would begin supplying electricity to the commercial grid some time next year. Japan relies on nuclear reactors for 33 percent of its power needs and plans to raise that to 42 percent by 2010. REUTER

CHERNOBYL'S CLOSURE WILL TAKE DECADES - MINISTER

RTec 12/8/95 11:24 AM By Lida Poletz KIEV, Dec 8 (Reuter) - A Ukrainian minister on Friday praised an agreement with the West on the closure of the Chernobyl nuclear power plant but said it would take decades and billions of dollars to complete the shutdown. Environment Minister Yuri Kostenko said the memorandum initialled last week in Vienna linked Ukraine's promise to close the station by the year 2000 to financing for projects both to close the plant and upgrade Ukraine's energy sector. The memorandum with Group of Seven industrialised countries, to be formally approved later this month in Ottawa, was only the first step in a long process, said Kostenko, Ukraine's top negotiator in talks to close the station. "This is a victory for common sense...I am satisfied with this step, but without another step in this direction, it's a dead piece of paper," Kostenko told reporters. "These are two different things -- to stop the reactors by the year 2000 and to recover this nuclear power plant's ecological safe system (which requires) 10-20 years. This is a very long and very expensive process." Ukraine's five nuclear power stations account for 40 percent of electricity output in Ukraine in the winter and two reactors at Chernobyl generate five percent. Difficulties in Ukraine's power network, including two shutdowns in a week at the Zaporizha nuclear plant, have worsened serious power shortages and prompted Russia this week to decouple its southern neighbour from its energy grid. One of the reactors was brought back on stream on Friday and the second was due to be restored over the weekend. Interfax Ukraine news agency said radioactive water had leaked at the South Ukraine station this week but had been cleaned up in a five-day operation. It quoted nuclear officials as saying there was no danger to the environment and the station was operating normally. President Leonid Kuchma pledged in April that Ukraine would close down Chernobyl, site of the world's worst civil nuclear accident, by the end of the century. But he insisted the West had to provide financing to implement the plan. Months of hard bargaining produced the memorandum. "Ukraine will close Chernobyl -- and this could be done by the year 2000 -- if we are given effective and equivalent financial assistance," Kostenko said. "The date 2000 is no longer considered Ukraine's obligation, but a joint aim." So far, the West has produced a plan to provide about $1.8 billion in credits and $500 million in grants -- mostly aimed at developing and rebuilding Ukraine's energy sector and preparing to decommission Chernobyl. Kostenko said Ukraine would also seek bilateral pacts with G7 countries on concrete projects -- including replacing the crumbling "tomb" encasing the ruined fourth reactor. He suggested that G7 countries could give Ukraine grants of $130 million over the next five to six years. A fire and explosion in April 1986 at the plant, 150 km (90 miles) north of Kiev, spewed radiation across Europe. Ukraine, Belarus and Russia still devote large sums to the cleanup. REUTER

NEW NUCLEAR SHUTDOWN THREATENS UKRAINE POWER GRID

RTw 12/7/95 12:56 PM By Ron Popeski KIEV, Dec 7 (Reuter) - A technical incident shut down a reactor at Ukraine's Zaporizha nuclear power station for the second time this week, further stretching the former Soviet republic's failing power network. The director of the affected reactor, the fifth of six 1,000-megawatt units at Europe's largest station, blamed the incident on a drop in water levels during a routine operation to cut capacity. He said there had been no release of radiation and the reactor would be restarted within 12 hours. "This mistake was caused more by equipment than by human error," Vasyl Gurayevsky said by telephone from the eastern city. "We may be starting up again quickly, but everyone knows a shutdown like this is a bad thing. This is anything but a happy event." This week's first stoppage severely hit electricity production and prompted Russia to decouple Ukraine from a joint power grid. The latest incident left only three reactors in operation -- two were out of action following incidents and a third was

