JPRS-TEN-93-011
27 April 1993

JPRS Report

Environmental Issues

Environmental Issues

JPRS-TEN-93-011 *27 April 1993*

CONTENTS

West To Aid Eastern European Nuclear Waste Treatment

93WS0312C Paris AFP SCIENCES in French 11 Feb 93 pp 27-28

[Unattributed article: "Radioactive Waste: Cassiopee [Operational Assistance Consortium for East European Countries] to Help East Europe"]

[Text] Brussels—On 10 February, in Brussels, the radioactive waste management agencies of six EEC countries officially created the Cassiopee consortium to provide technical assistance to Eastern Europe in setting up radioactive waste processing systems.

Cassiopee will pool the efforts of these six agencies' experts, who may be called in to Eastern Europe, in particular to help with the creation of independent national waste-management agencies. European Community experts may also inventory waste dumps and evaluate sites and management systems, we learned from the same source.

Headquartered in Brussels, Cassiopee will answer directly Eastern Europe's requests, or requests from the European Commission in connection with the program of assistance to former communist countries. The Cassiopee European economic interest group consists of the National Radioactive Waste Management Agency (ANDRA, France), the Central Radioactive Waste Organization (COVRA, Netherlands), the German Company for the Construction and Operation of Nuclear-Waste End-Storage Sites (DBE), the National Radioactive Waste Company (ENRESA [Spain]), the National Organization for Radioactive Waste and Enriched Fissile Materials (ONDRAF, Belgium), and the United Kingdom Nirex.

Salt Water Infusion Into Baltic Adds Algae

93WN0332A Helsinki HELSINGIN SANOMAT in Finnish 21 Mar 93 p 5

[Article by Johanna Mannila: "Stirred Up by Storms, Salt Water Is Already Approaching Gotland Deep; North Sea Salt Water May Increase Algae Population in Baltic"]

[Text] The flood of salt water that tumbled into the Baltic from the North Sea in January is already approaching the Gotland Deep.

"According to the latest estimates, from 300 to 350 cubic kilometers of salt water came [into the Baltic]," Matti Perttila, the head of the Chemistry Department of the Marine Research Institute, estimated in Helsinki on Saturday [20 March]. The huge surge of salt water produced by the January storms is the second biggest in this century. Over 400 cubic kilometers entered the Baltic in 1951.

Pulse Has No Effect on Gulf of Bothnia

Heavy salt water sinks into the depths of the deep spots in the Baltic, whereupon water devoid of oxygen containing many nutrients is set in motion toward the north and the Gulf of Finland.

The effects produced by the salt pulse have been visible in the Gulf of Finland since late last summer.

"Everything depends on the weather," Jorma Kuparinen, a special investigator in the Biology Department of the Marine Research Institute, assessed the situation.

If the summer is calm, water containing nutrients guarantees plankton, algae, and bottom-dwelling animals an enormous amount of nutrients. "The effects may be dramatic: Huge sheets of blue-green algae, among others, become widespread and summer residents have to row through smelly tangles of algae. If there is enough wind, the nutrients are mixed with the water as they travel and are fewer in number."

The effects of the salt pulse may be seen on the coasts of Finland, Estonia, and Sweden. Problems may also arise in the Archipelago Sea. The pulse does not, however, have any effect on the Gulf of Bothnia.

"Fortunately, the hydrogen sulphide found in the deep spots oxidizes chemically so quickly that it does not have time to affect the Gulf of Finland," Perttila said.

The salt-rich water has moved faster than anticipated this year. "Probably 80 cubic kilometers of water remained in the Bornholm Deep and from 130 to 150 cubic kilometers in the Gotland Deep," Perttila said.

Salt Pulses Cannot Be Predicted

According to Perttila, no environmental toxins entered the Baltic from the North Sea, despite the fact that the water, especially at the mouth of the Rhine, is very polluted.

Normally, the number of plankton varies considerably: In early spring there is always abundant florescence because a lot of nutrients are available after the winter is over. Since there is a shortage of nutrients in summer, there are few plankton then. In salt pulse years there is a new florescence in the fall.

Heavier than sweet water, the salt seawater from the ocean flows into the Baltic in random pulses. The strength of the pulses and the density with which they occur vary greatly and their occurrences cannot be predicted. In this century there were noteworthy pulses in 1913, 1921, 1951, and 1976.

"There are constantly small pulses, the most recent one in February. However, the water from them flows back to the North Sea as a backflow. A long-lasting pulse is essential," Perttila said.

Mackerel Already in Gotland Waters

The effects of the salt pulse can already be clearly seen in the kinds of fish found.

"On Tuesday I came back from the south Baltic where we had been taking fish samples for a couple of weeks with Danish researchers. In the waters around Gotland we even found mackerel that were 20 cm long," ichthyologist Eero Aro of the Game Fish and Fishing Industry Research Center said. "We also caught gray cod and whiting in places out of the ordinary for them."

"Baltic herrings and sprats are competing fiercely for food," Aro said. "Some of the Baltic herrings we caught were very skinny, while others were fat little 40-cm-long porkers weighing a half a kilogram."

Since the Baltic herrings also taste good to the cod population, it too has been growing for a couple of years now. The number of cod has also been growing because its spawning conditions have been improving. "Cod roe need salt water to develop."

In Aro's estimation, there will be jellyfish the size of washbasins in the Gulf of Finland within the next few years. "Medusas, among other marine animals, were found in Espoo Bay after the last salt pulse. The number of dabs and plaice is also growing, as is the number of garfish. Bullheads and eelpouts, on the other hand, are disappearing."

The salt content of the Baltic varies between the north and the south. The salt content of the surface averages less than 10 parts per 1,000 in the Baltic, whereas it is about 35 parts per 1,000 in the ocean. About 500 cubic kilometers of sweet water, [word(s) illegible] of which as [word illegible] and rain, enter the Baltic annually.

NAMIBIA

Cabinet Ratifies Officials for Water Commission With RSA

MB0804154793 Johannesburg SAPA in English 1204 GMT 8 Apr 93

[Text] Windhoek April 8 SAPA—The Namibian Cabinet has ratified the appointment of three senior government officials to represent the country on the Joint Permanent Water Commission between Namibia and South Africa, a statement said.

The officials are Water Affairs Deputy Permanent Secretary Mr. P.J. Maritz, Agriculture and Rural Development Deputy Permanent Secretary Mr. V.P. Shirute and the Chief Law Adviser from the Attorney-General's Office, Mr. P. Roux.

The agreement to establish the commission was signed in September last year to discuss the sharing of water resources on common international border rivers.

Mr. Maritz said the commission would meet for the first time at the end of April.

SOUTH AFRICA

Eastern Cape Farmers' Water Quota To Be Cut

MB0804123493 Johannesburg SAPA in English 1146 GMT 8 Apr 93

[Text] Port Elizabeth April 8 SAPA—Irrigation farmers in the eastern Cape will have their annual water quota from the Orange River cut by half from May 1 because of severe drought in the region, SABC [South African Broadcasting Corporation] radio news reported on Thursday.

Department of Water Affairs regional head Amelius Muller said the water shortage in the eastern Cape, except for the greater Port Elizabeth area, was critical.

Farmers affected are those in an area stretching from Cradock to the Fish River, the Grahamstown district and in the Sundays River area.

Mr Muller said inflow figures over the past few weeks at Nahoon Dam near East London were the lowest recorded and harsh restrictions could follow.

The dam, serving Ciskei and parts of East London, is less than a third full.

In the Queenstown district, irrigation farmers also face cuts in quotas from the Klipplaat River because Waterdown Dam is also less than a third full.

The level of the giant H F Verwoerd Dam has, after stabilising at 28 percent of capacity for the past few weeks, begun to drop again.

Water Shortage and Pollution Harm Shanghai

40101007A Beijing CHINA DAILY [BUSINESS WEEKLY-SHANGHAI] in English 1 Mar 93 p 4

[Article by Chen Weihua]

[Text] Shanghai is facing two major problems—a water shortage and increasing pollution.

The lack of a reliable water supply results from the city's booming economy.

There are 12 water plants in the city. In 1992, they provided 4.85 million tons of water a day during the summer peak period. Although the figure was 3.1 percent more than in 1991, it was not enough.

Most of the city's industrial enterprises have to restrict their water usage during the peak summer period.

Experts predict this year the daily demand during the peak period will hit 5 million tons, and the city can only provide 4.95 million tons.

In order to settle the 50,000-ton shortage, the city will invest 68 million yuan ($11.9 million) this year to construct a 16 kilometre pipe network to ease the water shortage in the northwestern areas, such as Putuo District, Zhabei District and Baoshan District.

The network will be used to bring water from the northern suburbs, where water is in comparatively rich supply, to the northwest.

Shanghai's daily demand for water is estimated to reach 6.6 million tons by 2000. In order to meet the demand, the city is planning to build several new water plants and exploit other water sources.

Huangpu River was the city's only water source for more than 700 years after Shanghai was founded in the Yuan Dynasty (1271-1368).

The development of the city's industry has caused deterioration of the quality of the Huangpu River, because the river is where all the industrial sewage is dumped.

Middle-aged Shanghainese recall that people could find fish in the Huangpu River and Suzhou Creek in the late 1950s and early 1960s.

No fish can be found now as the water is severely polluted.

A recent survey shows that the Huangpu River was black and smelled terrible for 328 days in 1992.

The municipal government noticed the potential threat for the city's further development several years ago. Numerous large projects have been unveiled since 1987.

In 1987, the city built a new water plant in the upper reaches of the Huangpu River, where the water is comparatively pure.

In August 1988, another giant engineering project aiming to improve the water quality of the Huangpu River and Suzhou Creek was started. The project included the construction of an underground network.

A sewage treatment plant, which processes the water before the sewage is released, is also a part of the project.

The first phase of the 1.6-billion yuan ($280.7-million) scheme is scheduled to be completed by the end of October this year.

Meanwhile, the city is seeking another water source.

Keeping Seas Clean Threatened by Industry

40101007B Beijing CHINA DAILY (National) in English 2 Mar 93 p 3

[Text] China has improved its protection of the marine environment but the job is far from done.

Since the implementation of the Oceanic Protection Law a decade ago, conditions of Chinese territorial waters are "good as a whole, thanks to effective implementation of this law," said Zhu Xiaocheng, deputy-director of the Department of Marine Administration under the National Bureau of Oceanography (NBO).

But Zhu warned China's waters are increasingly threatened by pollution, which has arisen from the rapid development of industry and agriculture in coastal regions.

He said more than 7 billion tons of raw sewage is discharged into the sea without treatment each year.

"If authorities at all levels don't pay enough attention, it is very hard to maintain the current condition at a good level," he said.

He also appealed to local authorities to pay more attention to the marine environment, urging them not to seek instant benefits at the expense of environmental quality.

But the law has played its part in maintaining environmental quality.

In the past 10 years, the State Council has successively issued regulations prohibiting any kinds of pollution caused by shipping, ocean oil drilling, dumping of waste, land-source pollutants and construction along coasts.

In 1984, the NBO and other government departments sponsored a national marine pollution monitoring network.

In order to obtain latest information on water quality in Chinese seas, they have deployed 232 observation posts at sea and another 242 at the mouths of rivers to collect such information.

These observation posts can collect about 100,000 items of data on the marine environment each year.

Zhu said China has also increased its marine surveillance in a move to have the law effectively enforced. Twenty-five surveillance ships and two planes are now in service to monitor the marine environment and to collect evidence of pollution.

These facilities are equipped with sophisticated instruments.

Official Stresses Legal Role in Environmental Protection

OW0904131593 Beijing XINHUA in English 1226 GMT 9 Apr 93

[Text] Beijing, April 9 (XINHUA)—China is attaching more importance to legal means for the protection of its environment and natural resources, an authoritative law-maker said today.

The launching of a special environmental protection committee after the First Session of the Eighth National People's Congress (NPC), is a testament to China's endeavor in this regard, said Qu Geping, director of the NPC Environmental Protection Committee.

Qu, 62 and the former head of the State Environmental Protection Bureau, made the remarks in an interview with XINHUA.

"This is a powerful step China has taken to protect its environment as the country ushers in a socialist market economy," he said.

Qu said that the new committee seeks to speed up drafting of more environmental protection laws and regulations, push for and supervise implementation of existing laws, and check violations.

He said China will draw from the experience and effectiveness of overseas legislation when drafting its environmental protection laws.

China had promulgated 12 laws on environmental protection and natural resources conservation which, Qu said, were "far from adequate."

The socialist market economy called for more laws to protect the environment, he added.

INDONESIA

Plan for Forest Management Welcomed, Seriousness Doubted

BK1404130993 Jakarta THE JAKARTA POST in English 2 Apr 93 p 4

[Editorial: "Warning to Loggers"]

[Text] We welcome the new forestry minister's plan to deal firmly with reckless loggers. But right now we still find it quite difficult to see any good reason to believe that this time the government really will be serious about exercising more effective control of logging firms.

Since the early 1980s, when the administrative machinery of the forestry sector was promoted from the directorate general level to the level of a ministerial portfolio, we have gotten used to hearing tough policy pronouncements from every new forestry minister about stronger enforcement of the rules regarding the sustainable management of forests.

Nevertheless, forestry officials themselves have acknowledged that around 80 percent of the estimated 560 forest concessionaires who manage about 60 million hectares of production forests throughout the country have not fully implemented the selective- cutting system, which was introduced in the late 1960s and has been improved upon several times.

Less than 10 days after his installation on March 19, the new forestry minister, Jamaludin Suryohadikusumo, on three occasions has made policy pronouncements about his plan to fully enforce the selective cutting rulings imposed on logging firms. He has sternly warned that reckless loggers will lose their concessions.

Apparently realizing the "uphill-task" he has taken upon himself and seemingly aware of the strong political lobbying power of many forest concessionaires, Jamaludin backed up his commitments by announcing the instructions he received during a meeting with President Suharto on March 22. He quoted the president as instructing that "forest concessionaires be subject to stricter control and the concessions of those who fail to meet the logging rulings should be revoked and transferred to state companies."

Given the unimpressive records of his predecessors, Jamaludin—a highly experienced, career official at the Forestry Ministry—will need strong support to enable him to push ahead with his good intentions. He will be encountering major challenges not only from forest concessionaires, but also from within his ministry itself.

The Forestry Ministry faces a lack of qualified field staff to inspect the 560 concessions throughout the country. Many forestry officials, being poorly paid like other civil servants, lack motivation and are highly vulnerable to the bribes offered by cash- rich logging firms. They are also too under-equipped to be able to inspect concession sites and logging operations properly. In fact, forest inspectors often have to use concessionaires' facilities to carry out their duties because access to most concessions is extremely difficult.

Jamaludin said his office had hired an independent consulting firm to evaluate the performance of concessionaires in order to ensure the objectivity of assessment. He declined to identify the consultants. His predecessor, Hasrul Harahap, when questioned by this newspaper early this year, refused to comment on rumors that the consultant firm was a joint venture between Canada's Reid and Collins and a politically-well connected local firm which also owns a forest concession. If the rumors are true, it would be a questionable move, indeed, in terms of implementing well-intended corrective measures.

Obviously, logging firms will go all out and resort to all kinds of tricks to survive, including failing to fully abide by the selective cutting rules. Abiding by the rulings will greatly help conserve forestry resources, but will increase log production costs, thereby cutting into the loggers' profit margins.

Jamaludin clearly needs more than a larger budget to implement his programs. The awarding of concessions and the assessment of concessionaires also must be made more transparent. A recent suggestion from the House of Representatives that concessions be awarded in an open competitive bidding system may deserve his attention. Such transparency would discourage collusion between officials and businessmen because the general public, notably non- governmental environmental organizations, would be able to increase their indirect participation in controlling the use of the nation's forest resources. Under such arrangements, Jamaludin could benefit from public opinion pressure to support his programs. The extension of the length of forest concessions from 20 years to at least 35 years altogether may also increase the incentive for loggers to commit themselves to long-term investments and to manage their concessions in a sustainable manner.

JAPAN

Tokyo Requests Joint Study of Russian Nuclear Problems

OW0804121193 Tokyo KYODO in English 1149 GMT 8 Apr 93

[Text] Tokyo, April 8 KYODO—Japan has asked Russia to allow joint investigations into the former communist nation's dumping of nuclear waste in the sea near Japan as well as the explosion of a Siberian radioactive waste tank, a high ranking official said Thursday [8 April].

Yuji Tanahashi, vice minister for international trade and industry, told reporters that Japan will officially discuss

the issue with Russian representatives who will attend a Group of Seven (G-7) ministerial meeting in Tokyo scheduled for April 14-15.

The Trade Ministry set up an internal liaison panel on Russian nuclear power problems to collect necessary information, ministry officials said.

Tanahashi said, "It is extremely regrettable that Russia has unilaterally declared its intention to continue abandoning (nuclear waste) in the sea."

"We will urge Russia to halt this immediately at the G-7 meeting of foreign and finance ministers," he said.

The investigation will cover all sea areas where the Russian action of dumping waste could affect Japan, the officials said.

"It is possible we may investigate Russian territorial waters," Tanahashi added.

According to reports from Moscow, Russia dumped radioactive waste in such areas as the Sea of Japan, the Sea of Okhotsk and in an area southeast of Kamchatka.

The effects and conditions of the explosion Tuesday at a secret nuclear weapons complex in Tomsk-7 are far from known, so the ministry will hurry to collect information, they said.

Muto Wants Miyazawa, Clinton To Discuss Environment at April Summit

OW0804084793 Tokyo KYODO in English 0840 GMT 8 Apr 93

[Text] Tokyo, April 8 (KYODO)—Newly appointed Foreign Minister Kabun Muto said Thursday [8 April] he wants Prime Minister Kiichi Miyazawa and U.S. President Bill Clinton to discuss environmental issues at their summit meeting in Washington on April 16. Muto noted during a news conference that U.S. Vice President Al Gore is pursuing environmental issues.

He said it would be useful for Miyazawa and Clinton to discuss steps the two countries can take together to address such problems as overpopulation and environmental damage. Muto, who was named foreign minister on Wednesday, said he will not accompany Miyazawa to Washington on April 15. He cited a busy diplomatic schedule in Tokyo.

Miyazawa Hopes To Work With U.S. on Global Environment

OW0904122993 Tokyo KYODO in English 1211 GMT 9 Apr 93

[Text] Tokyo, April 9 KYODO—Prime Minister Kiichi Miyazawa plans to muster support from U.S. President Bill Clinton for a proposal to work jointly to defend the global environment from industrial pollution, government sources said Friday [9 April].

Miyazawa will put forward the proposal in an upcoming summit meeting with Clinton on April 16, the sources said.

The government has already conveyed this idea to Washington unofficially, they said.

To this end, Japan and the United States are expected to agree to initiate a series of vice ministerial-level meetings from various government ministries, along with ambassadors of the two nations, they said.

In this new forum, the two nations are expected to discuss how to protect environments in developing nations as a means of enhancing bilateral cooperation under the concept of global partnership, they said.

The concept of global partnership was promoted in Japan-U.S. summit talks between Miyazawa and former U.S. President George Bush in January 1992.

The two leaders are also expected to discuss how to support efforts by civic groups which have been grappling with the issue of environmental protection, as well as ways to train experts in this field, they said.

Power Firms To Analyze Russian Nuclear Situation

OW0804130093 Tokyo KYODO in English 1229 GMT 8 Apr 93

[Text] Tokyo, April 8 KYODO—The Japanese electric power industry on Thursday [8 April] set up a group to study and analyze the nuclear situation in Russia. The group was created within the Federation of Electric Power Companies in view of the recent disclosure that the former Soviet Union and Russia have dumped radioactive waste and nuclear reactors into the Sea of Japan, and Tuesday's explosion at a depleted nuclear fuel reprocessing plant in Tomsk, Siberia, federation officials said. It will meet about once a week to discuss information gathered by overseas offices of Japanese utilities and related agencies.

NORTH KOREA

'Draft' of Underground Resources Law

SK1304024493 Pyongyang Korean Central Broadcasting Network in Korean 1000 GMT 8 Apr 93

["Draft" of the DPRK Underground Resources Law read by Hong Song-nam, deputy to the DPRK Supreme People's Assembly, at the second-day afternoon meeting of the Fifth Session of the Ninth Supreme People's Assembly held on 8 April in the Mansudae Assembly Hall in Pyongyang—recorded]

[Text]

Chapter 1. The Basis of the Underground Resources Law

Article 1. The DPRK Underground Resources Law shall establish discipline and order in exploring, developing,

and utilizing underground resources to contribute to accelerating socialist economic construction and improving people's lives.

Article 2. Underground resources include metallic, nonmetallic, and combustible mineral resources, subterranean heat, underground water, and mineral springs.

Only the state owns underground resources in the DPRK.

Article 3. The exploration of underground resources is an important work to increasing the country's wealth. The state must carry out chuche-oriented exploration of underground resources, modernization of exploration, and application of science to exploration and try to find more underground resources more rapidly.

Article 4. Vigorously carrying out the work of developing underground resources is a necessary demand for strengthening the basis of the self-reliant national economy. The state must concentrate its investments in developing underground resources and develop underground resources in a far-sighted manner.

Article 5. Underground resources are valuable assets for the country's prosperity and people's happiness. The state must establish order in utilizing underground resources and strengthen scientific and technological research to efficiently utilize underground resources in a unified manner.

Article 6. Positively protecting underground resources is the noble duty of government offices, enterprises, organizations, and citizens. The state must strengthen education in socialism and patriotism to ensure that all the people, masters, participate in the work of protecting underground resources.

Article 7. The state must establish an orderly work system in the exploration, development, and utilization of underground resources and strengthen its investments in and control on this sector.

Article 8. The state must develop exchange and cooperation with various countries of the world in the exploration, development, and utilization of underground resources.

Chapter 2. The Exploration of Underground Resources

Article 9. Giving top priority to the exploration of underground resources over mining is a basic guarantee for the development of the people's economy. Government offices and enterprises in charge of the exploration of underground resources must give top priority to the exploration of underground resources over mining and explore them in a planned way.

Article 10. State planning offices must map out plans for the exploration of underground resources based on demand for underground resources in the people's economy and geographical conditions. If new geographical conditions are found, they must change plans for the exploration of underground resources accordingly.

Article 11. The exploration of underground resources is divided into the exploration for the present purpose and the exploration for the future. Government offices and enterprises in charge of the exploration of underground resources must correctly conduct explorations for present and future purposes to increase the secured deposits in coal mines and ore mines, build candidate sites of development, and comprehensively explore underground resources in an area for exploration.

Article 12. Government offices and enterprises in charge of the exploration of underground resources must map out plans for the exploration of underground resources. Government offices and enterprises in charge of the exploration of underground resources must not conduct non-productive exploration and exploration for a single mineral resource [hottamsawa tandoktamsa] and map out plans for each stage of exploration to ensure that all underground resources be found.

Plans for an office mapped out for exploration must win approval from its supervisory office.

Article 13. Government offices and enterprises in charge of the exploration of underground resources must conduct the exploration of underground resources according to the plans and fill drilling rigs, [words indistinct], and exploratory wells for actual excavation and [word indistinct].

Article 14. Government offices and enterprises in charge of the exploration of underground resources must improve exploration methods, increase the speed and efficiency of exploration, and thus positively explore underground resources that are scarce or have not yet been found in our country.

Article 15. The state underground resources development office must decide on standards in calculating deposits of underground resources. The state underground resources development office must change standards in calculating deposits of underground resources depending on changes in deposits of underground resources or scientific and technological development.

Article 16. Government offices and enterprises in charge of the exploration of underground resources must correctly calculate the deposits of underground resources based on data of exploration. The pertinent central office and the state underground resources development office must examine the calculated deposits of underground resources.

Article 17. The examined and approved deposits of underground resources must be registered with the state underground resources development office. Deposits of

underground resources that are not registered with state underground resources development office cannot be recognized as results of exploration and cannot be [word indistinct] for development.

Article 18. The state underground resources development office must regularly examine the deposits of underground resources and correctly register any changes in the deposits of underground resources.

Chapter 3. The Development of Underground Resources

Article 19. The development of underground resources is [word indistinct] for normalizing production in various fields of the people's economy.

Government offices, enterprises, and organizations in charge of the exploration of underground resources must introduce large-size, modern, and high-speed extraction facilities, diversify means of transportation, give priority to tunneling, adopt efficient mining procedures to increase ore production.

Article 20. The state underground resources development office shall give permission for the development of underground resources. Government offices, enterprises, and organizations that want to develop underground resources must hand in letters of application for the development of underground resources to the state underground resources development office. The state underground resources development office must give permission for the development of underground resources after examining the purpose and scale of the development, deposits, and priorities.

Article 21. The national land management office, agricultural guidance office, and construction guidance office must give permission for the use of forests and agricultural land—pointed out in letters of application for the development of underground resources—according to procedures for permission for the use of land and designate sites for the development of underground resources.

They must not give permission for the use of land to government offices, enterprises, and organizations that have no (?license) for the development of underground resources and must not designate sites for them.

Article 22: The pertinent design [solgye] organizations and other organizations and enterprises related to developing underground resources shall draw up a design for developing underground resources. The pertinent government office, enterprises, and organizations related with development of underground resources shall draw up a design for developing underground resources in a bid to ensure high extracting rate and production efficiency.

Once drawn up, the design shall be approved by the pertinent divisions and construction supervisory organizations.

Article 23: The development of underground resources shall be promoted according to a design for developing underground resources. Organizations and enterprises related with the development of underground resources shall enhance the efficiency of investment by following the demand of a design for developing underground resources.

Article 24: The pertinent government office, enterprises, and organizations related with the development of underground resources shall make a basic plan for the technology of developing underground resources. The pertinent government office, enterprises, and organizations related to development of underground resources shall make an accurate plan for technology of developing underground resources, [words indistinct].

Article 25: The pertinent government office, enterprises, and organizations related with the development of underground resources shall reasonably command a mining organization to extract [words indistinct]. The act of extracting only [word indistinct], which is easy to exploit, shall not be allowed.

Article 26: The pertinent government office, enterprises, and organizations related with the development of underground resources shall differentiate underground resources which cannot immediately be exploited due to unfavorable conditions from [words indistinct]. When exploiting conditions become favorable, they shall extract underground resources.

Article 27. When they plan to close coal mines, mines, and pits, the pertinent government office, enterprises, and organizations related with the development of underground resources shall exploit possible underground resources by using the pits. They shall tangibly record the specific condition of the exploiting sites. Without approval from a state underground resources development office, coal mines, mines, and pits cannot be closed.

Article 28: The pertinent government office, enterprises, and organizations related with the development of underground resources shall thoroughly follow technical and safety regulations. Thus they shall prevent accidents and natural disasters.

Article 29: The pertinent government office, enterprises, and organizations related with the development of underground resources shall accurately grasp and record changes in the amount of underground resource deposits in the course of extracting them. Without approval from the state underground resources development office, the registered underground resource deposits cannot be mined.

Article 30: The pertinent organizations and enterprises shall positively develop the heat of the earth, underground waters, and mineral waters needed for economic development and people's life.

Article 31: Organizations and enterprises which exploit underground resources shall not commit acts of destroying land, nature, people's living environment, and the ecological environment of animals and plants in the course of exploiting underground resources.

Article 32: Organizations and enterprises which plan to construct roads, railways, plants, and reservoirs in areas where underground resources are to be exploited, shall require approval from the state underground resources development office.

Article 33: If they find new underground resources, special geological conditions, rare minerals, or [word indistinct] in the course of exploiting underground resources, the pertinent organizations and enterprises shall take steps to preserve them and notify concerned organizations of them.

Chapter 4: Use of Underground Resources

Article 34: Efficiently using underground resources is a major way to meet the national economy's growing needs for raw materials and fuels. The pertinent organizations and enterprises shall positively preserve underground resources and enhance the rate of using underground resources.

Article 35: The pertinent organizations and enterprises shall build [words indistinct], modern warehouses, and coal depots to fully house mineral resources, such as coals, ores, and crude oil. Article 36: Railway-transportation organizations and other pertinent organizations and enterprises shall steadily repair and supplement transportation means and command transportation organizations. They shall prevent mineral resources from being lost in the course of its transportation.

Article 37: The pertinent government offices, enterprises, and organizations shall abide by technical regulations and standard operating regulations in processing mineral resources, including ore dressing and smeltery. They shall ensure an assigned [word indistinct] norm. Work not ensuring the completion of assigned [word indistinct] norm shall not be done.

Article 38: The pertinent government office, enterprises, and organizations shall build production technological process to process mineral resources in a comprehensive way. Thus, they shall (?screen) the major ingredients and minor ingredients of the mineral resources. When unable to (?screen) the ingredients in [words indistinct], they shall not throw them away but store them.

Article 39: The pertinent government office, enterprises, and organizations shall positively use mineral resources, which are scarce or have not yet been found in our country, as fuel and raw material of a substitute mineral.

Article 40: If they plan to export [word indistinct], ores, and other minerals to other countries, the pertinent government office, enterprises, and organizations shall get approval from a relevant organization.

Article 41: Organizations and enterprises, which manage mineral spring, shall properly preserve the areas of mineral spring. They shall efficiently use mineral waters and hot springs. Without approval from the organization in charge of managing mineral springs, the work of exploiting and developing mineral resources and other construction work cannot be done around the areas of preserving mineral springs.

Article 42: The pertinent government office, enterprises, and organizations use underground resources only for the things which the state allows.

Chapter 5: Guidance and Control of Exploiting, Developing, and Using Underground Resources

Article 43: The pertinent central organization shall guide exploitation, development, and use of underground resources, under the leadership of the Administration Council. The pertinent central organization shall strengthen guidance of exploitation, development, use of underground resources in accordance with the development of the national economy.

Article 44: The state underground resources development office shall guide the work of preserving and managing underground resources in an unified way. The state underground resources development office shall set up a system to preserve underground resources. It shall lead the pertinent government office, enterprises, and organizations to positively preserve underground resources and to responsibly manage underground resources.

Article 45: The state shall establish social traits to positively help the sectors exploit and develop underground resources and shall preferentially treat the working people of the sectors.

Article 46: The state planning organizations, labor administrative organizations, material supply organizations, and finance management organizations shall give priority to supplying labor, facilities, equipment, and funds needed for exploiting and developing underground resources. Labor, facilities, equipment, and funds needed for exploiting and developing underground resources cannot be used for other purpose.

Article 47: Science research organizations and education organizations shall strengthen scientific research work to enhance the sectors of exploiting, developing, and using underground resources on to a new scientific and technological level. They shall bring up able technicians and exports.

Article 48: An organization supervising underground resources and the pertinent supervision-control organizations shall supervise and control the exploitation, development, and use of underground resources. An organization supervising underground resources and the pertinent supervision-control organizations shall

steadily supervise and control the status of exploiting, developing, and using underground resources.

Article 49: In case underground resources are developed without permission and in case the [word indistinct] demand for developing underground resources is violated, the development shall be stopped and the approval for developing underground resources shall be canceled. The underground resources illegally extracted shall be confiscated.

Article 50: In case the exploitation and extraction of underground resources are conducted at random; the [word indistinct] norm is not ensured; and underground resources and funds are dissipated by violating the regulations about exploiting underground resources, corresponding loss shall be compensated for.

Article 51: Responsible functionaries of the pertinent government office, enterprises, and organizations, who do a grave damage to the state by violating the regulations about underground resources, shall be held liable for their administrative and criminal responsibilities.

SOUTH KOREA

Plans To Create Task Force, Tripartite Survey With Russia, Japan

SK0804074093 Seoul YONHAP in English 0148 GMT 8 Apr 93

[Text] Seoul, April 8 (YONHAP)—South Korea will rush to finish an assessment of damage to nearby waters by Russia's nuclear waste dumping this month and a tripartite survey with Japan and Russia, Foreign Ministry officials said Thursday.

An inter-ministerial working-level meeting on Wednesday decided to formally establish a government task force on countering nearly 30 years of radioactive waste dumping in the East Sea and near Kamchatka by the Soviet Union and its successor state, Russia.

A Russian environmental white paper said Moscow tossed more than 144,000 cubic meters of nuclear waste into the sea between 1966 and 1992.

Seoul immediately demanded Russia halt the dumping, that it provide full materials on the amounts and locations, and that it cooperate in a joint study for damage assessment. It also asked Japan to participate in a tripartite survey, officials said, and a three-way meeting is likely in the latter half of the year.

A South Korea-Russia survey is to precede the three-way consultation, the officials said, with Moscow supplying the survey vessels and Seoul paying for the study.

Wednesday's meeting decided to seek South Korean membership in the London Dumping Convention (LDC) within this year so that it can formally ask world organizations like the International Atomic Energy Agency (IAEA) and the International Maritime Organization (IMO) to take part in the damage survey, officials said.

Russia's Tomsk-7 Accident Raises Concern

SK0904063393 Seoul THE KOREA HERALD in English 9 Apr 93 p 6

[Editorial: "Tomsk-7 Nuclear Accident"]

[Text] The reported explosion of a radioactive waste tank in western Russia Tuesday caused great alarm about the possible effect of widespread contamination by its fallout. It has been called the worst nuclear accident since the Chernobyl disaster in 1986.

The explosion at the Tomsk-7 nuclear weapons complex is described by Russian and foreign experts to be far less severe than the Chernobyl accident. But the environmental group Greenpeace claimed several villages were at risk from windborne radioactivity. The Russian Nuclear Energy Ministry said there were no deaths and no evacuations from the affected region about 2,800 km east of Moscow.

A radioactive cloud is moving across Siberia away from Tomsk-7, a secret military city built by the Soviets that does not appear on ordinary maps. The low radiation levels, the direction of the wind and the long distance of the disaster site from the Far East appear to make the Korean Peninsula as yet safe from its immediate effect.

The unusual openness of Russian officials in reporting the explosion under the liberalized leadership in Moscow serves to convince us of the honesty and straightforwardness of the Russian authorities in dealing with the case. The old Soviet Union kept the Chernobyl accident a secret for days until Scandinavian countries detected the radiation.

However, the full picture of the Tomsk-7 explosion is not yet clear. Our own monitoring system should also harness its best coverage to keep a close watch on the developments. The hazard of nuclear contamination caused by similar explosions and indiscriminate dumping of nuclear waste by Russia in Korea's neighborhood continue to concern and disconcert us, in addition to the worrisome nuclear development attempts of the North Koreans.

For many years the Soviet Union has disposed of its nuclear waste, including atomic reactors, in the northern and western Pacific as far down south as the East Sea touching this peninsula and the Japanese Islands. The revelation raised fresh fears as to the radioactive contamination of fishes caught there and consumed here.

The collapse of the Soviet Union and the slackened and nominal control of the Commonwealth of Independent States over its members made an effective oversight on the storage and treatment of nuclear materials and wastes most difficult. Kazakhstan is known to have the

largest amount of radioactive material next to Russia. Both countries have failed to act in a responsible way in disposing of the dangerous materials.

The frequent accidents at nuclear plants are blamed on technical ineptitude and financial difficulty. We cannot ignore the fact that the North Korean nuclear facilities built with Soviet aid and advice are beset with similar weaknesses and dangers. All those involved in the maintenance and development of nuclear plants must prove more accountable for their performance which could threaten the safety of their countless neighbors as well as their own compatriots.

Joint Survey With Russia on East Sea Nuclear Waste To Begin

SK1104050793 Seoul YONHAP in English 0404 GMT 11 Apr 93

[Text] Seoul, April 10 (YONHAP)—South Korea and Russia will start a joint survey of the East Sea where Moscow has admitted to throwing tons of nuclear waste during the past 30 years, Foreign Ministry officials said Saturday.

The Russian presidential office has responded to a request for a joint survey and asked Korea participate in its own investigation, planned to start in two to three months.

Moscow said it would welcome Korea's contribution of experts, equipment, and finance. The cost of the initial survey is estimated at 300 million won (377,000 U.S. dollars)

A Russian white paper on the environment has confirmed that the Soviet Union and Russia tossed more than 144,000 cubic meters of nuclear waste into the East Sea and waters off Kamchatka Bay between 1966 and 1992.

Moscow told Seoul the waste was not highly toxic and that it believed the Far East region was not seriously contaminated.

It also said it would have to continue dumping nuclear waste in the seas because it lacks proper facilities on land, but promised to keep within the guidelines of the london dumping convention in the future.

The Seoul Government is to open an inter-ministerial meeting early next week to decide on the scope of financing and other material aide for the joint survey.

BULGARIA

Vessel Detained on Danube Allowed To Sail

AU0904202293 Sofia BTA in English 1854 GMT 9 Apr 93

["Today"—BTA lead]

[Text] Sofia, April 9 (BTA)—The remains of the three Bulgarian servicemen who were killed in Cambodia arrived at Sofia Airport this morning and were met with full military honours.

The caskets, covered with the Bulgarian tricolour and the UN flag, were saluted by Defence Minister Valentin Aleksandrov, the Chief of General Staff of the Bulgarian Army General Lyuben Petrov, the national security advisor to the president General Stoyan Andreev, representatives of the Office of the President, of parliament, the Council of Ministers, the Bulgarian Army Command, the Patriarchate, the Union of War Veterans, and members of the separate infantry battalion deployed in Cambodia.

"We insist on urgent decisions to guarantee the safety and the possible prompt withdrawal of the Bulgarian soldiers from Cambodia," says a declaration issued by families of Bulgarian blue helmets, received in the BTA.

The declaration protests the inaction of the government and the Office of the President over the tragic incidents. "We do not want our relations to be the target of political games with ill-advised decisions," the declaration reads in conclusion.

Back from a visit to the Royal Air Force Hospital in Bangkok, two Bulgarian medical officers said that one of the three wounded Bulgarian peacekeepers is still in a critical condition and the other two are recovering.

The Bulgarian physicians found that the Bulgarian soldiers had been wounded with advanced automatic small-bore rapid-fire firearms. They are categorical that no flak jacket could protect a wearer from fire of type of weapons at such a close range.

The wounded Bulgarian soldiers denied the press allegations that one of them had been fired upon after a dinner involving drinking and a play of cards. The medical experts found no alcohol in their blood.

Agriculture Minister Georgi Tanev returned from a working visit to Switzerland where he was received by President Adolf Ogi. Mr. Tanev said that agreements were reached with the Swiss Agriculture Ministry on expert and financial assistance in land surveying and registration. Switzerland is expected to provide some 17 million Swiss francs in aid for Bulgarian farming.