undergoing scheduled maintenance. The incident was the third in a month at Zaporizha, whose directors are coming under pressure to quit in view of a poor operating record. Nuclear energy provides up to 40 percent of Ukraine's electricity in winter and Zaporizha normally accounts for one third of the nuclear sector. Ukraine's powerful nuclear lobby often points to its share of energy production in campaigning against President Leonid Kuchma's promise to close the Chernobyl station -- site of the world's worst nuclear accident -- by the year 2000. Chernobyl's two working reactors still provide five percent of total electricity output. Russia cut off Ukraine from its power grid after observing a surge in demand for its electricity. Ukrainian energy officials said their Russian counterparts viewed the initial Zaporizha shutdown as "the final straw" after a series of incidents reduced output at thermal stations. Russian electricity officials have also complained that they have not been paid for power supplies. Ukrainian factories have accumulated unpaid bills and consumers only pay about 50 percent of electricity costs. Power shortages have prompted utilities to order rotating power cuts to entire districts in the country of 52 million. Hardest hit has been the Crimean peninsula, where about 500 factories have been cut off for various periods. In Soviet times, the vast national network was augmented by power-sharing agreements with Communist allies in eastern Europe. After the collapse of the Soviet Union, the country-wide power grid was broken up but Russia and Ukraine agreed to join their networks again in December 1993. REUTER

Radiation Lawsuits

APn 12/7/95 2:11 AM By BEN DOBBIN Associated Press Writer ROCHESTER, N.Y. (AP) -- Relatives of two men injected with plutonium without their knowledge in a 1946 Army experiment are suing two universities and the scientists' estates for $99 million. The top-secret biological experiment was conducted on at least 18 hospital patients between 1945 and 1947, 11 of them at Strong Memorial Hospital in Rochester. The Army's Manhattan Project was seeking to establish safe exposure standards for atomic bomb workers. In a separate case in Massachusetts, a lawsuit was filed on behalf of 15 people who as children during the 1940s and '50s were secretly fed radioactive cereal at a home for the retarded. Michael Mattchen, a lawyer who filed the $60 million suit, said much of the research was for the commercial benefit of Quaker Oats. The children, according to the lawsuit, were told they were part of a science club to trick them into participating. Some were exposed to more radiation than federal limits allow, though there have been no ill effects. The plutonium lawsuit, filed Wednesday in U.S. District Court, seeks $99 million in compensation and punitive damages on behalf of Harry Slack and Daniel Nelson. At the time of the experiment, Slack was on his deathbed and died six days later and Nelson was recovering from a heart attack. Nelson died of heart failure in 1957. The lawsuit names the University of Rochester, which runs Strong Memorial; the University of Chicago, where follow-up tests were carried out; and four scientists who took part. Three of the scientists have since died. In October, a presidential advisory committee urged the government to compensate patients in the plutonium experiment, noting that none of them gave clear consent. "The government's approach is rather unique," said attorney Ray Heslin, who filed the lawsuit. "On the one hand, it has recommended compensation. On the other hand, it's spending a fortune to defend all these cases." Lawyers representing the defendants have filed a motion in Rochester to remove the scientists' estates from a separate, $300 million lawsuit. It was filed in June by the families of six other people injected with at least 40 times the amount of radiation an average person absorbs in a lifetime. A hearing was scheduled for March 7. "We will continue to defend ourselves," said Strong Memorial spokesman Robert Loeb, maintaining there is no evidence the patients were harmed by the radioactive element. The experiment, he added, was conducted in secret by federally sponsored researchers who worked independently of the University of Rochester. The researchers apparently believed all 18 patients had terminal illnesses and wouldn't survive beyond 10 years. But six patients actually lived beyond 10 years, and four survived 30 years or more. The lawsuit claiming the children were used as secret test subjects was filed Friday against the Massachusetts Institute of Technology, Quaker Oats and several doctors at the Fernald School in Waltham, Mass. Small amounts of calcium and iron tagged with radioactive tracers were put in the boys' cereal, allowing researchers to track the absorption of those nutrients as the oatmeal was digested. "What was the genesis of these particular experiments? It seems simply to be what are the relative benefits of oatmeal and Cream of Wheat," Mattchen said. A spokesman for Quaker Oats said the company had nothing to do with designing the study. The president of MIT has apologized for the way the Fernald experiments were done. The lawsuit seeks $1 million for each person for suffering and $3 million in punitive damages "to deter defendants from ever again using human beings ... as guinea pigs for experimental procedures."