Deputy Prime Minister Evgeni Matinchev today received Mr. Jorge Fuentes Monzonis Villalonga, the newly appointed ambassador of Spain to Bulgaria. The diplomat briefed the deputy prime minister on the forthcoming visit by their Majesties the King and Queen of Spain to Bulgaria, scheduled for May 22, 1993, and expressed the hope that this visit will boost bilateral relations.

Mr. Matinchev also received Mr. Gombosurengiyn Dashdabaa, the ambassador of Mongolia to Bulgaria, at the latter's request. The ambassador briefed the deputy prime minister on the natural disaster which inflicted serious damages on three western provinces of Mongolia and conveyed a request from the Government of Mongolia for relief aid, mainly in the form of food, clothing and medicine. Mr. Matinchev promised to raise the possibility or rendering assistance to Mongolia at Monday's [12 April] cabinet meeting.

There is an international aspect as well to the matter of the dismantling of the Soviet Army Monument in Sofia, Prime Minister Lyuben Berov told parliament today, answering an MP's question as to whether he would allow the demolition of the monument. The premier recalled the March 1993 resolution of the Greater Sofia Council that the monument should be dismantled, not demolished. A way out of the situation will be sought which would not impair the fine relations between Bulgaria and Russia and the recent activation of mutually advantageous bilateral cooperation, Prof. Berov pointed out.

Forensic medics continue the post-mortems of the victims of the serious road accident, in which a Turkish bus carrying citizens of Romania, Turkey and the CIS fell into the River Yantra at Byala (northern Bulgaria) two days ago. Some of the dead have not yet been identified. The post-mortem will be completed and the bodies ready for repatriation on Sunday afternoon at the earliest. The investigation into the accident is going on, too.

The six U.S. patrol boats, provided to Bulgaria and Romania for enforcement of the embargo on the River Danube, will be delivered at a formal ceremony in the Danube ports of Ruse (northern Bulgaria) and Giurgiu (Romania) on April 17. The Ruse customs post said the three patrol boats earmarked for Romania arrived in Giurgiu tonight. The boats were transported by Romanian trailer trucks from the Romanian Black Sea port of Constanta. The same trucks will transport the boats destined for Bulgaria. They are expected to cross the bridge at Ruse on Monday and the boats will be launched next Wednesday [14 April], when a U.S. team will arrive to train the Bulgarian and Romanian crews.

After a five-day demurrage in the port of Vidin, the Bulgarian ship Khan Kubrat with six barges carrying 4,270 tonnes of gas oil, freighted by a private company, was today formally cleared to sail on. The Ministry of Foreign Affairs confirmed that the ship's papers and the permit from the UN Sanctions Committee were in order, Mr. Nedyalko Yolov, chief of the Vidin customs, told BTA.

The cargo, which is embargoed for transit across Serbia, will be shipped by the Danube to its ultimate consignee, the Bratislava- based company Sipox.

A representative of the freighting company said that the daily demurrage amounted to 5,000 U.S. dollars, excluding penalties for overdue delivery.

The ship was halted for inspection by the State Shipping Inspectorate, the Vidin customs and the border guards.

The content of hydrogen sulphide in the atmospheric air of Silistra was 1.5 times the maximum permissible concentration in Silistra (northeastern Bulgaria, on the River Danube) between 9 AM and 6 PM yesterday, according to the local laboratory of the regional environmental protection laboratory in Ruse. The laboratory lacks equipment that could take real-time readings of air pollution. The latest discharge of pollutants came only two days after the Bulgarian-Romanian coordinating commission on the environmental problems in the area of Silistra, Bulgaria, and Calarasi, Romania, met in the Bulgarian town.

Mr. Todor Velkov, chairman of the cooperative farm liquidation council in the village of Glozhene, Montana region (northwestern Bulgaria), threatened that he would lead the people of the village to block the road to the Kozloduy Nuclear Power Plant and would thus disrupt the operation of the facility. Mr. Velkov was planning to protest in this way personal accusations of violating statutory provisions, levelled at him by the regional governor.

The employees of the Hail Suppression Directorate continue their effective strike action to press demands for payment of their wages for the last eight months. Population centres in the area of Montana were recently hit by a hailstorm, but the local hail suppression centre did not react. In a declaration addressed to the Council of Ministers and parliament, the employees of the centre said that until their problems are solved they disclaim responsibility for any damage inflicted by possible future hailstorms. The protestors decided to block the intersection of the road from Vratsa to Sofia via the Petrokhan pass on April 21.

Mr. Tomas Lafchis was re-elected president of the Bulgarian Professional Football League at today's extroardinary general meeting of the league, which also elected a new nine-member Governing Board. Of the 36 Bulgarian football clubs, 32 are affiliated to the Professional Football League.

CZECH REPUBLIC

Poisonous Gas Released During Chemical Plant Accident

AU1304161893 Prague CTK in English 2032 GMT 7 Apr 93

[Text] Prague April 7 (CTK)— Even if some poisonous substances did leak out in Monday's [5 April] explosion and subsequent fire at the Spolana chemical plant in Neratovice near Prague, they did not get into the environment outside the plant, Prague regional hygienic station officials told CTK today.

A total of 14 people were injured in the accident, one of them seriously.

The officials said that the gas phosgene released in the fire could only pose danger to employees working close to it.

Phosgene is a nervous gas which was used as a combat substance by Germany during World War II.

The material damage caused by the fire in the PVC polymerization division of the plant is estimated at three million crowns (over 100,000 USD), the chairman of a commission investigating the accident, Martin Dobes, told CTK. He added that operation in the division will be resumed April 16.

The cause of the explosion is not yet known, Dobes said, but excluded any equipment failure. It is possible that it was caused by the negligence of one of the employees, he said.

The condition of the man who suffered serious injuries in the blast remains serious, but he can now breathe without the help of a respirator, doctors from the Prague hospital where he was taken after the accident told CTK.

DOMINICAN REPUBLIC

National Park Deforestation Officially Sanctioned

93WN0361A Santo Domingo EL SIGLO in Spanish 8 Feb 93 p 2

[Article by Marino Zapete C.]

[Text] Dominican Federation of Ecological Associations Executive Director Hector Lopez yesterday deplored the fact that in the Sierra de Bahoruco National Park hundreds of cedar and pine trees are being cut down in plain view of General Forestry Directorate authorities.

Lopez stated that the indiscriminate logging of the trees to sell the wood began last December, and has increased under the Directorate's current management, under the watchful gaze of the authorities. He added that it was six forest rangers who started cutting the cedar in the Sierra de Bahoruco National Park, in the El Aceitillar area, at the place known as Las Abejas [The Bees].

"Hundreds of cedars were cut down, very old trees, and the supposed reason for the logging was to make windows and doors for a development project the government is constructing in Pedernales, but we know that no government development has windows and doors made of precious wood," he said.

Lopez said that when he found this out, he went straight to the General Forestry Directorate, where he denounced these activities to the director, architect Francisco Amaro Guzman, who expressed alarm and promised to order an immediate investigation.

"Supposedly, they carried out the investigation, and determined that the rangers did the logging and constructed the sawmills on instructions from their superiors. However, all the rangers were kept at their posts, as was the Pedernales military commander, who was also involved in the logging," the ecologist said.

He added, "I was told that the investigation had been carried out, that corrective measures had been taken, and that the activities would not continue; nevertheless, Saturday night—the day before yesterday—at nine o'clock, two trucks that had been parked in the yard of the house belonging to an army colonel left from Barahona for Santo Domingo, and arrived in the early morning."

Lopez added that the trucks carrying the wood were a white Mack with a dent on the right side, license plate 0-746-798, and a blue Toyota, license plate 641-459. "That is, the logging continues, and it appears that the people behind it have very high positions in the government, or else they would not be permitted to do these things, and those trucks, instead of being in the area of El Abanero, where the Directorate has regional control, were in an army colonel's yard," the ecologist said.

He said that the Dominican Federation of Ecological Associations will send a report to the President of the Republic, "because we have already seen that the report we gave to the director of the Directorate was not very effective."

"We deplore this situation, because in a national park not even flowers should be cut, in a national park everything should be respected in its biodiversity, because it is for that reason that these lands have been set aside and turned into a national park," he said.

"The worst part of all this is that the authorities are silent, and no one knows who gave that order and who is behind the massive cutting of cedar and other trees," Lopez said.

NICARAGUA

Reserve Threatened by Banana Industry

93WN0337B Managua BARRICADA in Spanish 21 Mar 93 pp 1, 5

[Article by Guillermo Cortes Dominguez]

[Excerpt] San Carlos, San Juan River—How can we not call this place a paradise, with its luxurious vegetation, its many, varied, and beautiful fauna, and its large rivers of pure water? The river is not in danger of dying, but the imminent destruction of thousands of manzanas of land and the arrival of highly toxic wastes from Costa Rican banana plantations are a warning.

The gigantic, 12,700 square kilometer "Si-A-Paz" ["Yes to Peace"] reserve, tended by only 50 dedicated and hardworking forest rangers, is not only one of the few green lungs still left in the world, but also a layover, a key point on the flyways of migratory birds in the Americas.

Next to this tropical rain forest paradise lies an area of 1,800 square kilometers, called a buffer zone, which is already so saturated that pressures on the land are threatening the reserve itself. Last year the authorities relocated 70 families from the banks of the wide San Juan River, moving them out of the protected sector to El Sabalo, El Castillo township.

South of New Guinea, in Atlanta and Punta Gorda; in La Union, along the upper Tule River; in El Castillo; on the Santa Cruz River; on the edge of the RAAS [South Atlantic Autonomous Region); in Guacimo, Buena Vista, La Quezada, Chanchon, and Boca de Calera: in the buffer zone, a real agrarian reform has taken place.

Hundreds of families of people demobilized by the Contras, EPS [Sandinist People's Army], and the Ministry of Government, repatriates, recompas [rearmed former members of the Sandinist People's Army], recontras, rebels, campesinos who sought land in the past, and new claimants have received over 60,000 "manzanas" of land.

The majority barely have food to eat; they cannot get loans to plant crops or to breed and raise livestock.

Cutting down trees to sell wood is their only option, unless the banks become philanthropical institutions.

Of these 60,000 manzanas, about 3,000 have already been deforested, but only a third of the wood will actually be used, since the lands lack access roads.

The other threat comes from Costa Rica. While the Nicaraguan tributaries of the San Juan, in the section between San Carlos and El Castillo—Melchora, Sabalo, Santa Cruz, and Palo de Arco—are clean and clear, the Costa Rican tributaries that deposit their waters between El Castillo and Boca de San Carlos carry highly toxic chemical wastes.

The sudden appearance of dead fish sounded the alarm. The CIRA [Water Resources Research Center] of Nicaragua last year did a study proving that malathion and other highly toxic pesticides were present in the waters coming from Costa Rica.

It Looks Like Chocolate

In this part of the San Juan the banana plantations and some high-tech citrus enterprises that are major agrichemical users dump their wastes in Costa Rica's rivers.

"The water is dark," says the director of IRENA [Institute of Natural Resources] and of the Si-A-Paz program, Leonel Ubau Hernandez, one of the few professionals working here who is a native of this beautiful area. "It looks like chocolate," said the deputy commander of the San Carlos National Police, Captain Douglas Pichardo.

El Papaturro, a small and very new settlement of 600 people displaced by war, who returned to Nicaragua in 1990 with support from the international program Latin American Refugee Projects Coalition, is essentially the capital of the Los Guatuzos Forest Refuge, which last year was threatened by attempts a number of multinationals made to establish banana plantations in Costa Rica, whose wastes might damage the area.

The refuge covers 430 square kilometers; it is located between the Pizote and Medio Queso Rivers—it was along the latter river that Pedro Joaquin Chamorro Cardenal and Violeta Barrios [Chamorro] escaped from San Carlos in the 1960's, and the reserve contains "cuajipales" and over 300 species of birds. [passage omitted]

Deforestation Destroys Lake, Threatens Turtles

93WN0337A Managua BARRICADA in Spanish
22 Mar 93 p 5

[Article by Pablo Emilio Barreto]

[Text] Young environmentalists have begun a dramatic rescue of turtles from the bed of what was once Lake Nejapa, which dried up before the eyes of the people of Managua. Disappearing along with it were the local deer, "chachalaca" birds, "mojarra" fish, all sorts of birds, and the natural scenery that has provided recreation for thousands of residents of the capital for over two centuries.

The turtles were dying for lack of water. Yesterday the environmentalists sank knee-deep in the mud, trying to save them, some environmentalists using nets.

They had to use boards and logs to reach the quaking bogs to rescue 14 turtles, which were later released in the waters of Lake Tiscapa, also threatened by indiscriminate tree felling and wastes that pour into its already polluted waters every day.

The turtles, both large and small, were dying of thirst. They eagerly opened their mouth when given water, which the environmentalists had brought in a jug.

Certain Death

The rescue operation took place in the center of what was "the pool of water" of Nejapa, while to the south, two buzzards were eating another turtle. "That would be the ultimate fate of these turtles if we left them here," said Norman Gonzalez.

Norman and Carlos Gonzalez, along with Pedro Felix Obregon, Rosa Elvira Blanco, Enrique Mora, Luz Marina Rizo, and Agustin Alonso, plus a child accompanying them, were surprised when they sank into the muddy lake bottom when trying to rescue the turtles.

The environmentalists had intended "to rescue all the turtles today" and move them to Tiscapa or Xiloa, but they had not counted on the terrain being boggy and their van getting stuck.

The marshy terrain, which separated every 10 or 12 inches, moves downward dangerously. "A trench could open up here at any time, for underneath is water and one of Managua's biggest geological faults," warned Norman Gonzalez.

Shared Fate

Nejapa has been little by little denuded of trees, "especially in the past two years. The people began to cut firewood because they had no money for gas, and that hastened the lake's death," added Luz Marina Rizo.

"That same fate awaits Asososca, Tiscapa, Xiloa, Apoyeque, Masaya, and Apoyo if the government does not keep its promise to protect nature, which is instead being subjected to constant destruction by some government officials' deals," added Rosa Elvira Blanco.

The environmentalists will continue their rescue operation today, and they said they will send a letter to the director of IRENA [Institute of Natural Resources], Dr. Jaime Incer Barquero, along with a turtle shell, "so that he may one day become concerned about the nature that surrounds him and that is dying," commented Norman Gonzalez.

RUSSIA

Tomsk-7: Radiation Levels at Epicenter Reported

LD0804184993 Moscow ITAR-TASS in English 1709 GMT 8 Apr 93

[By ITAR-TASS correspondent]

[Text] Tomsk April 8 (TASS)—The radiation level in the epicentre of the explosion at the Siberian chemical plant reached several roentgen per hour and equals hundreds of milliroentgen per hour near the damaged building, according to the press service of the Russian State Committee on Emergency Situations.

The level of radioactivity in the settlements close to the Tomsk-7 city did not increase, exluding the village of Georgiyevka where it reached 35 microentgen per hour which is less than the allowed norm of 60 microroentgen, the press service said on Thursday. There are no grounds to resettle the residents of the village, it added.

Decontamination continues in the region to ensure safety of the population and prevent the radiation from getting into the Tom river. Experts are looking for places to erect dams and guide water from melted snow on contaminated territories to special settling tanks of the chemical enterprise. 35 people who worked at the site of the accident were checked by doctors. The maximum radiation doses they got pose no danger for their health. No penetration of radioactive uranium or plutonium into their bodies was detected.

The press service denied reports about the existence of a contaminated cloud.

Tomsk-7: German Environment Minister Offers Help With Tomsk Cleanup

LD0804162593 Hamburg DPA in German 1441 GMT 8 Apr 93

[Excerpt] Bonn (DPA)—Federal Environment Minister Klaus Toepfer has offered Russia help with the immediate cleanup of the effects of the nuclear accident in Tomsk, if it is desired. In a declaration on Thursday, the minister suggested that it may be useful if an international group of experts headed by the Vienna-based International Atomic Energy Agency were to visit the site to obtain a picture of the situation.

According to Toepfer, proposals for any concrete aid measures that may be required could be worked out in this way. If asked, the Federal Republic would take part in such a group of observers.

Referring to the incident, the minister stressed that the fears repeatedly expressed by Germans over a lack of safety at nuclear plants in the successor states to the USSR have once again been confirmed. All efforts for rapid and effective improvements will have to be made at the international level, he said. Similarly, the initiatives agreed upon at the world economic summit in Munich in 1992 on improving the safety of nuclear plants in eastern Europe will have to be "implemented finally", he said. [passage omitted]

Tomsk-7: Finland Told Explosion Contained No Plutonium

LD0804143693 Helsinki Suomen Yleisradio Network in Finnish 1300 GMT 8 Apr 93

[Text] The Russian authorities deny that the explosion at the Tomsk nuclear processing plant the day before yesterday caused any release of plutonium. The Russian Ministry of Atomic Energy told the Finnish Center for Radiation and Nuclear Safety this afternoon that the exploded nuclear material container contained uranium and not plutonium. The Ministry also stated that the radioactive cloud over Siberia is giving off radiation equal to about 20 times the amount of natural background radiation.

The Center for Radiation and Nuclear Safety considers it very unlikely that substances released into the atmosphere in the Tomsk accident will ever reach Finland.

Tomsk-7: Contaminated Area 200 Square Kilometers

LD0804124193 Moscow Russian Television Network in Russian 1000 GMT 8 Apr 93

[From the "Vesti" newscast]

[Text] According to precisely defined data from the commission for emergency situations and the operative headquarters investigating the reasons for and consequences of the accident at the Siberian chemical combine in Tomsk-7, the zone of radioactive pollution beyond the confines of the combine comprises 200 square kilometers. The level of radiation in it does not exceed 40 microroentgens per hour against a natural background of 12 microroentgens per hour.

The settlement of Georgiyevka, where 20 people live, is in the polluted zone. Here the background radiation is 35 microroentgens per hour.

In Tomsk and other populated points, the level of radiation does not exceed the natural background. Nonetheless, it is not recommended to the population that they leave their homes.

Six detachments of civil defense troops are at work in the polluted zone. For the third day now, they have been cleaning up the territory. Personnel from the fire-fighting unit at the chemical combine, who eliminated the fire that arose as a result of an explosion in a container of uranium solution, have been examined.

It also became known this morning that a radioactive cloud [oblako] that came about as a result of the explosion is moving over Siberia. However, monitoring stations in Scandinavia and Western Europe have not found an increase in the level of radioactivity in it.

[Video shows: checks on levels of radiation; warning signs; people going about normally in a town; several soldiers in empty terrain; stop sign in front of a building; more radiation checking]

Tomsk-7: Committee, Scientist Report on Radiation Levels, Cloud

LD0804120593 Moscow ITAR-TASS World Service in Russian 1031 GMT 8 Apr 93

[By ITAR-TASS correspondents Oleg Velichko and Igor Ivantsov]

[Text] Moscow, 8 Apr—Radiation on all axes stretching out from the scene of the accident at the Tomsk radiochemical plant is, basically, no higher than the natural level. A higher level has only been detected along the actual line of radiation discharge. This information was given to an ITAR-TASS correspondent by Matina Ryklina, head of the press service of the Russian State Committee for Emergency Situations. She said that this information had been given to the committee this morning by Committee Deputy Chairman Viktor Vladimirov, who is taking part in the work of the commission investigating the causes of the incident and its consequences.