Ukraine president, premier welcome Chernobyl accord

RTec 12/2/95 10:15 AM KIEV, Dec 1 (Reuter) - Ukraine on Friday welcomed a hard-won agreement clinched with the West on closing the Chernobyl nuclear power station, but reserved judgment about lack of clarity in financing the plan. "I am pleased that the Chernobyl issue has at last moved away from an impasse," Ukrainian television said President Leonid Kuchma told ambassadors from the Group of Seven industrialised countries. Ukrainian and G7 negotiators initialled a "memorandum of understanding" in Vienna on Wednesday to fulfil Kuchma's promise to close Chernobyl, site of the world's worst civil nuclear accident, by the year 2000. Diplomats said details of the accord would not be disclosed until it was sent to capitals of all G7 countries -- Britain, Canada, France, Germany, Italy, Japan and the United States -- for approval. Ukrainian officials said the memorandum would probably be signed later this month in Ottawa as Canada's year-long chairmanship of G7 comes to a close. Prime Minister Yevhen Marchuk told Interfax Ukraine news agency the memorandum was a "logical continuation" of Kuchma's decision last April to close Chernobyl by the year 2000. Marchuk acknowledged that the process was "not yet complete." Ukraine, he said, still wanted assurances that problems associated with Chernobyl would be tackled -- including the future of the station's 6,000 staff and the crumbling "tomb" surrounding the stricken fourth reactor. Differences have focused on how much the West intends to provide Ukraine with financing and how quickly. Environment Minister Yuri Kostenko, who heads Ukraine's delegation, said after Thursday's talks he was not entirely confident that G7 members were agreed on financing. A fire and blast at Chernobyl in 1986 spewed radiation over the region and sent a radioactive cloud over much of Europe. Kiev says thousands of people have died as a result. Ministers from Ukraine, Belarus and Russia, the three countries worst hit by the disaster told a U.N. meeting this week that the world had forgotten the plight of the five million people affected by radiation and other problems. All three former Soviet republics continue to spend a large proportion of their national budgets on cleanup operations. REUTER

Belarus, Ukraine say governments forget Chernobyl

RTw 11/30/95 6:58 PM By Evelyn Leopold UNITED NATIONS, Nov 30 (Reuter) - Frustrated ministers from the Ukraine, Belarus and Russia on Thursday said world governments had forgotten the Chernobyl nuclear disaster after an initial rush of curiousity and generosity. "Frankly, I don't understand whether the international community will only seriously take up this topic at the point when thousands of people have died, " said Vassily Kovalchuk from the Ukranian ministry dealing with Chernobyl. The three spoke at a news conference after several days of speechs to the General Assembly and meetings with U.N. officials responsible for funnelling government funds though specific U.N. agencies working in the former Soviet Union. More than nine years after the Chernobyl power plant burst into flames and exploded, health problems are increasing and the cost of cleaning up contaminated areas is draining national budgets. About five million people were exposed to radiation or otherwise affected when the Chernobyl plant near Kiev exploded on April 26, 1986. Belarus, for example, which received 70 percent of the fallout from the reactor located in neighbouring Ukraine, spends a fourth of its national income on the disaster. Thyroid cancers, particularly in children, were higher and birth rates have dropped dramatically. "This data could be written into the Guinness Book of Records," said Ivan Kenik, the Belarus minister response for Chernobyl. Russia's deputy minister for civil defence, Viktor Vladimirov said that the full consequences of the disaster would become apparent in 10 or 12 years. "For decades we are going to have to provide for people's safety and the effects of radiation," he said." There are lots of areas where we haven't managed to tackle the cleanup." The contaminated area in the Ukraine and Belarus is about 61,780 square miles (160,000 square km), the size of England, Wales and Northern Ireland combined. Radioactivity also spread through forest fires and seepage in the ground is still polluting streams and rivers as far away as the Black Sea, U.N. officials say. There is also no system to track the 800,000 soldiers and other workers sent to the power plant for the initial cleanup. A U.N. trust fund set up in 1991 to help victims is nearly out of money. Kenik said most of the aid to Belarus has come from private groups rather than governments although several U.N. agencies, such as the World Health Organisation, have spent more than $20 million in the three republics.
REUTER

Chernobyl accord fails to settle funding dispute

RTw 11/30/95 2:22 PM (Updates with end of Ukraine/G7 talks in Vienna) By Steve Pagani VIENNA, Nov 30 (Reuter) - Ukraine and negotiators from the world's industrialised powers on Thursday agreed a document for the closure of the Chernobyl nuclear power plant but failed to lay down strict guidelines on financing the shutdown by 2000. Ukraine's Environment Minister Yuri Kostenko, speaking after a day of talks between the two sides in Vienna, said Kiev was committed to closing the plant by the end of the century but it still depended on whether G7 nations would provide the cash in time. "Ukraine has a strict political obligation to close the Chernobyl nuclear power plant by the year 2000 provided the necessary assistance is given," Kostenko told a news conference. "I will not be able to state here that we are 100 percent confident that the promised assistance will come, because not all members of the G7 are quite confident about that," he said. During nearly a year of talks, Ukraine has insisted that the West come up with concrete figures on how much it is willing to provide and when the cash could be expected to arrive in Kiev's coffers. "Unless the G7 funds such resources there can be no confidence in the state of Ukraine that such a closure is feasible," Kostenko added. A fire and blast at Chernobyl in 1986 spewed radiation over the region and sent a radioactive cloud over much of Europe. Kiev says thousands of people have died as a result. President Leonid Kuchma pledged earlier this year to close the nuclear plant by the year 2000 after years of pressure from the West, which considers the station to be unsafe. Ukraine also wants the West to tackle the problem of the crumbling "tomb" covering the fourth reactor, which exploded in the world's worst civil nuclear disaster. Kostenko took a swipe at the West by referring to what he called "abundant promises" from rich nations to help fund nuclear disarmament under the START treaty and the scrapping of weapons under the Conventional Forces in Europe (CFE) pact. "Ukraine is bearing all the costs of nuclear disarmament on its own...and we are financing the conventional programme as well," he said. "Ukraine will not be able to finance the closure of Chernobyl through its own budget." The draft memorandum of understanding agreed between the two sides in Vienna has yet to be approved by the governments of the Ukraine and the G7. The document provides for further meetings in the future to assess any progress. Kostenko said the West's pledges of loans of $2.2 billion would cover the construction of existing nuclear power generating facilities and upgrading thermal power plants. "As for the subsidies which will be used for the closure of the Chernobyl plant and the shelter (sarcophagus over the fourth reactor), these resources are insufficient," he said. Ukraine last month brought on line a new reactor at its Zaporizhya station and intends to complete two other unfinished reactors to increase the percentage of power produced by nuclear energy from 32 percent to 40 percent. REUTER

HEAD OF COMMITTEE ON HUMAN RADIATION EXPERIMENTS ...

Ruth Faden, PhD, MPH, chair of the Advisory Committee on Human Radiation Experiments, will discuss the Committee's findings at a Preventive Medicine Grand Rounds on Thursday, November 30, 1995 at 5 p.m. Dr. Faden will address not only radiation experiments conducted in the period between 1944 and 1974, but will also look at ongoing biomedical research and deficiencies in the current system to protect human subjects. Dr. Faden holds faculty appointments at the Johns Hopkins Schools of Public Health and Medicine and is the director of the Bioethics Institute of The Johns Hopkins University. The talk will take place in the East Wing Auditorium of the Johns Hopkins School of Public Health, 615 N. Wolfe Street, Baltimore, Maryland. Her talk is entitled, "Ethics in Medicine: the Findings and Recommendations of the Advisory Committee on Human Radiation Experiments." CONTACT: Lisbeth Pettengill or Sharon Rippey of the Johns Hopkins School of Public Health, 410-955-6878. -0- 11/30/95 /PRNewswire -- Nov. 30/ CO: Johns Hopkins School of Public Health ST: Maryland IN: MTC SU:

CHERNOBYL BECOMES SCIENCE LAB WITHOUT HELP FUNDS-UN

RTw 11/28/95 4:11 PM By Evelyn Leopold UNITED NATIONS, Nov 28 (Reuter) - Funds to help victims of the Chernobyl nuclear accident have nearly dried up even as the area is turning into an international scientific laboratory for atomic disasters, a U.N. senior official said on Tuesday. "Some feel as if they are laboratory rats the rest of the world is coming to study, not to help," said Peter Hansen, undersecretary-general for humanitarian affairs. "But even that is welcome by the authorities because it helps maintain some focus and interest in the issue." Hansen addressed a news conference a day before an annual meeting between ministers from the Ukraine, Belarus and Russia on raising funds and planning programmes for 10th anniversary of the fire and explosion in the power plant on April 26, 1986. The