The radiation trail has taken the shape of an elongated segment stretching 15 km from the scene of the accident. The level of contamination in it ranged from 250 to 400 microroentgens [as received] an hour. At 3 km from the plant background radiation measured between 120 and 250 microroentgens an hour, at 5 km between 60 and 120 microroentgens an hour. In the area of increased background radiation, 22 km from the scene of the accident, there is only one populated area, the village of Georgiyevka, where 20 people live. The level of radiation there came to 35 microroentgens an hour. This is only slightly above the normal level which, in Moscow for example, averages 20 microroentgens. The highest level has been found 11 km from the scene of the accident along the Samus-Tomsk road (400 microroentgens an hour). This has fallen by five times as a result of decontamination work in this sector.

A MI-8 helicopter with four radiation counters, three disease control units, a radiological laboratory, three weather stations, nine radiation monitoring posts, and two agrochemical laboratories is working in the area of the accident. Constant radiation monitoring is being conducted from the air and on the ground, as is a geodesic survey of the terrain. The decontamination of vehicles and terrain is continuing. About 500 civil defense workers and 112 vehicles have been brought in to help with this work.

At the same time, Aleksey Yablokov, chairman of the Russian president's Council for Ecological Policy, believes that the situation is more serious. This is the third accident on the scale of Tomsk-7 in recent times in Russia, he told an ITAR-TASS correspondent on the telephone. He explained that the accident occurred as a result of an explosion in a 29-cubic-meter container which contained the liquified minerals of uranium and plutonium, and that a radioactive cloud has covered an area 20 km long and 9 km wide. In the scientist's view, the people who put out the fire in the wake of the chemical explosion have received a larger dose of radiation than was officially announced. "Inside the building radioactivity was 30 roentgens an hour and outside about one roentgen an hour," he stressed. Noting that there are forests and mountains in the zone of the radiation trail, the scientist said that it is still unclear how the radioactive cloud will behave next.

Aleksey Yablokov plans to ask the president to "carry out a complete inspection of all the dangerously radioactive sites, including military ones, on the territory of Russia," of which there are now hundreds. The scientist expressed concern over "the small accidents and embezzlements of radioactive materials which have become more frequent." "The accident at Tomsk-7 confirms once more that not only local administrations but also federal inspection and supervisory bodies "should be involved in tackling the problem of inspecting radiation sites," Aleksey Yablokov stressed.

Tomsk-7: Still Candidate for Storage of Fissionable Material

PM0704155193 Moscow ROSSIYSKAYA GAZETA in Russian 8 Apr 93 First Edition p 3

[Aleksandr Chernykh report: "Tomsk-7 Accident: No Danger to People"]

[Text] As we reported in yesterday's edition, there was an explosion 6 April at the Siberia Chemical Combine in the closed city of Tomsk-7. It happened at the No. 15 facility at the radiochemical plant, one of the combine's most harmful production facilities.

According to a statement by leaders and experts, the explosion was chemical rather than radioactive. Nobody was killed or injured because the incident occurred during the lunch break. Moreover, low-manpower production processes are used here.

Apparatus containing mildly active uranium fluid was destroyed. The walls of the building were partially damaged. But there was no fire. As yet we do not have complete information about radioactive contamination of the locality. All that is known is that the gamma radiation background inside the facility's protection zone is 20 times higher than the acceptable level.

The accident resulted in the discharge of a chemical suspension of radioactive substances into the atmosphere. The bulk of them fell to the ground within with confines of the industrial site. But above-average background radiation spots have already been detected outside the restricted zone. Decontamination of contaminated areas is being carried out.

The discharge of the aerosol mixture stopped after about three hours. Mobile dosimetric monitoring groups are studying the locality downwind. Observation is being carried out by helicopter.

Oblast Administration Head Viktor Kress promptly set up a staff to deal with the emergency. It has become known from official sources that the radiation level is within with norm in nearby population centers, the closed city itself, and the oblast center. There is therefore no danger to the population.

Nevertheless the public is agitated. Oblast radio and television are constantly broadcasting up-to-the-minute information and comment by officials on the radiation situation. The facility where the accident occurred has now been sealed.

A Kemerovo civil defense regiment was prepared to go to the accident site. But the neighbors' assistance was not required.

The causes and consequences of the explosion will be ascertained by a government commission which has arrived in Tomsk. But it can be asserted already that in any case the emergency at the radiochemical plant will spur representatives of the ecological movement to greater activeness.

Let me remind you that Tomsk-7 still remains the main candidate for the construction of a storage facility for fissionable materials from dismantled nuclear warheads. The Greens and the public at large have always been opposed to this project. Now they will be even more so.

Tomst-7: Scale of Accident Debated

PM0704154593 Moscow IZVESTIYA in Russian 8 Apr 93 First Edition pp 1, 6

[Report by Andrey Illesh and Viktor Kostyukovskiy: "Nuclear Monster Has Spoken in Siberia, Danger Has Been Sensed All Over the World"]

[Text] By some strange accident April in our country is a nuclear month. Let us recall that in 1986 there was Chernobyl, now there is Tomsk-7... Although these accidents cannot be equated from the technical viewpoint, for all of us these two events are brought close together by one factor—the nuclear risk factor. Today we are talking a lot about the economic catastrophe, but events are also bringing the ecological catastrophe to the fore. The collapse of industry carries the threat not only of a deterioration in people's lives but also of a "nuclear spring"—a danger to our lives in general.

As we have already reported, on 6 April an accident occurred at a plant of the Siberian chemical combine in Tomsk-7 accompanied by the dissemination of radioactive contamination. What happened essentially was that a tank containing a uranium production suspension blew up. A fire broke out on the roof of the building as a result... What is the situation now?

As of 2006 hours on 6 April six mobile civil defense troops detachments were operating in the region of the accident at the Siberian chemical combine and in Tomsk-7 itself, an INTERFAX correspondent reports. The State Commission for Emergency Situations press center reported that a preliminary study of the area had shown that the level of radioactive contamination at the site of the explosion is 30 milliroentgen an hour, while 19 km Northeast it is about 40 milliroentgen an hour. The projected area of radioactive contamination is about 1,000 hectares. The fighters from the Siberian chemical combine military fire unit who took part in extinguishing the fire are now undergoing examination.

For your information, the Siberian chemical combine in Tomsk-7 produces weapons-grade plutonium and processes used uranium and plutonium in nuclear reactors using so-called centrifugal technology.

We got in touch with Tomsk-7. Chemical combine director Gennadiy Khandorin is talking:

"It happened at our combine's radiochemical plant which processes used fuel elements from nuclear reactors. This time it was not nuclear fuel but another material of a similar nature which was being processed. For reasons as yet unestablished high pressure developed in the apparatus, which is a container with a capacity of 34 cubic meters. Within six minutes the pressure reached such a level that it destroyed the apparatus. I stress once again that it is not a case of a nuclear reactor but of a technological apparatus in which a chemical reaction takes place. The destruction of the apparatus was accompanied by some release of radioactive aerosol gas contamination.

[IZVESTIYA] How great is it?

[Khandorin] The contamination zone is restricted to the plant's territory. In addition discharges of harmful substances into the ventilation shaft have increased somewhat. But a radiation survey determined only one place with a very small dose of local contamination on the highway between the oblast center and the settlement of Samus. There are no reasons for closing this road, we are monitoring the vehicles traveling on it and they remain "clean." Nonetheless work is underway to decontaminate that sector.

[IZVESTIYA] Does that mean that it is not a case of an explosion but rather of the bursting of a manufacturing capacity?

[Khandorin] Yes, but that burst was accompanied by phenomena of an explosive nature. It was extinguished immediately.

[IZVESTIYA] There has been a lot of talk of casualties. Have there actually been any?

[Khandorin] No one received mechanical or radiation injuries. We carefully monitored all our workers who were in the vicinity. The largest dose, which was received by a man who extinguished the blast at this capacity, is

0.6 roentgen equivalents. That is about one tenth of the permitted annual dose, which presents no threat to health. The doses received by other workers vary from one hundredth to one tenth of a roentgen equivalent.

[IZVESTIYA] When was the population informed of the incident?

[Khandorin] The news came an hour after the accident over our city radio. A little later it was broadcast on oblast television. At 0700 hours on 7 April my deputy spoke on oblast radio. That is, we are giving exhaustive information so it is absolutely beyond our comprehension what sources are being used by Russian radio journalists who are citing absolutely unreal figures for the scale of the incident and the degree of contamination! What happened is exactly as follows: An extremely unpleasant incident which, fortunately, did not entail any serious consequences to people or to nature. The essence of the incident is now being ascertained, chemists are working on it. [Khandorin ends]

"The radiation situation in the oblast center—in Tomsk—and in Tomsk-7 where the accident happened at the Siberian chemical combine, is within natural background radiation limits," an ITAR-TASS correspondent was told over the telephone by Viktor Kress, head of the Tomsk Oblast administration. The head of executive power also said that a task force created by the administration is working to eliminate the consequences of the accident at the territory of the combine. The oblast leader asserted that the incident is described as "an emergency situation of local importance and cannot be compared in scale with the Chernobyl catastrophe."

Last night several mobile radiation monitoring devices continued to study the zone over which the dangerous spot might have spread. So far they have traced a narrow band up to 1 km wide and 8 km long to one side of the city. The fall-out on individual sectors of local highways was washed away at night by special equipment.

According to the preliminary estimate, Viktor Kress asserts, the building which suffered from the explosion will be fully restored in no more than six weeks.

A SIBERIAN PRESS correspondent was told by Vasiliy Romanov, chief of the Kemerovo Oblast civil defense directorate, that no increase in background radiation has been registered in Kemerovo Oblast. He said that civil defense specialists have set up radiation monitoring posts at the population centers of Mariinsk, Andzhero-Sudzhensk, Yan, and Tayga. On the morning of 7 April a helicopter flew specialists from Tomsk Oblast to the border to monitor the background radiation. According to information from the civil defense headquarters the radioactive cloud is now moving Northeast away from Tomsk-7. According to Vasiliy Romanov the civil defense regiment has been put on combat alert and is in a "forward position." A task force from the Russian State Committee for Emergency Situations flew out 7 April to the place of the incident to investigate the reasons for the accident and determine the possible consequences.

The Tomsk Civil Defense headquarters has denied 6 April INTERFAX and TASS reports that the explosion created a large seat of radiation danger and that there is a radiation leak...

...Finally, a brief resume of the reports from the scene of the tragedy. Yes, tragedy, because an accident at any nuclear production facility, especially involving the discharge of radioactivity into the atmosphere, is a tragic event. The history of Chernobyl, the catastrophes of the fifties in Chelyabinsk-65 at the "Mayak" combine, and other terrible stories painstakingly kept quiet under pressure from the military-industrial complex teach us that. And it is criminal to play down what has happened.

But it is extremely important to note something else now: The explosion (for perhaps the first time in the chain of such events from 1949 until recently) was made public almost immediately. Let us recall the silence of the first days of the very large nuclear accident at the Chernobyl nuclear power station, let us recall that IZVESTIYA—the first among the Soviet press—managed to write of the Urals explosions only 30 years after the incident! So times are changing. Let us hope that despite today's rather cheerful and rassuring tone, the specialists at the Ministry of Atomic Energy will investigate the incident thoroughly. And, most important, will notify the public of all the facts without their usual "correcting." Let us hope: After all, it is very problematical for journalists to enter the closed city of Tomsk-7. News agency reports are contradictory. So far we can only trust that the nuclear scientists are right...

The events in Tomsk-7 warn us that the nuclear monster of the former USSR is seriously ill. The problems caused by the universal political and economic disorder are striking a painful blow to the military-industrial complex. Wages in once "prestige" closed cities, the lack of demand for the output, and the painful progress of conversion, unless very serious attention is paid to them, could bring real upheavals. Alas, that is not a forecast designed to intimidate each other. It is a fact.

Tomsk-7: No Radioactive Cloud Reported Moving Toward Krasnoyarsk

LD0904105793 Moscow ITAR-TASS in English 1043 GMT 9 Apr 93

[By ITAR-TASS correspondent]

[Text] Moscow April 9 TASS—No radioactive cloud is moving towards Krasnoyarsk. The radiation level in Tomsk is within the limits of the natural background, amounting to only 12-16 microroentgens an hour, ITAR-TASS was told at the press centre of the Russian Hydrometeorological Service (Rozgidromet).

A trace of radioactive contamination, left after the accident at the Tomsk-7 chemical complex in Siberia, was found on a stretch of the Tomsk-Samus motor road (from 28 kilometres 100 metres to 29 kilometres). The highest dose was recorded on the 28 kilometres 660 metres stretch, where the axis of the trace lies. This is 10-11 kilometres to the northeast of the explosion's epicentre.

There are three settlements near the trace—Naumovka, Georgiyevka and Bobrovka. An aerogammic survey has confirmed the presence of a radioactive trace to the north of Georgiyevka. The radiation level there amounts to 28 microroentgens an hour, which is approximately 100 percent higher than the natural background. The radiation level in Naumovka is within the limits of the natural background. The radiological situation in Bobrovka is being verified.

The Rozgidromet control system has not recorded any heightened radiation in other towns and villages of Tomsk region, let alone Novosibirsk, Kemerovo regions and Krasnoyarsk territory. Checks of the radiological situation are being conducted at short intervals.

According to information received from Georgiy Kaurov, chief of the information department of the Russian Ministry for Nuclear Energetics, the isotope composition of surface pollution in areas adjoining the Tomsk radiochemical plant includes several heavy metals, among them zirconium-95, niobium-95, ruthenium-103, and ruthenium-109.

The Tomsk-7 industrial sanitary inspection claims that no plutonium-239, which is most dangerous for human health, has been discovered in the ejections, but the search for it is being continued. Kaurov said that this involves a rather difficult and long procedure.

"According to verified data," he continued, "the radioactive trace is seven kilometres long on the territory of the enterprise and ten kilometres long outside it. The contaminated territory equals to 35 square kilometres. The trace covers a 300 metres stretch of the Samusk-Tomsk motor road. After deactivation measures, the contamination level on the motor road has dropped to 100 microrontegens an hour. Venicles moving on the road are not threatened by any radioactive contamination."

The village of Gavrilovka, inhabited by 20 people, stands on the very fringe of the trace. The background there reaches in some places 30 microroentgens, which is 100 percent higher than the usual norm, but does not pose any danger to human health.

Tomsk-7: Plutonium Leaks Concern Environment Ministry

LD0904104593 Moscow ITAR-TASS in English 0956 GMT 9 Apr 93

[By ITAR-TASS correspondent Veronika Romanenkova]

[Text] Moscow April 9 TASS—"Experts of the Russian Ministry for Environment and Natural Resources are concerned about "the fate of plutonium contained in a tank with a mixture which exploded at the Siberian Tomsk-7 chemical plant," Russian Minister for Ecology Viktor Danilov-Danilyan told ITAR-TASS on Friday.

In order to check if there is any contamination caused by the plutonium leakage, a special commission from the Institute of Applied Ecology will leave for Tomsk on Saturday to examine the area of the accident, the Russian minister said.

"The fate of plutonium is the main concern, but it is not the only one. We must see everything for ourselves and lay our fingers on everything," the minister said.

During a six-day examination a group of experts will assess the radioactive situation in the area of the accident. A helicopter provided with special equipment will be at the commission's disposal to take pictures of the affected territory from an altitude of 100 meters. The data obtained will be used for drawing a chart of the spread of the radioactive contamination. A more thorough examination of the area is expected to be made by the Ministry of the Environment in summer time.

On Friday, the Ministry of the Environment has asked the government to allocate 7 million roubles for a primary examination and 30 million roubles for subsequent operations.

Tomsk-7: Tokyo To Send Survey Team

OW0904051293 Tokyo KYODO in English 0457 GMT 9 Apr 93

[Text] Tokyo, April 9 KYODO—The Science and Technology Agency will send a team to Russia to investigate Tuesday's [7 April] explosion at a nuclear fuel reprocessing plant in the Siberian town of Tomsk-7, the agency's director general Mamoru Nakajima said Friday.

The agency plans to contact the Russian side via the Foreign Ministry to arrange a schedule for the team.

It will be led by Yasutaka Moriguchi, director of international cooperation in the research and international affairs division of the agency's Atomic Energy Bureau.

It will include representatives of the power reactor and nuclear fuel development corporation and the Japan Atomic Energy Research Institute.

They will investigate the cause of the accident and levels of radioactivity released into the atmosphere to evaluate the possible implications for Japan.

Nakajima said the team's findings will assist in planning safety measures in the construction of a commercial reprocessing center in Rokkasho, Aomori Prefecture.

The explosion of a uranium solution tank at the Sibirsk chemical center in Tomsk-7, a city off-limits to foreigners in western Siberia, contaminated 200 square kilometers of land with radiation, a Russian Government committee said Wednesday.

Tomsk-7: Varying Opinions on Gravity of Leakage

LD0904091093 Moscow ITAR-TASS in English 0829 GMT 9 Apr 93

[By ITAR-TASS correspondent]

[Text] Moscow April 9 TASS—The level of radiation in the epicentre of the accident at the Siberian chemical plant reaches only a few roentgens an hour. These figures were repeatedly recorded on Thursday during the joint studies conducted in the explosion area by the Russian, regional and city emergencies commissions.

They report that the level of radiation near the destroyed plant building equals to hundreds of miliroentgens an hour. No heightened radiation was registered in nearby populated localities, except the settlement of Georgiyevka where the radiation level reached 35 microroentgens an hour, which is much lower than the permissible norm of 60 microroentgens an hour. There are no objective reasons to move the population out of the settlement, experts believe.

Deactivation measures were continued during the past 24 hours to ensure the safety of the population and to prevent the spreading of radioactive particles. Topographic surveys were carried out to ensure the flow of melting snow water from the contaminated area to a special settling basin on the territory of the chemical plant. Thirty-five workers of the plant and firemen, who worked on the spot of the accident, were subjected to medical examination. The maximum doses of external irradiation, to which they were exposed, do not pose any threat to their health. No internal uranium or plutonium irradiations of people were recorded.

"As regards size and scope, the accident at the Tomsk-7 Siberian chemical plant is beyond comparison with the Chernobyl disaster of 1986 and the Chelyabinsk explosion of 1957. It is hundreds of times smaller," Academician Nikolay Ponomaryov-Stepnoy claims. In his opinion, the explosion is explained by the fact that "safety precautions at military enterprises are inferior to those used in the peaceful nuclear power industry". The academician believes that safety "barriers" should be created at all such complexes in order to rectify the situation. Ponomaryov-Stepnoy noted that the rather low radiological recordings, amounting to some tens of curies, show that "the population and the environment are not threatened by any grave consequences".

On the contrary, the situation is believed to be much graver by Aleksey Yablokov, chairman of the Ecological Policy Council under the Russian president. "An accident of such scope is the third on the territory of Russia in the recent period," he told ITAR-TASS. In his opinion, people who fought the fire after the chemical explosion had received larger radiation doses than officially announced. "The radioactive level within the building amounted to 30 roentgens an hour, and to about one roentgen an hour above the rooftop," he stressed. Yablokov intends to ask President Yeltsin to "carry out a total check of all the radiologically-dangerous installations on the territory of Russia, including military objects", the number of which, he claims, now runs into many hundreds. A round-the-clock radiological control was organised in Altay territory to prevent the possible spread of the explosion's after effects to that part of the country. The Altay radio and television are regularly informing the local population about the level of radiation. The administration of the Kuznetsk coal basin has set up special dosimetric posts at all railway junctions and motor-crossings to stop cargoes arriving from contaminated regions.