ministers are to speak to the General Assembly and meet with delegates of U.N. agencies, the European Union and the European Bank for Reconstruction and Development. A U.N. trust fund for Chernobyl, established in 1991, is virtually empty, and billions are needed to come to grip with health and contamination problems that grow worse each year. The World Health Organisation (WHO) estimates it would need about $200 million over the next 20 years for its activities alone, but Hansen said he would happy with a few million. The contaminated area in the Ukraine and Belarus is about 61,780 square miles (160,000 square kilometres), the size of England, Wales and Northern Ireland. At least nine million people in Ukraine and Belarus as well as Russia have been affected by the disaster, with several million living in areas with radiation that is excessive in the long term. About 400,000 people had been evacuated from heaviy contaminated zones and cannot return for about 30 years. Hansen said the disaster had a beginning but no middle nor end, with cancer and death rates rising along with mental trauma, especially for those still in contaminated areas. He said relief groups had to "start from scratch" in giving any psychological treatment, an underdeveloped field in the former Soviet Union, for problems such as anxiety, depression, divorce and alcholism. "And when the enemy is invisible, as is the case for radiation, these fears become all the more difficult to counter and weigh all the more heavily on the minds of the people," he said. Data available from U.N. and other sources shows: -- Death rates are 30 percent higher for those in contaminated regions in the Ukraine compared to the rest of the country. -- Birth rates in Belarus have fallen 50 percent. -- Thyroid cancer, particularly among children, is up 285 percent in Belarus. -- About 7,000 in Russia alone who helped put out the fire and seal the reactor are believed to have died and 38 percent are recovering from some kind of disease. -- Belarus, the most heavily affected country, spends 20 percent of its budget on dealing with Chernobyl's aftermath; Ukraine devotes four percent and Russia, one percent. REUTER

U.N.: Chernobyl disaster worsening

UPn 11/28/95 12:58 PM UNITED NATIONS, Nov. 28 (UPI) -- The U.N. Humanitarian Department said Tuesday health damage caused by the nearly 10-year-old Chernobyl nuclear disaster remains extensive and is worsening. The department head, Peter Hansen, appealed for more funds to deal with approximately 9 million victims in Russia, Ukraine and Belarus. Hansen said the Chernobyl disaster was widely forgotten by donors, despite its being "the worst technological environmental catastrophe that has yet taken place in the world." Only $1 million was raised to fund humanitarian relief for Chernobyl victims in 1991 when $650 million was needed, Hansen said. These funds are now exhausted but the humanitarian tragedy continues to grow as morbidity and cancer rates increase and more than 400,000 people displaced by the disaster will never return home. "These people left their homes without any prospect of ever returning to them," he said. "They fled with only the clothes they were wearing and even that had to be taken away and destroyed." He said, "Above-normal increases have been recorded in the rate of illness, disease and death" among the 800,000 "liquidators" -- workers and soldiers who dealt with the accident's immediate effects. "At least 9 million people have been affected by the Chernobyl accident," Hansen said, including children affected by thyroid cancer. "The images of all these little children needing cancer treatment is a very depressing sight to see," Hansen said. Hansen said thyroid cancers in Belarus had increased 285 times over pre-Chernobyl levels. Morbidity rates in contaminated areas of Ukraine were 30 percent higher than in the population as a whole, he said, and had reached 50 percent of the population in some places. Hansen said 62 percent of the inhabitants suffered from anxiety syndrome and 75 percent from depression. Finally, he said huge tracts of formerly productive agricultural and forest land would be uninhabitable and unusable for generations. Describing what he saw during a recent trip to the area, Hansen said, "The images of the place are really beyond belief." "You had to leave the road and enter what was like a green jungle" to see houses that had been standing there decaying since the accident, he said. But Hansen said the worst was not knowing whether this was the beginning or the middle of the crisis, and facing an invisible "enemy" while the situation deteriorated. The U.N. official said most of the necessary projects to treat Chernobyl victims had been discontinued "for lack of funds, lack of support and lack of interest." Hansen said Russia, Belarus and Ukraine could not cope with the disaster alone. He said while there was no more help in terms of humanitarian assistance, the people in Chernobyl now saw themselves as "laboratory rats which the rest of the world was coming not to help but to study." A ministerial meeting of a quadripartite committee for coordination on Chernobyl was scheduled for Wednesday at U.N. headquarters with Russia, Belarus, Ukraine and the United Nations seeking ways to revive international contributions for U.N. relief and rehabilitation work in the area. Hansen said he hoped the meeting would help reverse the current trend as the 10th anniversary of the disaster approached, and that donors will "realize this is a global issue because we can never know whether another Chernobyl will happen in another part of the world."