A commission, set up to look into the reasons of the accident and to clean up the explosion area, is expected to meet in Tomsk today.

Tomsk-7: 'Breach of Procedure' Cited as Reason for Accident

LD0904044993 Moscow Mayak Radio Network in Russian 0330 GMT 9 Apr 93

[Text] As must be clear to all, the accident at the Siberian chemical combine is at the center of attention at the moment, and here is the latest news from there. The presumed reason for the accident is a breach of work procedures. That is the opinion of Viktor Vladimirov, deputy chairman of the Russian State Committee for Emergency Situations. I was just told this at the Russian Federation State Committee. At this time, the commission for investigating the causes of the catastrophe is looking at urgently setting up channels for meltwater to flow away. Dosimetric control posts have also been set up. As we know, the commission is working around the clock, and today a group of experts from the Tayfun scientific production association in Obninsk has left for the accident zone. As part of the work to eliminate the consequences of the incident, they will deal with problems connected with water contamination.

Tomsk-7: Greenpeace Demands IAEA Give 'Just Estimation'

LD1004204693 Moscow ITAR-TASS in English 2033 GMT 10 Apr 93

[By ITAR-TASS diplomatic correspondent Vladimir Suprun]

[Text] Moscow April 10 TASS—Russian state structures are trying to conceal the real aftermath of the Tomsk-7 plutonium-processing plant, claims a statement of the Greenpeace Council Organization's Moscow office.

Despite accident details, made public by representatives of the Russian State Committee for Emergency Situations, the Ministry of Nuclear Power Engineering gave extremely contradictory information on its reasons and consequences, says the statement.

"It is clear for us the Ministry of Nuclear Power Engineering is the only owner of real information on the accident," said coordinator of Greenpeace anti-nuclear campaigns in Russia Dmitriy Tolmatsky.

In this connection the Greenpeace Moscow office called on the International Atomic Energy Agency (IAEA) to give a just estimation of the aftermath of the Tomsk-7 explosion, as well as demands that the Russian Government immediately start an investigation into reasons and aftermath of the accident with participation of independent nuclear experts.

Tomsk-7: No Threat to Life, Health

LD1104220093 Moscow Russian Television Network in Russian 1900 GMT 11 Apr 93

[Video report from Tomsk by correspondent R. Alekseyeva, including recording of remarks by Sergey Shoygu, chairman of Russian State Committee for Emergencies—from the "Vesti" newscast]

[Text] Five days have passed since the accident at the chemical combine at Tomsk-7. All this time, authoritative experts, both Moscow and local ones, have been trying to establish the causes and the effects of the accident. The final news conference, given by the heads of city and oblast administrations and members of the state commission, reported that the contaminated area covered an area of 22 by 4 km. The radiation level in the area was 35 microroentgen per hour. To compare, the average level for the whole of Russia is 20 microroentgen per hour. No change in gamma background has occurred.

On this occasion, Tomsk residents were fortunate: At the time of the accident the wind was blowing away from the city. There has been no evacuation, and none is planned. What does cause concern is the mood of panic among the population. The accident has also affected Tomsk's business life. Foreigners, at any rate, have fled the city.

Sergey Shoygu, chairman of Russia's State Committee for Emergencies, was working in the city today.

[Shoygu] There is no threat to the lives and health of the population. It is no longer necessary today to describe the situation as an emergency. As for the enterprise itself, the schedule envisages that construction and restoration work there will be completed by June. As for deactivation work on the territory of the combine itself, it is being carried out on a round-the-clock basis, and I believe that it will soon be completed. [video shows city and countryside scenes, long line of stationary bulldozers on a country road, experts conferring indoors, today's news conference, interview with Shoygu; video recording of people measuring radiation at the combine, counter gives the time between 1330 and 1345 on 7 April]

Tomsk-7: Emergency Committee Chairman Inspects Site

LD1104184993 Moscow ITAR-TASS in English 1808 GMT 11 Apr 93

[By ITAR-TASS string correspondent Sergey Gorev]

[Text] Tomsk April 11 TASS—Officials say the situation is normal at the Tomsk-7 chemical plant and in the surrounding area. "We have visited the site and found out about the radiation levels in the area", Sergey Shoygu, head of the Russian State Committee for Emergency Situations told local television. He stressed that these levels give no grounds "for concern about the safety of the population".

The monitoring of the radiological situation continued in the region on Sunday both on the ground and in the air.

A radiochemical analysis of soil, water and snow samples from the contaminated area was carried out which showed no presence of Plutonium, thereby confirming the preliminary conclusions by the State Committee for Emergency Situations and the Nuclear Energy Ministry saying that the situation poses no danger for the people's health. No contaminated transport vehicles were discovered by the radiation control posts on the decontaminated section of the motorway.

Later in the day, Sergey Shoygu inspected the plant and the site of accident, together with Yevgeniy Mikerin and Viktor Vladimirov, chairmen of the commissions set up by the State Committee for Emergency Situations and the Nuclear Energy Ministry to investigate the causes of the accident and eliminate its consequences, as well as other members of the commissions. They were accompanied by plant director Gennadiy Khandorin, radiochemical factory director Vladimir Korotkevich and technological personnel.

At present, work is underway at the Tomsk-7 complex to liquidate radioactive zones and to pump technological solution from the tanks. To get access to the exploded reprocessing tank, the Civil Defence troops are now dismantling and removing the destroyed constructions.

Federal, Regional Leaders Differ on Baykal Commission Head

93WN0350D Moscow NEZAVISIMAYA GAZETA in Russian 31 Mar 93 p 1

[Article by Andrey Vaganov under "Ecology" rubric: "Baykal Awaits Federal Administrator: Integrated Policy Program for Land Use Developed for Russian Territory at Lake Baykal"]

[Text] The uniqueness of the ecosystem of Lake Baykal and the entire Baykal region is such that it is possible to

quote yet again at least certain information that confirms this without particular risk of seeming obsessive. Baykal is the deepest and oldest (its age is 25 million years, according to the most conservative estimate) lake on the planet, containing 20 percent of the world's fresh water reserves; approximately 70 percent of its 2635 known species and subspecies of flora and fauna exist only here; Baykal has the unique ability to cleanse over 60 cubic kilometers a year of the water brought to it by its 300 tributaries.

Two years ago, the government of the Republic of Buryatiya, along with the administrations of Irkutsk and Chita oblasts, appealed to Russian and American scientists and organizations with a request for aid in developing the bases for a concept of effective land use in this unique region.

—In doing this, the following premise was adopted as a baseline: survival is possible only in harmony with nature,—said Vladimir Saganov, Republic of Buryatiya Council of Ministers chairman.

Such a program was in fact prepared by a group of 29 Russian and American scientists. The project's director was George Davis, a well-known American specialist in land use policy. The project's coordinator on the Russian side was Sergey Shapkhayev (East Siberian Technological Institute, Ulan-Ude). Russian and American scientific and public organizations took part in the project's realization.

The program divides the 32 million hectares of the Baykal basin into 25 different zones. Seven of the 25 zones and the lake itself form the nucleus, in which ecological processes will be preserved in their present state. The remaining zones are assigned the role of a kind of buffer, in which land and water resources will be used in harmony with nature. For each zone, a list of preferred measures has been determined in connection with local conditions. All other actions are forbidden. For example, the preferred use for the zones including the lake's shore and its vicinity is open recreation areas; uses of local resources are docks, boat moorage, water pumping stations, commercial fishing and hunting, the breeding of muskrats and various species of aquaculture.

It is specially emphasized that "certain types of land use, such as the placement of nuclear energy enterprises and factories with toxic wastes are unacceptable in any part of Baykal."

As George Davis announced, "this is the world's first experience of an ecologically stable program of development for such an enormous region."

Incidentally, besides problems relating purely to its application, the project's scale has raised political issues for its developers, as well. The problem is that four levels of the executive branch and tens of administrative offices participate in land use administration for the Baykal basin. As the project notes with complete fairness, "the lake and its tributaries are indifferent to the nuances of political geography. Regardless of where the source of pollution is located—in Chita, Irkutsk or Buryatiya,—the character of its impact on the lake doesn't change. Identical rules should be applied everywhere, and they should operate in the same manner."

The project also provides for the specific mechanism that will be used to achieve this state of affairs—the creation of a federal government commission on Baykal.

The commission, however, has already been created formally by RF government decree No. 992, of December 18, 1992. The most interesting thing about this is that in our complicated time, when all territorial offices watch with particular trepidation to make sure that none of their rights are infringed upon, the Republic of Buryatiya Council of Ministers, the administration of Irkutsk and Chita oblasts have given their "OK" for the creation of a federal Baykal commission. In doing so, all of them distinctly acknowledged that they would be forced to give up certain political and administrative prerogatives in that region. A case very likely without precedent for today's Russia.

Only a small matter remains to be settled—confirmation of the Baykal commission's director. And here we have run into a problem. The territories of the Baykal region insist that the commission be headed by a member of the RF government at the deputy prime minister level. At this time, only branch ministers are offered that position. In the words of Sergey Shapkhayev, the question should be resolved in April. Now, all the necessary documents are being held by Viktor Chernomyrdin for ratification.

Norwegians Allege Northern Fleet Nuclear Submarine Mishaps

93WN0350A Moscow IZVESTIYA in Russian 1 Apr 93 p 6

[Article by Marat Zubko: "Unknown Accident at Northern Fleet Radioactive Waste Storage Facility"]

[Text] **Oslo—In the area where the largest nuclear submarines (Typhoon class) in the world are based, on the Kola Peninsula, 50 kilometers from the Norwegian border, a serious radioactive materials leak occurred in 1989—this news, which has only now become known, has alarmed Norway's government and public.**

Most of all, because neither the government of the former USSR or of present-day Russia informed the Norwegian side of this accident, although agreements exist between neighboring countries on an immediate exchange of information in the event of such incidents.

The details of the radioactive emission are laid out in a report by Bellona, a Norwegian environmental organization, that somehow gained access to the archives of the Northern Fleet. Based on this report, AFTENPOSTEN, Norway's leading newspaper, has come out with a sensational article. It also ran a chart showing the locations

of Russian naval installations on the Kola Peninsula, including nuclear submarine bases and nuclear waste storage facilities.

And so, the authors maintain that in the 70s a storage facility was constructed on the shores of Andreyev Bay, at which in time close to three thousand used submarine nuclear reactor tvela (cores) were placed for cooling in concrete containers with water.

In 1986, the first incident occurred there: the steel wires that suspended the cores in the water rusted through to the point that they could no longer support the weight. The cores fell to the bottom, and some of them cracked. According to the report, there was no attempt to correct that accident. And in 1989, the concrete containers, due to problems with the cooling systems for the cores, began leaking highly radioactive water that ended up in the Liza Fjord and Motovskiy Zaliv.

Bellona's experts write that in order to carry out the repairs, volunteers were invited, who were promised the title of Hero of the Soviet Union. They eliminated the leak, but what happened to the workers and to the waters of the fjords and bays of the Andreyev Bay region is still unknown.

Ule Kharbitts, director of the Norwegian Administration for Protection from Radiation, commented on this serious accident in the pages of AFTENPOSTEN:

—A very unpleasant story. This is new proof of the Soviet Union's casual attitude towards the problem of nuclear wastes. The USSR has violated agreements to warn its neighbors in the event of any sort of incident related to radiation leaks. This entire matter should be made public and discussed at a meeting of the Norwegian-Russian Commission on Problems of Environmental Protection...

The director gave deserved credit to the environmental organization Bellona, which was able to obtain news of the accident, and even photographs of the cores lying in a heap on the bottom of the containers at the Andreyev Bay dump.

Quoting from the Bellona report, the newspaper AFTENPOSTEN further announces that from 1989 to 1993, ten additional accidents of various types occurred on nuclear submarines and at Northern Fleet shore bases, some of which are still unknown in the West, where the Komsomolets submarine catastrophe has been the main subject of active discussion after its sinking in 1989 not far from the Norwegian island of Medvezhiy. The article talks specifically about the following:

- In July, 1989, an emergency situation arose on a nuclear submarine located 100 kilometers offshore—cracks appeared in the casing for the reactor's cooling system.
- In December, 1990, there were two incidents of fires on board another nuclear submarine moored at the pier in Severodvinsk.
- In May, 1992, sailors extinguished a fire on board a submarine on a patrol cruise in the Berents Sea.
- Even in 1993, that is, quite recently, two incidents of fires were established on Northern Fleet submarines.

However, the authors of the report warn that accidents occurring on nuclear submarines are not publicized at all. The entire matter has to do with the degree to which the population and government are informed. In western countries, efforts are made to compile a detailed list of everything that happens on submarines belonging to all the nuclear powers.

Greenpeace, the international environmental organization, suggests that, based on its research, over the entire post-war period approximately 200 accidents occurred throughout the world on submarines from various countries, and according to data from the U.S. Center for Naval Security, in the Atlantic alone, there were 74 fires on nuclear submarines between the years of 1963 and 1987.

Now, when the "cold war" has disappeared into the waters of the Lethe, the West expects more openness from Russia. There, people assume that both Russian society, itself, and the local authorities, specifically in Murmansk Oblast, and the press have an interest in this. They expect the kind of openness that would preclude any silence about accidents like those that occurred in 1989 at the Northern Fleet's radioactive waste storage facility on the shores of Andreyev Bay.

It is true that a certain amount of skepticism is being experienced in Norway in connection with this matter. T. Beritsen, minister of environmental issues, announced a few days ago, the BYULLETEN NORVEZHSKIKH NOVESTEY [Norwegian News Bulletin] informs us, that "political instability in Russia is delaying the implementation of further efforts to strengthen the system of nuclear security."

'Ecological War' Rages Over Rostov AES

93WN0359A Moscow KOMSOMOLSKAYA PRAVDA in Russian 7 Apr 93 p 2

[Article by V. Latyy: "Atomic Boiler in the Cossack Region"]

[Text] It is solemn and somewhat awe-inspiring at the heart of the Rostov Atomic Electric Power Station. The rows of turbines, generators, and protective shielding extend tens of meters above, below and to both sides of you, along with thousands of kilometers of cables and pipelines, and cleverly intertwined corridors and ladders. And everywhere there is silence. There is no one in sight. Wandering around one occasionally encounters duty personnel tending always live control panels which indicate that the nuclear giant is in a state of clinical death.

The ecological community created an uproar again. The reason for it was the decree issued by Prime-Minister of

Russia V. Chernomyrdin. It deals with continuation of the closing down of the atomic electric power station this year, and a study to be conducted by ecological experts next year. There is little that is radically new in it, but even this generated the tenth wave of the antinuclear movement. Here is an excerpt from an appeal of the Group of Don Cossack atamans: "We consider it necessary to respond to the illegal measures of the government with like measures—a rigid blockade of the Rostov Atomic Electric Power Station and prevention of other work except for the disassembly of the equipment. God is with us!"

The ecological war is proceeding at all levels using all possible methods. Cossack ataman Vladimir Lagutov, a deputy of the oblast soviet, was leaving the session of the soviet when he received a powerful blow to the head. Later, the stunned man was kicked in the head and the heart... He barely survived. The Rostov scenario is not that rare, something else is interesting: when he regained consciousness it turned out that his wallet containing some cash remained in his pocket but his briefcase with unique documents about enterprises which are destroying nature around the Don, was missing.

"We will nevertheless interdict the efforts of the atomic lobby," Vladimir declares. "We will not allow violation of the decision made by authorities!"

He was referring to the local authorities. The crux of the matter is that the Rostov Oblast Council expressed itself as being opposed to the atomic station along with the Don Cossack Circle and the Volgodonsk referendum. But the power station is federal property and local decisions do not affect it.

It is probably only in our country that it is possible to conduct a referendum on the question "Do you favor construction?" After the station with the first bloc has been built and 98 percent assembled.

At present the village of atomic station personnel exists as if under siege. The high-grade specialists assembled here once from all over the country no longer hope that their hands and brains will be needed, at any rate not for technical reasons but for political ones. Remember that practically everyone who was elected in recent times to leading posts, beginning with deputies of the rayon soviets and ending with the president of the country, expressed themselves as being opposed to nuclear power engineering. The nuclear king was a big issue during electioneering.

Does this mean that the king is dead?

The Rostov AES [Atomic Electric Power Station] was built during the height of popularity of nuclear power engineering. The same amount of money invested at that time simply in reconstruction of operating and very well-worn power generating facilities would have made up the shortage in the electric power supply. But in the light of the political mood the AES was designed to be built in the Don basin which contains around half of all the chernozem land in the CIS, in a proximity not permitted by the rules to a large water reservoir - the Tsiklyanskiy Reservoir, in a seismologically sensitive area not far from deep faults in the earth's crust. More than that, it was built on dangerous, fine-grained sandy soil on which around 100 Volgodonsk houses are tilting.

Residents of Volgodonsk are opposing the atomic station more stubbornly than others. This is not surprising: after all this station was called Rostov with considerable hypocrisy—it is located on the oblast boundary far from Rostov, that is as far as possible out of harm's way.

On the Don Volgodonsk became a scapegoat since it appears that all ecological consequences became focused on that city. Just compare the index showing the rise in cancer cases over the past decade: in Russia as a whole it amounted to nine percent, in Rostov—20 percent, and in Volgodonsk—32 percent!

Historically Volgodonsk was founded by the 50th Anniversary of the Komsomol Chemical Plant which gathered workers from the entire country under its wing. The plant gave birth to the city and who would have thought that they would become enemies. The eternal problems of fathers and sons.

The point is that the plant envelops the city in suffocating fumes. This is but half the problem. it is known that chemical plants never clean the air but the local sanitation and epidemiological station reported that the discharge of ethers, alcohol, and aldehydes into the atmosphere exceed the norms by tens of times.

The chemical plant started the development of Volgodonsk as a major industrial town which was crowned by that beauty, the "Atommash" which became the largest all-union Komsomol shock construction project, and then the large "Atommash" plant which was created for the production of boilers for atomic power stations. It is in these boilers that the fate of the city is being decided. Because it would have been more logical to place these boilers primarily next to "Atommash" at the Rostov Atomic Electric Power Station—there was no need to transport them over any distances.

Since Volgodonsk is not accepting its own boilers no one else in the country or the world is going to take them. Thousands of atomic station operators joined the ranks of the unemployed which was previously supplemented by thousands of workers from the frozen atomic electric power station. It is not surprising that with regard to the crime rate Volgodonsk now ranks first in the oblast.

In essence the entire city has today split into two aggressive camps—those in favor of and those opposed to the atomic electric power station. Clashes between them are scandalous and sometimes bloody. Just as in any civil war, in this ecological war individuals and groups frequently shift from one camp to another.

One does not have to be a specialist to understand that it is impossible to cook porridge in an atomic boiler or fill

it with coal. Reprofiling of "Atommash" followed a simple scheme: the equipment which cost billions is standing idle, while next to it, in the passageways, an auxiliary type of production has been organized. The same applies at the atomic electric power station.

What is there to reprofile? Annual output of natural gas in North Caucasus went down over the last few years from 18 to four billion cubic meters while that of petroleum—from 28 to seven million tonnes. This decline is irreversible because the reserves have been exhausted and even today the acute shortage of them is being felt. With regard to nuclear fuel, however, there is a surplus.

Finally, if God would send fuel, let us remember that an ordinary thermal electric power station poisons the soul and body of the citizen tens of times more than an atomic electric power station (naturally as long as both do not explode but continue operating normally). One small heat and electric power station, TETs-2, consuming 8,000 tonnes of fuel oil a day, daily dumps a railcar full of sulfuric acid on all those unfortunate residents of Volgodonsk. While the Novocherkassk State Regional Electric Power Plant completely destroyed the flood plains of the small local rivers. At present because of it not only crabs and fish but even crows do not survive here more than three years.

The problem is aggravated by the fact that the huge, more than 20 percent, shortage in the Rostov power grid was covered up to now by the Ukrainian power grid. The Ukrainians, however, are not operating tens of their atomic power stations in order to supply the Rostov fighters for ecological purity. Remember that even when one bloc of the Chernobyl Atomic Electric Power Station exploded, while the other one caught fire, all the others continued operating! At present Ukraine will be selling its very expensive energy abroad, to the West, at a high price—for foreign currency.

Many streets in the already troubled Don cities lost all of their electric lighting. Enterprises lacking electricity come to a halt. Water freezes solid in water bottles on the windowsills at the schools. Frozen pipes burst at the plants. Losses are snowballing.

Unemployed Volgodonsk residents leave their freezing apartments and gather on darkened streets in order to ponder a new task: formerly under communism there was Soviet authority plus electricity, what can be done at present with all the minuses? Sensing this mood of the population, those who promised to oppose nuclear energy in their election campaigns, are hastily correcting their positions.

The Rostov Atomic Electric Power Station was built because of the political climate. Now that climate is gone. "Retro" may come back. Would that be good or would it be a terrible disaster? I can say only one thing for certain: it is not science and emotions that will decide the fate of the atomic power station. But as before, it will be decided not by the specialists but by the politicians.

In the meanwhile

The safety system of the Ignalina Atomic Electric Power Station was suddenly triggered: one of the turbogenerators was automatically turned off in the second bloc of the station. It turned out that a crow had caused that to happen.

Biologist Denounces 'Brazen Plunder' of Endangered Species

93WNO359B Moscow IZVESTIYA in Russian 7 Apr 93 p 6

[Article by K. Smirnov: "The Most Frightening Predator—the Poacher"]

[Text] **A merciless, barbaric destruction of the natural reserve of life—the genetic fund of rare animals is presently under way in Russia.**

Vladimir Sokolov, an academician and one of our famous biologists recently spoke with anguish about this at a RAN [Russian Academy of Sciences] session. His speech was one of several emotional highlights at the annual forum of scientists even against a disturbing background of the virtually impoverished state of science and political opposition at a high government level. Academician Sokolov pointed out that a brazen plunder of living nature really is taking place in our homeland. This is not an exaggeration but on the contrary, a very mild evaluation.

Not a single human community, even in the days of slavery as well as in primitive times, has ever tried to chop off the branch it was perched on. The savages had a rather strong "tabu" in that regard.

The pride of zoologists is a standard which may be used to judge not with words but in reality the state of affairs in the preservation of nature in the state. The Saiga antelope is being destroyed at a fast rate. The antlers, which are used in eastern medicine, are sent in tonnes across the southern borders. Local authorities, whose duties include the protection of this animal, do not fully comprehend the situation. The plunderers have become so brazen that they do not even use weapons but in full view of the law enforcement agencies they drive the animals into large railcars and saw off the antlers.

There is literally not a single species of beneficial animal, protected by "The Red Book," that is not threatened by this mercenary lawlessness. It is rare that the animal is left alive. Weapons are also being used to the fullest extent.

The real execution of "the Red Book of Russia has started. Around 70 percent of the entire population of the musk deer has already been destroyed. IZVESTIYA recently reported that a tiger pelt was on sale for 10,000 dollars in Primorye. In the past year 50 tiger pelts were shipped abroad—half-a-million dollars. These are only the interdicted shipments! You must understand that

with such sums of money the antiecological Mafia is prepared for anything in order to participate in this criminal game.

To the honor of academicians there was not a single one among them who would have denied the problem with traditional Russian reasoning: Cutting off the head one does not worry about the hair. Or: the people are crazy—they run around and organize strikes instead of plowing and sowing while you are worried about some antelopes and tigers. Academician Yu. Osipov, president of RAN, stated: "This is a matter of paramount importance to the Academy." Just to the academicians? To the president, the parliament, and the government as well. Would it not be better for them to compete not in rigidity of character on the eve of great upheavals, but in supporting the sower, grain harvester, and producer of goods and commodities, in protecting Russian nature, in rescuing it from genocide.

Eight Reactors Dangerous Says Academician

LD0804192493 Moscow ITAR-TASS in English 1813 GMT 8 Apr 93

[By ITAR-TASS correspondent Veronika Romanenkova]

[Text] Moscow April 8 TASS—Eight Russian nuclear reactors have an increased risk of danger, according to academician Nikolay Ponomaryov-Stepnoy.

These are reactors at the Kola, Novo-Voronezh, Leningrad and Kursk nuclear power plants, he said at a press conference on Thursday.

However, the scientist believes the reactors should be kept operational with all the possible safety precautions until another source of energy is found to replace them.

Dangerous reactors exist also in Ukraine. But the academician believes it is important to preserve the atomic energy network of the former Soviet Union as there is no alternative to atomic power-engineering at present.

Vorkuta Mine Resumes Operation; Fire Still Rages

LD0804230993 Moscow ITAR-TASS in English 1647 GMT 8 Apr 93

[By ITAR-TASS correspondent Viktor Makarov]

[Text] Vorkuta April 8 TASS—The "Vorkutinskaya" coal mine has resumed operation which was halted following a strong blaze which broke out when methane caught fire during repair work last Sunday. Luckily, there were no casualties. The causes of the accident are being investigated by a special commission.

However, fire extinguishing operations are not over yet. Measures are being taken to prevent the fire from spreading. It was decided to isolate pits where fire is still raging by eight explosion-proof bars. Later, a gas oxygen-free mixture will be pumped into the fire zone. Experts cautiously predict that it will take several months to put out the fire.

The headquarters for eliminating the accident have arrived at a conclusion that coal mining could be resumed in other sections of the mine. Measures have been taken to ensure safety for those working underground.

Navy Commander Says Russia Did Not Violate London Convention

LD0904095593 Moscow ITAR-TASS in English 0910 GMT 9 Apr 93

[By ITAR-TASS correspondent Vadim Byrkin]

[Text] Moscow April 9 TASS—"Russia has never violated the international London convention on nonpolluting the sea, although it has not signed it", according to Russian Navy Commander-in-Chief Feliks Gromov, who commented on the map of Russian burial sites for the naval nuclear waste in the sea of Okhotsk published by Japanese mass media.

He admitted that low-level liquid waste was dumped into the sea, but said its radioactivity did not practically exceed the natural background.

Nuclear reactors from the "Lenin" icebreaker and several submarines were buried in strict compliance with safety rules, he added.

In Tokyo Foreign Minister Kabun Muto was quoted as saying at a cabinet meeting that he would urge his Russian counterpart Andrey Kozyrev next week to tighten control over Russia's radioactive dumping at sea.

Japan also plans to raise the question of nuclear reactors and other radioactive waste buried in the sea of Japan by Russia at the G-7 summit scheduled for July.

At a meeting of G-7 foreign and finance minister, which will be attended by Kozyrev, Muto will ask him to provide to the Japanese Government detailed information on the dumping in the sea of Japan and other seas.

Ecologists Fear Worsening Pollution from Sosnogorsk Gas Plant

PM1404105593 Moscow Russian Television in Russian 1000 GMT 9 Apr 93

[From the "Vesti" newscast: Video report from Syktyvkar by Ye. Kuznetsov and D. Akinfeyev, identified by caption]

[Text] [101035] [Kuznetsov] Production at the gas processing plant in Sosnogorsk is increasing. There are no more than 10 such enterprises in Russia and the CIS. In

Europe they have been completely eradicated. But everybody needs soot. It is a basic component in the production of car tires, not to mention the paints which until recently were used in the Land of Soviets exclusively for the party bosses' glossy vehicles and nowadays for all the bigwigs' limousines. The snow around the plant is never white—chimneys spew out fire and black smoke every five minutes. Medical experts affirm that the harmful waste products settle in the lungs not only of workers at the enterprise but also of inhabitants of the city with the ecologically poignant name of Sosnogorsk [pinetree hill city]. This has worried local environmental activists for many years. But as yet there is no reliable ecological protection at the plant. Hence the increasingly loud calls for prisoners to be sent to work there. Meanwhile foreign firms persist in making tempting offers of hard-currency orders. It is for this reason that a number of ecologists are expressing fears that this corner of Russia, like the whole country, may turn into a European garbage heap—for the sake of some hard currency. [Video shows shots of gas complex exterior, chimneys, surrounding landscape, main entrance to plant] [101140]

Metal Plants Pollute Russia, Scandinavia

93WN0362A Moscow TRUD in Russian 9 Apr 93 Evening Edition p 3

[Article by TRUD staff correspondent Pavel Volpyanskiy: "The 'Smoke of the Homeland' for Export."]

[Text] Ivalo-Helsinki—*Our sick metallurgical giants not only poison life for Russians and Scandinavians, but also spoil relations between them.*

It is as though the path from Murmansk to Finland and Norway passes through a scorched desert. In other places the dejected look of this region with its paucity of bright colors, makes the traveler sleepy: true mosses, reindeer moss, birches the height of a child—but still the greenish-gray monotony is life. There is no time for daydreaming here. Anyone would wake up and look around in great terror: One color prevails all the way to the horizon—black. Only the skeletons of dead trees jut out all around like absurd walking sticks, like flues of stoves left standing after a fire.

Our neighbors in the Carpathian region have christened this manmade disaster the "permanent Chernobyl." At first glance the comparison goes too far: This has nothing to do either with testing nuclear weapons or with an accident at a nuclear power plant. But it is accurate in essence. Just as in 1986 when a trail of products of decomposition stretched from Ukraine to Scandinavia, the current disaster also came from the skies—in the form of clouds filled with sulfur dioxide.

The culprits recognized as being to blame for the permanent emergency situation throughout the European Polar region are the giants of our metallurgy—the Pechenganikel and Severonikel combines. Each year they discharge from their smokestacks a half million tonnes of sulfur dioxide, which is ruinous to all forms of life. Our neighbors are sounding the alarm and publishing figures on the damage from the increased acid content in the bodies of water and ground waters, the death of forests, and the destruction of buildings. In Sweden, for example, it is estimated at 6 billion krona per year.

The Norwegians are reacting more vigorously than the others. They have constructed a special inspection site from which one can clearly see the "landscape after a battle with nature" on the other side of the border—it is 30 km from there to Pechenganikel. The social movement called "Stop the Clouds of Death!" is in charge of the "attraction."

Protesting at the top of their voices, our neighbors are hoping for active steps from us as well, the more so since the prevailing winds bring them only a suggestion, while the real damage is done in the most populous of all the Russian regions of the Far North—Murmansk Oblast. The Norwegians report that the average lifespan of workers of the combines is...34 years. "Nickel dyspnea" is a toxic bronchitis which brings people to the brink of disability after seven years of working in the shop. Every fourth pregnancy ends in a miscarriage... Believe it or not.

True, people say that in 1988 under a "secret" stamp there appeared a voluminous work of our scientists where, in particular, it said, "In this zone the level of illness is 40 percent higher and the death rate, 170 percent higher than the average for the Russian Federation." The article was sent directly to the Politburo of the CPSU Central Committee, and apparently it has never left there.

This ecological disaster has its prehistory at a time when there was no place for our passions to be inflamed, when the problem had not started to grow from one of environmental protection to a political one. The sources of what happened are rooted in the transfer of the combines from using local ore to Norilsk ore, which has a higher—four to five times—sulfur content. By that time there already existed a proven technology which makes it possible to save people and the environment in which they live from the consequences of the continuous "gas attack." The Finnish concern Outokumpu [name as published] developed it and began to introduce it successfully through the world.

In 1989 the "light at the end of the tunnel" began to glimmer for the worker who wore himself out at Pechenganikel. According to the assignment of the intergovernmental commission, Outokumpu along with Leningrad Gipronikel, developed a plan for reconstruction of the combine. A year later there followed a confirmation of the expediency of preparing a detailed commercial proposal. The documents were submitted in the spring of 1991 and by the autumn of that year it was clear that... nobody needed them.

The political changes in our country marked the end of the era of state financing of large investment projects. Both the Finns and the Norwegians understand this.

They are asserting at the government level their readiness to grant aid in the amount of $100 million of the $640 million needed to modernize Pechenganikel. Another $100 million could be obtained from the Northern Investment Bank, which was created especially for contributing to the development of ecologically clean productions.

Our voice was not slow in being heard either: "Give us twice that amount and we will agree to make up the difference. This approach, which essentially means financing 70 percent of the project from the philanthropy of our neighbors, has been declared by them to be "incorrect"—harsher expressions are not used here. Everything ground to a halt.

"This is a painful subject," says the director-consultant of Outokumpu, Olavi Urmas. "We are tired of wasting our time. After all, we are not ecological moralists, we do not intend to agitate anybody. Our firm fulfilled the order of the intergovernmental commission by spending considerable amounts of money on the preparation of all the necessary technical documentation. And we were left holding the bag. Now we are quietly beginning to find new partners in Russia, and there are some interesting ideas..."

"So we have to give up on this part of the large Kola Project that was once being discussed?"

"Not all is lost. According to our estimates, the cost of the project is equal to the earnings from the sale of 80,000 tonnes of nickel, which amounts to 50-60 percent of the annual production of both combines. If one is to believe what they are writing about the greater independence of enterprises in your country, the state concern of Norilsk Nickel, of which they are a part, theoretically is quite capable of paying for it. If, of course, it is allowed to. This involves the entire question of freedom of action on today's market and the removal of export duties."

We already have freedom of action within certain limits, but so far all we are getting from them are losses. Through the efforts of our nickel smelters, who sold the share of their products permitted for export each in its own way, the price of this metal dropped from $12,000-$13,000 per tonne to $6,000, which is less than the production cost for Western producers. As a result, we are now "monopolists" who receive exactly half of what we could get. Where are the savings for purposes of development here?

Politics, business, ecology... Their intricate pattern creates the impression that the problem is insoluble...

Spokesman Says Tokyo May Offer Russia Nuclear Disposal Aid

OW0904131693 Tokyo KYODO in English 1304 GMT 9 Apr 93

[Text] Tokyo, April 9 KYODO—Japan may offer Russia technical assistance in disposing of nuclear waste next week if Russia agrees to end dumping of such wastes at sea, top government spokesman Yohei Kono said Friday [9 April]. Foreign Minister Kabun Muto plans to tell his Russian counterpart Andrey Kozyrev that Russia should stop disposing of radioactive waste at sea, Chief Cabinet Secretary Kono told a news conference.

Kono said that Japan hopes to solicit an explanation of reports that Russia dumped nuclear waste into the Sea of Japan and the Kara and Barents Seas between 1966-1991. Japan may offer technical assistance to help Russia construct land disposal facilities should Moscow be responsive to Tokyo's concerns, Kono said.

Japan also plans to take up the issue with leaders of other major industrialized countries at the July 7-9 Tokyo summit. Kozyrev is to meet with Muto when he visits here in conjunction with the April 14-15 Group of Seven (G-7) foreign and finance ministers meeting on aid to Russia.

In a related development, in a report released Thursday, Russia said that sea dumping of radioactive waste will continue due to delays in constructing storage and processing facilities. The document said Russia intends to dispose at sea three submarines that were disabled by nuclear reactor accidents. But it signalled it would be willing to consult with other countries about dumping sites.

St. Petersburg "Pure Water-93" Month Ends

LD1104195193 Moscow ITAR-TASS in English 1938 GMT 11 Apr 93

[By ITAR-TASS correspondent Nikolay Krupenik]

[Text] St. Petersburg April 11 TASS—The "Pure Water-93" month which ended here on Sunday, pursued the aim of returning the erstwhile high reputation to the Neva River water.

This humanitarian action was conducted on the initiative of the Bureau of Ecological Developments of the Party of "Greens" and the regional branch of the "Green Cross" international movement with the assistance of the local firms "Akvi" and "Antal" which partially supply residents of St. Petersburg with pure water from underground sources of the Karelian Isthmus.

The drinking water shortage in St. Petersburg is now 400,000 cubic meters per day, according to the organizers of this humanitarian action. At the same time the water supply to city arteries exceeds by one third the maximum capacity of the municipal water-supply stations. But what is most important, the water coming to apartments of St. Petersburg residents is not up to world standards. Every day about 750,000 cubic meters of unpurified sewage is thrown into water bodies and drains of the city through the sewage system. Another 400,000 cubic meters of polluted water is thrown by industrial enterprises. The system of sewage purification

operating in St. Petersburg, carries out biological purification of only 70 percent of the total drain water of the city. The situation in the settlement of Repino on the Karelian Isthmus and the western part of the Lomonosov town is still worse as water there is purified only by a mechanical way.

So, enthusiasts of the campaign for a healthy way of life within the framework of the "Pure Water-93" month had a lot of work to do. They arranged conferences and seminars at enterprises and in populated localities. Amongst successful events organized by enthusiasts of the campaign was a regional exhibition-fair "Ecology at Home" which displayed highly effective filters for home water purification, water ozoning devices, equipment and instruments detecting and removing polluted particles.

TV Show of Krasnoyarsk Plutonium Combine, Questions on Effectiveness of Cleanup

LD1104192593 Moscow Ostankino Television First Channel Network in Russian 1203 GMT 11 Apr 93

[Video report by unidentified reporter on tour of Krasnoyarsk-26 plutonium combine—from the "Travelers' Club" program]

[Text] [Reporter] [video shows town in winter] It is about these places that Aleksandr Pushkin said: In the depth of Siberian mines, prepare to endure long. It is to here that the Decembrists were exiled, followed later by other political prisoners. It was decided that here, in the depth of Siberian mines, should be hidden industrial enterprises during World War II. Due to these facilities, Krasnoyarsk again assumed its importance for defense. [video shows fighter plane on a pedestal in city square, barbed wire]

Now industrial zones, of which almost 80 percent are military-industrial, have come to define the architectural outlook of the banks of the Yenisey river, especially the right bank, the flat one. Plans of the town's development, even of residential areas, used to be kept secret. [video shows manned watch tower, barbed wire] The only thing that lent itself to discussion was construction of cultural facilities—theaters, sports centers, or a circus; and in the course of a discussion, gratitude was extended, without fail, to the same industrial giants, the town's chaperones, as they used to be called, or, as a matter of fact, the town's owners. [video shows apartments blocks, ground-floor shop named "Military Supermarket, city scenes]

Excesses of socialist architecture are also a part of the city's history—just as intricate fences and carved window-sills were a part of 19th century architecture. Maybe the residents would like to rid themselves of these birthmarks, and they will only remain in films or in photos. [video shows industrial landscape]

Although Krasnoyarsk is not an accidental stop-over in our journey, it is nothing but a prologue, a foretaste of what is to follow in our story. [video shows village scenes, nature footage] Daily routine changes slowly in Siberian villages. As in the good old days, the river and the taiga remain life's main provider. There is also the Siberian expanse. There is a lot of land, help yourself to it to your heart's content; Yenisey is rich in fish. With a taiga like this, one can build a house and keep it warm. Game and berries, for eating and or selling; pelts and meat are at arm's length—it's impossible to book each huntsman. Nobody wants to move into town.