US-Russia Nuclear

APn 11/26/95 1:58 PM By CARL HARTMAN Associated Press Writer WASHINGTON (AP) -- Russians claiming "military sensitivity" have kept American officials from a full safety inspection of aging Soviet-era plutonium plants, according to a congressional report. Kristen Suokko, an Energy Department official in charge of international safety problems, said in an interview Wednesday that she was awaiting an invitation to inspect the plant at Krasnoyarsk in Siberia. "We're keeping our fingers crossed," she said. In September, after two years of efforts, U.S. inspectors were able to conduct full inspection of another plant in nearby Tomsk, she said. The report by the General Accounting Office, which conducts investigations for Congress, cited difficulties U.S. officials have had inspecting Russian plants under efforts to cooperate in nuclear safety. It said Energy Department officials were denied full access to Tomsk and Krasnoyarsk "because of their military sensitivity." In the case of Tomsk, that referred to inspection attempts before the September visit, Ms. Suokko said. The United States has spent $26.9 million to help counter dangers from nuclear waste, largely from production of weapons-grade plutonium, in the former Soviet Union, the report said. That covers studies of contamination in the Arctic region, waste cleanup and other activities. The GAO report quoted a private laboratory analysis that showed that Russia's nuclear weapons program releases about 650 times as much radioactivity as the U.S. weapons complex. Russia still has three reactors designed for plutonium production, and all were built more than 30 years ago. Since then, significant safety improvements have been made in plant design, the report noted. "Although detailed safety analyses are not available to DOE officials, they believe the reactors have safety problems because of their design and age," the report said. The third plant, at Chelyabinsk, in the foothills of the Ural Mountains, no longer is producing plutonium, although it reprocesses spent fuel from nuclear submarines. Sen. Bob Graham, D-Fla., who asked for the report, said Russia's plutonium-producing plants are particularly worrying because their design resembles the Chernobyl plant, scene of the Soviets' biggest nuclear disaster. Graham said there is no international accord covering the plutonium plants, as there is for the 58 Chernobyl-type reactors, which only produce power for civilian purposes. "This issue needs to be addressed by the world community," he said in a statement, "especially as other regions of the world including Asia and Latin America look to nuclear power as an option." In January 1994, the United States and Russia signed an accord to support research and exchange of information about the effects of radiation on health and the environment. Russia also gets help on nuclear safety from Japan, Sweden, Norway, the European Union and the International Atomic Energy Agency. Plutonium, a highly explosive and poisonous metal, is used in nuclear weapons production. The GAO report said that in 1993 a large reprocessing tank exploded at Tomsk and caused extensive damage to the plant. It contaminated about 50 square miles around it. No injuries were reported. At that time, U.S. Energy Department officials were allowed to visit the Tomsk plant but not to see the tank that exploded or to fully inspect its control room and other facilities. They reported that errors in the operation, such as improper mixing of chemicals, helped cause the accident. That was one of seven accidents at Tomsk listed in the report since 1961, when an explosion killed two people. Only one accident has been reported at Krasnoyarsk, an apparently minor incident in 1987. Chelyabinsk has reported 18 accidents since 1954, including one in 1990 when the reprocessing equipment exploded and a man died of chemical burns. Last year the protective coating of a fuel rod at Chelyabinsk caught fire and a small amount of radioactive gas was released. No injuries were reported.