[Unidentified woman] A village is a village. We have fresh air here, and milk, and herbs—for anything—headache, heartache, for healing wounds. Almost any herb in the book—go to the taiga and pick it.

[Unidentified man] The air is good for me here. I can live, and if I has moved into the town, I would not be alive any longer, I think.

[Reporter, addressing teenage girl] You were born here.

[Girl] Yes.

[Reporter] What's happening to the ecology here?

[Girl] Nothing.

[Reporter] Is everything fine?

Those in the Bolshoy Balchug village are officially designated as a high-risk population group. There are several such zones in the Krasnoyarsk are, living by their own special regime which separates man and his natural environment. How can this unnatural regime be supported?

[Unidentified elderly woman] In July and August we had such rains that cucumbers shrank and turned black, and potatoes turned dark; say goodbye to a decent harvest. Last year we lost potatoes when they were still in flower.

[Reporter] [video shows scenes of village and helicopter flying over it] This village is situated several kilometers downstream from a monstrous industrial enterprise, commonly known as no. nine. So, Krasnoyarsk on one side, and Bolshoy Balchug on the other side. And no. 9 in between. That's where we are taking you now. [video shows aerial footage of a row of four to five-storey buildings in the forest, street scenes] This town, named at birth Zheleznogorsk, is situated on the right bank of the Yenisey river, 50 km downstream from Krasnoyarsk. It was built 40 years ago, and has 100,000 people. Strangers are strictly prohibited from coming here, unless they are close relatives and have been included in special application forms. As for prospective spouses from the outside world, they are screened by a very strict committee. As for us, journalists, we are seldom allowed here, and only after a strict political examination. As for the medical examination records of those who work at no. 9, i.e., the majority of the town's population, they have been kept secret, until recently, even from the patients themselves.

The town, which is commonly known in the vicinity as no. 9, the same as its main enterprise, and which received the official code name of Krasnoyarsk-26 long ago, is isolated from the rest of the world by several barbed wire fences and checkpoints. [video shows a display on a city building, saying "doze intensity": mcRg per hour; safety limit 60 mcRg per hour; video then shows underground railway, suburban train, tunnels, fences, signs: street 237, speed limit 3 km, "Slippery," "Strictly No Entry," other signs, car going thought underground road]

Scores of kilometers of yet another fence and other checkpoints separate Krasnoyarsk-26 from its owner—the mining and chemical combine. This combine is unique: Most of its facilities are inside the mountain. The amount of soil dug out from this mountain to build the underground rail link, the skyless streets, the communications and air supply tunnels, the multi-storey workshops and huge works are comparable in bulk to that extracted for the Moscow subway. Every facility has its unique number, and even though some may have a name it is nothing but convention, like this mining and ore factory. [video shows factory sign]

Behind this entrance, by the way, there is a super-classified and maybe super-dangerous production line, but, as we were told, it has very little to do with mining itself. Journalists are not allowed here. [video shows sign: Mining and Chemical Combine. Reactor ADE-1, 20.7.1961-29.9.1992; a pair of slippers in a sealed plastic bag, dark floor tiling with a strip of white tiling in the middle, "Clean Passage Here" painted over it in black; also control panel display, control center, tubulars rigged to a grid on the ceiling; flat surface with half-diamond shaped objects built onto it; flashing red warning light; suburban train in tunnel with uniformed people in it]

On the premises of the combine, safety measures must be taken: One must change clothes in every workshop, sometimes all clothes, because the final product is plutonium, the most toxic substance in the world, whose every particle keeps its deadly strength for over 50,000 years. Plutonium, the nuclear filling for atomic bombs, used to be produced here in three reactors. Two of them, after the active zone cooled down, poured the water back into the Yenisey river with the full complement of nuclides. Now both reactors are shut down. The control panel is still operational, but the so-called spot [pyatachok] is being dismantled in the reactor hall. [video shows barbed wire]

Yenisey belongs to the Arctic Ocean basin: Its cleanliness is of special concern to the world community. The promise to stop dumping polluted water into the Arctic Ocean by 1995 has been fulfilled ahead of schedule, under pressure from environmentalists. But the main thing is that even though we have disarmament now, this and other former Soviet Union reactors have produced enough plutonium for many decades to come. All this being said, the production regime has remained the same: This suburban train is the only way to get to work and back—for rank-and-file workers. Every plant has a carriage assigned to it, every workshop has its door in the carriage, every passenger has his number and security pass. So, the polluting reactors have been shut down, but the question remains open, activists of the Krasnoyarsk front for survival believe. Just as like-minded activists from other Russian Federation zones, burdened with radioactive industries, they are concerned over nuclides spreading in space and time. They believe that leaving this legacy to our successors is a crime. Who, how, and when should polluted rivers and land be reclaimed?

[R. Kh. Solntsev, writer, identified by caption, to reporter] [video shows newspaper articles, papers with texts and signatures, unidentified colleague] We don't have an exact assessment of the damage so far, medical or analytical, and so on. The waste that is pumped under this town, for example—nobody knows whether it was this particular radioactive heritage which has affected the downstream villages, or could it be other plants? Anyway, one cannot be 100 percent sure. These brilliant engineers, highly skilled workers, top-notch designers who worked there behind the barbed wire—they were doing a good job for the state. This system never asked questions from those who worked there and from others, and never gave true answers. They believed everything was fine. So we thought: We must, at the end of the day, make a token gesture—take this monster to court.

[Reporter] Why a token gesture? When future generations roam through new territories of Siberia, which is finite, by the way, they may have to carry Geiger counters rather than a probe. Look at this landscape. It is a radioactive dump, no less. From here water flows into the same Yenisey. [video shows sign reading "Radioactivity," river in winter]

[P.V. Morozov, deputy chief engineer of State Chemical Combine, captioned, to reporter] We disapprove of this lawsuit. Not because it jeopardizes the honor and dignity of our combine, but because we are for sensible decisions and actions. Cleaning up the Yenisey basin—what exactly does it mean? It is an unrealistic job. It will consume huge amounts of money, billions, which are badly needed today by the people. Second, I am convinced that it will worsen the radiological environment on the Yenisey banks, rather than improve it—because we will stir up the existing riverbed radioactivity, we will spread it around and will thus expand the contamination area.

[Reporter] If such a lawsuit were brought against the state, and the mopping-up were to be sponsored from the federal budget, would you regard such a lawsuit as fair?

[Morozov] [video shows scenes of frozen Yenisey, then inside the reactor hall] Yes of course.

[Reporter] [video shows heavy-duty cargo railway cars] Through Russia's steppes and forests, through its towns and cities, worked-out fuel elements TVEL [teplovydelyayushchiye elementy] are brought here by rail from nuclear power stations, to be cooled down here for a

good few years in the depth of chemically purified water and then to be re-used, to become again a source of active fuel for nuclear power stations [video shows TVEL's]. But the radioactive waste would remain here on the territory of the combine—until someone somewhere finds a way of dealing with them, in order to save humankind from suicide. [video shows metal tanks, various apparatus, TVEL's underwater] If it were not for 5 feet of water on top of the TVEL—this water protects the room from deadly radiation—one would only have to stay here for one minute to find peace forever. This is only a TVEL sample, a museum exhibit, so to say. While in this room, it has accumulated a considerable doze. It is easy to calculate the excess by dividing the figure on the counter screen by 15. People have to work here, by the way. [video shows counter and TVEL; counter shows 24.64 and keeps clocking up]

It is very unlikely that mankind would now give up development. The words "war," "arms," and "defense" are also likely to stay in our vocabulary. So, where does the hope lie? Maybe we will learn our lessons and change, and should we wish to change the world, we would go about it in a sensible way.

Internal Report Reveals 'True Horror' of Nuclear Dumping

LD1104102793 London OBSERVER in English 11 Apr 93 p1

[Article by Environment Correspondent Geoffrey Lean: "Russia dumps 20 N-reactors at sea; Yeltsin learns full scale of horror"]

[Text] The true horror of the nuclear waste catastrophe around Russia's shores has been revealed in a top-level internal report presented to President Yeltsin.

Russian ministers say the country's submarine fleet is so awash with nuclear waste that it can no longer operate safely and that 20 nuclear reactors have been dumped off the country's Arctic and Pacific shores—eight of them in only 60ft of water.

Plutonium from abandoned nuclear warheads is about to contaminate one of Europe's richest fishing grounds, regularly exploited by British trawlers. Canisters of nuclear waste have been shot at and holed to make them sink faster.

The report admits the Soviet Union 'completely violated' the international treaties and lied to the International Maritime Organisation, which enforces them. But it adds that Russia has no alternative but to go on dumping at sea until 1997, when new reprocessing plants will come on stream.

The extraordinarily frank report—by a government committee chaired by Aleksey Yablokov, President Yeltsin's special adviser on the environment and health—is bound to spark protests from European and Asian governments. South Korea has already demanded that Russia stops dumping in the Sea of Japan.

Yesterday President Yeltsin ordered tighter controls on all Russia's nuclear facilities, following last week's explosion at the waste reprocessing plant at Tomsk-7 in Siberia—the worst nuclear accident since the Chernobyl disaster seven years ago this month.

The Russian Atomic Energy Ministry admitted yesterday that plutonium had been released by the accident, caused by a 'gross violations of procedures' at a building six miles outside the city of Tomsk, where half a million people live. Up to 75 square miles of land—including at least one village—have been contaminated.

The committee of inquiry included five Ministers, the vice-chairman of the country's nuclear and health inspectorates, and the chairman of its navy headquarters.

The report reached Greenpeace, because its Moscow offices possessed one of the few photocopiers in the city capable of reproducing it properly. Dr Yablokov offered the pressure group a copy if, in return, it agreed to print the report.

It warns of imminent plutonium contamination of one of the world's most productive spawning grounds, 300 miles north of Norway. It admits, for the first time, that a submarine, NMS Komsomolets, which sank after a fire in 1989, is rapidly breaking up, and says that within the next three years there will be an 'uncontrolled' and 'impulsive' leak of plutonium from its nuclear warheads. The report predicts 'contamination of commercial fish species to twice the permitted levels', estimates economic damage at 2.5 billion roubles, and says 'there will unavoidably be a negative political reaction' from European countries.

Salvaging the wrecked submarine would cost $250 million, and may be 'impossible' because it is so badly damaged.

The report gives details, including precise map references, of the dumping of 20 reactors from Soviet nuclear-powered ships—10 submarines and the ice-breaker, Lenin—off Russia's coasts since 1965. All are highly radioactive, and seven are still fully charged with lethal spent nuclear fuel.

Eight—including four containing spent fuel—lie only 60 feet beneath the waves of Abrosimova Bay in Novaya Zemlya. Highly radioactive fragments of fuel rods have been found washed up on the shores of the giant Arctic island.

The report estimates that the Soviet Union and the new Russian Federation have between them dumped a total of 12 trillion becquerels of radioactivity in the sea since 1959. It says 'a significant portion' of this must already

have leaked from its containers. It adds: 'There were cases when the metal containers were shot at, to speed up their sinking.'

The committee admits that the dumping comprehensively broke international treaties, particularly the London Dumping Convention. But it adds that, though Russia has greatly scaled down the dumping, it is 'impossible' to stop it for at least another four years, even though the convention now bans it completely. This is mainly because of the 'critical problems' faced by its nuclear fleet.

Russia's 235 nuclear-powered ships contain 407 reactors and produce about a million cubic feet of nuclear waste each year. But the report reveals that the country has no way of treating the waste, and that the problem 'was never given special attention'. As a result large parts of the fleet have effectively become floating nuclear waste stores. As reactors are refueled and submarines taken out of service under disarmament agreements, a backlog of 140 reactor cores full of spent fuel has built up; there is only enough storage for three. The top-level committee concludes the situation is 'critical' and the nuclear undersea fleet can no longer be operated safely.

WESTERN REGION

Black Sea: States Sign Pollution Convention

AU1604095093 Tbilisi SAKARTVELOS RESPUBLIKA in Georgian 23 Mar 93 p 2

["Convention for Protecting the Black Sea From Pollution" signed by representatives of Bulgaria, Georgia, Romania, the Russian Federation, Turkey, and Ukraine in Bucharest on 21 April (as published)—the word "article" and all article headings published in boldface and enlarged print]

[Text] The contracting parties, which have decided to act in order to achieve progress in protecting the Black Sea environment and preserving its living resources,

have carefully considered the economic, social, and curative importance of the Black Sea environment,

are certain that the preservation of the Black Sea's natural resources and resorts is possible through the joint efforts, first and foremost, of the Black Sea countries,

take into account the universally recognized norms and rules of international law,

have in mind the general principles, traditions, and norms pertaining to the protection and preservation of the sea's environment and also the preservation of its living resources, which are regulated by international law,

take into account the amendments to the rules of the 1972 convention on halting sea pollution from the burial of refuse and other substances; the amendments to the 1973 international convention on halting pollution from ships, the modified 1978 protocol on the same questions; the 1989 convention on the cross- border transportation of dangerous refuse and control of its elimination and the 1990 international convention on readiness, action, and cooperation regarding oil pollution,

recognize the importance of the principles adopted by the CSCE,

take into account their own interests from the point of view of preserving, exploiting, and developing the potential of bioproducts in the Black Sea,

take into account the fact that the Black Sea coastline is an important international resort zone where the Black Sea countries have invested huge resources to protect health and develop tourism,

take into account the particular hydrological and ecological characteristics of the Black Sea and the supersensitivity of its flora and fauna to the temperature and constitution of the sea's water,

point out also the pollution of the Black Sea from sources located on the land of other European countries, in the main from rivers,

confirm their readiness to cooperate in the matter of preserving the Black Sea environment and protecting its living resources from pollution,

point out the necessity of cooperation in the scientific, technical, and technological spheres in order to achieve the aims of the convention,

point out the circumstance that existing international agreements do not embrace all aspects of the pollution of the Black Sea environment by third countries,

recognize the need for close cooperation with competent international organizations on the basis of an agreed regional approach in order to protect and improve the Black Sea environment,

and have agreed to the following:

Article I

Geographical Span

1. This convention applies strictly to the Black Sea, whose southern border, for the purposes of this convention, is the line joining the capes of Kelagri [as published] and Dalian.

2. For the purposes of the convention, the concept "Black Sea" embraces the territorial waters and the particular economic zone in the Black Sea belonging to each contracting party although other things can be provided for by any protocol to the convention according to the aims of this protocol.

Article II

Definitions

For the purposes of this convention:

1. "Pollution of the Black Sea" means the depositing by man directly or indirectly, in the environment of the sea, including its estuaries, of substances or energy that cause or are capable of causing such destructive results as damage to the living resources and life of the sea's environment, endangering human health, hindering sea activities, including fishing and other legal uses of the sea, and impairing the quality of the sea's water and the state of resort zones.

2. a) "ship" means all types of sea vessels. This concept embraces hydrofoils, hovercraft, submarines, tugboats and self- propelled vessels, and platforms and other artificially created constructions.

b) "aircraft" means all types of flying apparatus.

3. a) "burial" means:

i) Any deliberate discarding of refuse or other substances from ships and aircraft;

ii) Any deliberate sinking of ships and aircraft;

b) "burial" does not embrace:

i) The discarding of refuse or other materials connected with or resulting from the normal functioning of ships or aircraft or their equipment except for that refuse and other materials that are to be transferred to special ships and aircraft in order to be dumped or that are to be reprocessed on them.

ii) The dumping of material for a reason other than its simple discarding on condition that this dumping does not contradict the aims of this convention.

4. "Harmful substances" mean any dangerous, poisonous, or other substances that, on account of their toxic and (or) resistant qualities and (or) capacity to accumulate in living organisms, by ending up in the sea, will result in pollution or have a negative effect on biological processes.

Article III

General Rules

The contracting parties are participating in this convention on the basis of complete equality of rights and obligations, respect for national sovereignty and independence, non-interference in each other's internal affairs, mutual advantageousness, and other corresponding principles and rules of international law.

Article IV

Sovereign Immunity

This convention does not extend to military vessels, naval auxiliary vessels, or any other ships and aircraft belonging to the state or operated by it that are currently being used for governmental non-commercial service.

In spite of this, through specific measures that do not hinder the functioning of such ships and aircraft belonging to it or operated by it, each contracting party will guarantee to act within the limits of the practical capabilities of such ships and aircraft in accordance with this convention.

Article V

General Obligations

1. Each contracting party will ensure the application of this convention in those regions of the Black Sea to which its sovereignty and also sovereign rights and jurisdiction extend without violating those rights of the contracting parties that proceed from the rules of international law.

In order to achieve the aims of this convention, each contracting party will take into account the harmful effects of pollution within its own internal waters on the Black Sea environment.

2. The contracting parties, in accordance with the conditions that have been created, with the aim of protecting and preserving the Black Sea environment, will implement individually or jointly all necessary measures that correspond to international law and to this convention in order to halt, reduce, and control its pollution.

3. The contracting parties will cooperate in elaborating necessary additional protocols and appendices for the application of this convention that differ from the protocols and appendices to this convention.

4. The contracting parties aim to ensure that, in concluding planned bilateral or multilateral treaties on protecting and preserving the Black Sea environment, such treaties correspond to this convention. Copies of such treaties are to be given to the remaining parties through a commission whose creation is determined by Article XVIII [Roman eighteen] of this convention.

5. The contracting parties will cooperate within the framework of international organizations that they recognize as being competent in the elaboration of such measures that will contribute to the protection and preservation of the Black Sea environment.

Article VI

Pollution From Dangerous Substances and Materials

Not one of the contracting parties will permit the pollution of the Black Sea environment from any source containing substances and materials that are listed in the appendix to this convention.

Article VII

Pollution From Sources Located on Land

The contracting parties will not permit and will reduce and control pollution of the Black Sea environment from sources located on land in accordance with the protocol on the protection of the Black Sea environment from pollution by sources located on land, which is an integral part of this convention.

Article VIII

Pollution From Ships

The contracting parties will implement individually or, if necessary, jointly, all necessary measures in accordance with the universally recognized rules and standards of international law in order to halt and reduce and control pollution of the Black Sea environment from ships.

Article IX

Cooperation in the Struggle Against Pollution During an Emergency Situation

The contracting parties will cooperate in order to halt and reduce and struggle against the pollution of the Black Sea environment during an emergency situation, in accordance with the protocol on cooperation in the struggle against the pollution of the Black Sea environment by oil and other harmful substances during an emergency situation, which is an integral part of this convention.

Article X

Pollution Caused by Discharge

1. The contracting parties will do everything and will cooperate in order to halt and reduce and control pollution caused as a result of a discharge, in accordance with the protocol on the protection of the Black Sea environment from pollution caused by a discharge, which is an integral part of this convention.

2. The contracting parties will not allow physical or juridical persons from non-Black Sea states to discharge [materials] in those regions under their jurisdiction.