Moscow radioactive parcel harmless, officials say

RTw 11/24/95 1:37 PM (Updates with first results of tests) By Brian Killen MOSCOW, Nov 24 (Reuter) - Russia's Federal Security Service (FSB) said on Friday it was investigating a mystery radioactive package found in a Moscow park that has sparked fears of Chechen guerrilla attacks in the capital. The package was found by NTV television on Thursday buried under snow in Izmailovo Park in the northeast of the city. The independent NTV linked the finding to claims by Chechen rebels that radioactive substances had been planted at locations in Russia and could be used as a weapon in their fight for independence. "The FSB is carrying out a thorough investigation of the incident," Interfax news agency said. NTV later quoted an FSB spokesman, Alexander Mikhailov, as telling reporters that initial tests showed the package did not pose a serious danger to the environment or people's health. "Mikhailov said the package was sent to one of the scientific institutes for tests," an NTV news announcer said. "The first results of the tests showed that within one metre (yard) it was harmless for health." NTV suggested that the Chechen rebels did not mean to do any serious harm this time and viewed the action as a demonstration of their ability to

operate anywhere in Russia. Asked by reporters whether Chechen rebels were in possession of more powerful radioactive devices which could be used in other places Mikhailov replied: "We are investigating this." Interfax quoted NTV President Igor Malashenko as saying the station's correspondent Yelena Masyuk had been told the exact location of the package by well-known Chechen rebel commander Shamil Basayev. The FSB statement to Interfax said the package and the information supplied to journalists were "a routine link in the chain of provocations by Shamil Basayev aimed at creating an atmosphere of fear in society." Kulikov told Tass the package was "a typical laboratory container." An FSB official told Interfax on Thursday the item was probably a piece of x-ray equipment discarded by one of the hospitals in the area. But he added the FSB was still conducting an investigation. NTV showed an interview in which Basayev said he wanted to prove that the separatists possessed such weapons and were not bluffing by providing some samples as "a present." But Kulikov made no direct connection between the package and the rebel threats. "The container found in Moscow represents no danger whatsoever," Kulikov said. "As for the statements on this subject by rebels loyal to (Chechen leader Dzhokhar) Dudayev, they show once again the true nature of these people," he added. The Emergency Situations Ministry said there had been no changes in radiation levels around Moscow. Muscovites have been alarmed in recent days by media reports, denied by officials, that Basayev was in Moscow. The bearded rebel led a hostage seizure in the southern Russian town of Budennovsk in June in which 123 people were killed. In other incidents, a grenade was discovered in central Moscow near parliament and two mines were dismantled at a petrol station on a main road often used by government motorcades. Tass said the State Duma lower chamber of parliament might debate the discovery of the various explosive devices after a request to do so by the chamber's security committee. REUTER

$200 MILLION NEEDED TO MONITOR CHERNOBYL VICTIMS

 GENEVA, Nov 23 (Reuter) - A global scientific meeting on the health consequences of Chernobyl ended on Thursday with an appeal for $200 million to monitor about one million people most exposed to the world's nuclear accident for the next 15 years. Some 600 experts endorsed findings that a sharp increase in thyroid cancers, especially among children, was radiation induced, but have found no rise in leukaemia linked to exposure. The four-day talks on the April 1986 accident were sponsored by the World Health Organisation, which is assisting authorities in the three affected countries -- Russia, Belarus and Ukraine. "The legacy of Chernobyl is far from being over, both from the point of view of radiation-induced diseases and psychosocial disorders," Dr. Wilfried Kreisel, WHO's executive director of environment and health, told a final news conference. "As far as...thyroid cancers in children are concerned, we decided it was radiation-induced. We unanimously decided that there was no increase of leukaemia that was radiation-induced at this moment," he added. Scientific experts agreed that people in contaminated zones must continue to be monitored for leukaemia, tumours, congenital malformations and psychological effects. "My personal estimate is that for the next 15 to 20 years we want to see these people covered. We -- we and the states -- need at least $200 million as a ballpark figure," Kreisel said. "That is the amount needed for strictly scientific investigations," he added. The meeting itself did not issue an appeal for funds, but a wrap-up statement was to be issued on Friday, a spokesman said. Since 1992, WHO has operated a global Chernobyl programme which has provided $20 million worth of equipment, training and advice to health officials in the three contaminated countries. Some 800,000 emergency workers, so-called "liquidators," were those exposed to highest doses of radiation right after the explosion at the nuclear power plant. "One of the priority projects in the future of the international programme is the fate of 'the liquidators' from a humanitarian and scientific point of view," Kreisel said. Data presented by St. Petersburg's mayor showed incidences of general diseases, including heart and intestinal problems, were much higher among these workers than normal. But there was no direct evidence that this was linked to radio-isotopes.