Article XI

Pollution Resulting From Activities on the Continental Shelf

1. Each contracting party will adopt laws and rules and also measures within the shortest period of time in order to halt and reduce and control pollution of the Black Sea environment that is caused by or connected with activities carried out on the continental shelf, including exploration and exploitation of the continental shelf's natural resources.

The contracting parties will inform one another through the commission of laws, rules, and measures they have adopted in this respect.

2. The contracting parties will cooperate if necessary in this sphere and will aim to coordinate measures mentioned in paragraph 1 of this article.

Article XII

Pollution From or Through the Atmosphere

In order to halt and reduce and control pollution of the Black Sea environment from or through the atmosphere, the contracting parties will adopt laws and rules and also individual or coordinated measures that extend to the air space on their territories and ships sailing under their flags and ships and aircraft registered on their territories.

Article XIII

Protection of the Sea's Living Resources

In implementing measures in order to halt and reduce and control pollution of the Black Sea environment in accordance with this convention, the contracting parties will pay particular attention to preventing harm caused by changes to the environment in which the life and living resources of the sea exist and by the creation of obstacles to fishing and other permissible uses of the Black Sea and, in this respect, will accordingly take into account the recommendations of competent international organizations.

Article XIV

Pollution From Dangerous Substances During the Cross-Border Transportation of Cargoes

The contracting parties will implement all measures in accordance with international law and cooperate in order to halt pollution of the Black Sea environment from dangerous substances during the cross-border transportation of cargoes and will also struggle against their illegal transportation in accordance with the protocol that they adopt.

Article XV

Scientific and Technological Cooperation and Monitoring

1. The contracting parties will cooperate on directing scientific research with the aim of protecting and preserving the Black Sea environment and, if necessary, will implement joint scientific research programs and exchange corresponding scientific data and information.

2. The contracting parties will cooperate on directing scientific research aimed at developing methods and means of evaluating the nature and quality of pollution and also its effect on the ecological system in the water column and sediments, exposing the scale of pollution, studying and evaluating the danger, and seeking ways of eradicating it; in particular, they will develop alternative methods of reprocessing, getting rid of, and eliminating and using harmful substances.

3. The contracting parties will cooperate through commissions on establishing the appropriate scientific criteria for formulating and elaborating rules, standards, and also recommended practice and procedure in order to halt and reduce and control pollution of the Black Sea environment.

4. The contracting parties, in addition to other work/operations, through the commission, and, if necessary, in cooperation with international organizations recognized by them as qualified, will establish joint monitoring programs complementing each other that embrace all sources of pollution and will elaborate a system of monitoring pollution of the Black Sea that embraces bilateral and multilateral programs for observing, measuring, evaluating, and analyzing as necessary the danger and effect of pollution on the Black Sea environment.

5. When the contracting parties have sufficient grounds for believing that activities carried out within their jurisdiction or control can result in considerable pollution of and significant harmful changes in the Black Sea environment, they will evaluate their effects on the basis of the appropriate complete information and monitoring data prior to the commencement of such activities and will send the results of this evaluation to the commission.

6. The contracting parties will cooperate as necessary in the development, adoption, and application of clean and waste-free technology and, in addition, will promote the exchange of such technology.

7. Each contracting party will appoint a competent national governmental body that will assume responsibility for directing scientific activities and monitoring.

Article XVI

Responsibility and Obligations

1. The contracting parties will assume responsibility for fulfilling international obligations regarding the protection and preservation of the Black Sea environment.

2. Each contracting party will adopt standards/norms and rules that provide for the acceptance of responsibility by physical or juridical persons for harm done to the Black Sea environment in those regions where its sovereignty, sovereign rights, or jurisdiction extend in accordance with international law.

3. The contracting parties will ensure the possibility of speedy and proper compensation or other types of indemnity for damage caused to the Black Sea environment by pollution on the part of physical or juridical persons within their jurisdiction in accordance with their own legal systems.

4. The contracting parties will cooperate in elaborating and coordinating laws, statutes, and procedure on responsibility for damage caused to the Black Sea environment by pollution, its assessment, and compensation in order to safeguard to the maximum the preservation and protection of the Black Sea.

Article XVII

The Commission

1. In order to achieve the aims of this convention, the contracting parties will form a commission on protecting the Black Sea from pollution, which will henceforth be called the "commission."

2. Each contracting party will have one representative in the commission who can be accompanied by alternative representatives, advisers, and experts.

3. The chairmanship of the commission will rotate among the contracting parties in the order of the English alphabet. The commission's first chairman will be a representative from the Republic of Bulgaria.

The chairman will fulfill his functions for a period of one year and, during this time, he will be unable to act as the representative of his own country. If the chairman's post falls vacant, the contracting party that is chairing the commission will appoint his replacement, who will remain in this post until the term of the chairmanship expires.

4. The commission will meet at least once a year. The chairman will summon an extraordinary session at the request of any of the contracting parties.

5. The decisions and recommendations of the commission will be adopted on the basis of the principle of a unanimous vote of the Black Sea countries.

6. A standing secretariat will assist the commission in the direction of its activities. The commission will appoint an executive director and other officials of the secretariat. The executive director will appoint the technical staff in accordance with those rules that are adopted by the commission. The secretariat will be composed of persons from all the Black Sea states.

The headquarters of the commission and secretariat will be in Istanbul; the location of the headquarters may be changed on the basis of a unanimous vote of the contracting parties.

7. In order to carry out its functions, the commission will adopt its own rules of procedure, will resolve organizational questions pertaining to its activities, and will create auxiliary services in accordance with this convention.

8. The representatives, alternative representatives, advisers, and experts of the contracting parties will enjoy the diplomatic privileges and immunity on the territory of the corresponding contracting party that are conferred in accordance with international law.

9. The question of the privileges and immunity of officials belonging to the secretariat will be determined in agreement with the contracting parties.

10. The necessary legal rights will be conferred on the commission so that it can fulfill its functions.

11. The commission will reach agreement on the headquarters with the host contracting party.

Article XVIII

The Functions of the Commission

The commission:

1. Will promote the implementation of this convention and will inform the contracting parties of its work;

2. Will give recommendations on the measures necessary to achieve the aims of this convention;

3. Will discuss questions connected with the implementation of this convention and, if necessary, will issue recommendations on amendments and appendices to the convention and protocols;

4. Will elaborate criteria for halting and reducing and controlling pollution of the Black Sea environment and removing the consequences of pollution and also recommendations on measures to be implemented in this respect;

5. Will assist the contracting parties in the implementation of the measures necessary to protect the Black Sea environment and, with this aim, will receive, process, and communicate to the contracting parties the corresponding scientific, technical, and statistical information and will also promote scientific and technological research;

6. Will cooperate with competent international organizations, first and foremost, in order to elaborate the corresponding programs and receive assistance in achieving the aims of this convention;

7. Will discuss any question raised by a contracting party;

8. Will fulfill the functions provided for by the rules of this convention and also the functions unanimously conferred upon the commission by the contracting parties.

Article XIX

Meetings of the Contracting Parties

1. The contracting parties will gather for meetings on the recommendation of the commission. A meeting will also be held during an emergency situation within 10 days of the request being made by one of the contracting parties.

2. The basic function of a meeting of the contracting parties will be to discuss the progress of the implementation of this convention or protocols on the basis of a report from the commission.

3. Non-Black Sea states that are included in the convention may attend meetings of the contracting parties in an advisory capacity only.

Article XX

The Adoption of Amendments to the Convention and (or) Protocols

1. Each contracting party may propose amendments to the articles of this convention.

2. Any of the contracting parties to this convention may propose amendments to any of the protocols.

3. All these amendments will be sent to a depository that will inform all the contracting parties and the commission through diplomatic channels.

4. Amendments to this convention and to any protocol will be adopted at a diplomatic conference of the contracting parties that will be convened within 90 days of the dissemination of the proposed amendments by the depository.

5. The amendments will come into force 30 days after the depository has received notification of the consent of all the contracting parties to these amendments.

Article XXI

Appendices and Amendments to Appendices

1. Appendices to this convention or any protocol are correspondingly an integral part of the convention or any such protocol.

2. Each contracting party, through its representative on the commission, can propose an amendment to an appendix to this convention or any protocol. The commission will adopt such amendments on the basis of a unanimous agreement. The depository, which has been informed accordingly of the commission's decision by its chairman, will immediately communicate to all the contracting parties the amendments that have been adopted in accordance with these rules. Such amendments will come into force 30 days after the depository has received notification of the consent of all the contracting parties to these amendments.

3. A new appendix to this convention or any protocol will be adopted and come into force in accordance with the rules given in paragraph 2 of this article.

Article XXII

Notification of Amendments Coming Into Force

The depository will inform the contracting parties through diplomatic channels of the dates on which the adopted amendments will come into force in accordance with Articles XX and XXI.

Article XXIII

Financial Rules

The contracting parties will resolve all financial questions on the basis of the principle of consent according to the recommendations of the commission.

Article XXIV

Attitude to Other International Documents

Not a single rule in this convention restricts in any way the state sovereignty in their territorial waters that has been established in international law and the sovereign rights and jurisdiction in their particular economic zones and continental shelf in accordance with international law and also the implementation of navigational rights and freedoms by ships and aircraft provided for by the rules of international law and set out in the corresponding international documents.

Article XXV

The Regulation of Disagreements

In the event of a disagreement between the contracting parties in connection with the interpretation and implementation of this convention, they will attempt to resolve this disagreement through negotiations or by any other peaceful means that they choose.

Article XXVI

The Adoption of Additional Protocols

1. On the demand of any of the contracting parties or on the recommendation of the commission, in the event of agreement being expressed by all the contracting parties, it will be possible to convene a diplomatic conference in order to adopt additional protocols.

2. The signing, ratification, adoption, approval, inclusion, entry into force, and denunciation of additional protocols will be implemented on the basis of the procedure that, according to this convention, is determined in Articles XXVIII [Roman twenty-eight], XXIX [Roman twenty-nine], and XXX [Roman thirty].

Article XXVII

Additional Remarks

Additional remarks on this convention are impermissible.

Article XXVIII

Signing, Ratification, Adoption, Approval, and Inclusion

1. This convention is open to signing by the Black Sea states.

2. This convention is subject to ratification, adoption, or approval by the signatory states.

3. Any non-Black Sea state that is interested in the achievement of the aims of this convention and significantly promotes the protection and preservation of the Black Sea environment can join the convention on condition that this state is invited by all the contracting parties. The depository will discuss procedural questions relating to the invitation to join.

4. The documents of ratification, adoption, approval, or inclusion will be handed to the depository for safekeeping. The Romanian Government will be the depository of this convention.

Article XXIX

Entry Into Force

This convention will come into force 60 days after the fourth set of documents of ratification, adoption, or approval have been handed to the depository for safekeeping.

The convention will come into force for the state that joins this convention in accordance with Article XXVIII [Roman twenty-eight] 60 days after the document on joining has been handed to the depository for safekeeping.

Article XXX

Denunciation

Each contracting party can denounce the convention five years after this convention has come into force by sending written notification to the depository. The denunciation will come into force on 31 December of the year following receipt of the notification by the depository.

Drawn up in English on 21 April [as published] 1992 in Bucharest.

[Signed] 1. For the Republic of Bulgaria, Valentin Vasilev

2. For the Republic of Georgia, David Nakani

3. For Romania, Marcian Bleahu

4. For the Russian Federation, Tevdor Shelov-Kovediayev

5. For the Republic of Turkey, Dogancan Akyurek

6. For Ukraine, Yuriy Shcherbak.

Appendices

1. Organotin compounds.

2. Organic halogenous compounds, for example, DDT, DDE, DDD, PKB [as published].

3. Phosphoritic stable organic compounds.

4. Mercury and its compounds.

5. Cadmium and its compounds.

6. Stable compounds bearing confirmed poisonous, carcinogenic, teratogenic, or mutant properties.

7. Used lubricants.

8. Floating or submerged synthetic materials.

9. Radioactive substances and refuse, including used radioactive

fuel.

10. Lead and its compounds.

Black Sea: Kravchuk Discusses Need for New Oil Terminal at Odessa

OW1804115193 Moscow Ostankino Television First Channel and Orbita Networks in Russian 1845 GMT 8 Apr 93

[Report by S. Fateyev from the "Utro" program—recorded]

[Text] As summer approaches, discussions about the condition of the sea are becoming increasingly louder: Is it better or worse? For decades, scientists and the public have been discussing the necessity of protecting and preserving the Black Sea. Nevertheless, this problem recently was discussed for the first time at an intergovernment level. Ministers of ecology and environmental protection from all six member-states of the recently formed Black Sea Community, along with representatives of the United Nations Organization, gathered in Odessa and adopted a declaration which says the Black Sea states and the UN will jointly and in a coordinated fashion do everything to avoid further pollution of this unique European basin. [video shows an aerial shots of harbor, cuts to show conference participants in meeting hall]

At the meeting, concern was voiced over Ukraine's intention to build a major oil terminal in Odessa. In the opinion of many environmental specialists, this could cause irreparable damage to the Black Sea. [video shows aerial view of harbor and cuts to show Kravchuk and party disembarking from ship]

Leonid Kravchuk visited the proposed terminal site at the beginning of the week, and he emphasized in particular that its construction will begin only after environmental, economic, and technical guarantees have been made. In the Ukrainian president's opinion, this terminal will not only ensure an alternative source of oil, but it also will enliven the entire economy. [video pans dock facilities, showing cranes and storage tanks, and cuts to show Fadeyev interviewing Kravchuk]

[Kravchuk] These are orders for metallurgical and machine building plants, these are jobs, and this is infrastructure. This represents a modern standard of living for the entire south, and not only the south, but also for Donbass industries, the Dniester region, and Russian plants which, I am sure, will also supply equipment, metal, and everything else on a cooperative basis. In other words, I am not viewing this as some personal decision, but from the point of view of a common decision that meets the interests of both Ukraine and Russia. This is because both need access to the Black Sea. We will be completely and definitely ensuring such access for both our states.

Moldova: Snegur Receives Bashkortostan's Koptsov; Oil Accord Signed

AU0904202193 Chisinau BASAPRESS in English 1845 GMT 8 Apr 93

[Text] Chisinau BASAPRESS, 8/4/1993—In the communique released today by the press service of the president it is stated that the political and social situation in Moldova could be normalised only in the event of democratic forces coming to power in Russia, declared President Snegur during his meeting with Anatoliy Koptsov, the president of the Council of the Republic of Bashkortostan. During the exchange of opinions, Anatoliy Koptsov underlined that Bashkortostan intends to obtain economic independence and the visit to Chisinau is striving towards a new impulse to direct relations with Moldova, which were installed last year. Anatoliy Koptsov offered an invitation to President Snegur to visit Bashkortostan which was addressed by Murtaza Rakhimov, the President of the Supreme Soviet of this republic.

The deputy state minister Cherasim Lupoi reported to a BASA correspondent that Moldova, during following days, will obtain approximately 10-12 million tonnes of petrol from Bashkortostan in order to supply agricultural activity without preliminary payments. The delivery of petrol is foreseen by the protocol signed today by Anatoliy Koptsov, the president of the Council of Ministers from Bashkortostan. The documents were perfected on the basis of economic agreements between those two states in the October of 1992 and proposes the creation of joint ventures in many branches of the economy, especially in the automobile industry and the industry of leather goods. The two republics will also collaborate in the domains of culture and science. Therefore on this basis agreements concerning collaboration between two Academies of Science and other organs will be signed. In the protocol the exchange of economic representatives is encouraged. In addition, the future opening of air ways of Chisinau-Ufa is planned.

Ukraine: Radioactivity Reported Not To Exceed Acceptable Level

WS2004062893 Kiev KHRESHCHATYK in Ukrainian 3 Apr 93 p 1

[Unattributed report: "About the Radioactive Situation"]

[Text] The Republican Center for Monitoring Environmental Conditions at the State Hydrometeorological Committee reported that the radioactivity level in Kiev is 8-12 microroentgens per hour; in Zhytomyr, 1; and in Chernihiv, 12. These figures do not exceed the acceptable level.

Ukraine: Winners of Contest To Save Chernobyl To Be Named

WS1904095193 Kiev KHRESHCHATYK in Ukrainian 6 Apr 93 p 3

[Report attributed to the Ministry of Chernobyl press center: "The Sarcophagus Tender Enters the Second Stage"]

[Text] This year will bring an answer to the question crucial not only for Ukrainian, Belarusian, and Russian residents: How to eliminate the threat of the "Sarcophagus" entombing the shattered No. 4 reactor at the Chernobyl nuclear electric power plant. An international contest announced by the Ukrainian Government in 1992 is to solve this problem. The deadline for sending applications is 26 April. So far, the organization committee has received more than 200 projects; information on their authors is confidential. We can only say that companies and private individuals from England, the United States, France, Germany, Austria, Canada, and Italy have sent in their applications, as have experts from Ukraine and neighboring states.

Issues discussed at one of the regular sessions of the organization committee testify to the fact that the contest is entering its final stage. The committee discussed problems of receiving foreign and domestic specialists, accommodating them, creating appropriate working conditions, and the like. The sesssion approved the recommendation to hold a symposium entitled "The Strategy of Long-Term and Short-Term Isolation of Radioactive Substances in Reactor No. 4." The most prominent world scientists are expected to participate.

The organization committee has also drafted amendments to the contest regulations. They specify the procedure of signing contracts with prospective tenders.

The first contract will deal with technical and economic substantiation of the project; the second, with its technical specifications and the author's supervision of its implementation. Companies selected to carry out the work will be chosen through competitive bidding.

In the committee's opinion, this procedure will add to impartiality of the selection and create favorable conditions for international financial and political support for the project. It will also minimize the financial and commercial risk.

To make a long story short—this summer we will know the names of those who will find the most efficient solution to the problem of the "Shelter."

CAUCASUS/CENTRAL ASIA

Georgia: Potential Explosion of Methane in Tkvarchela Coal Mines, Tectonic Disaster

934K0904B Moscow ARGUMENTY I FAKTY in Russian No 15, Apr 93 p 2

[Article by A. Neverov: "An Ecological Land Mine. The Local End of the World"]

[Text] As specialists of the Scientific Research Institute of N (unfortunately we cannot give the full name of the source) have reported, there could be a serious ecological catastrophe in the zone of the Georgian-Abkhazian conflict.

Not far from the city of Tkvarchela there are coal mines in which a large quantity of methane has accumulated.

A methane explosion could cause serious tectonic changes which could possibly result in destruction of the dam of the Ingursk hydroelectric power plant. And if an immense amount of water falls into the Black Sea it could lead to the formation of a many-meter high wave with a radius of destruction of approximately 150 kilometers. In other words, the entire Kolkhidskaya lowland from Sukhumi to Batumi could be simply washed away.

As we know, the depths of the Black Sea contain a large quantity of hydrogen sulfide, which could rise to the surface and lead to the ecological death of immense expanses of the Black Sea coast.

But, in the opinion of the head engineer of the design for the Ingursk dam, V. Bronshteyn, it would take several thousand times more methane than is contained in the mines today in order to destroy the dam.

Turkmenistan: Funds Earmarked for Caspian Sea Project

93WN0354B Moscow IZVESTIYA in Russian 6 Apr 93 p 4

[Article by V. Kuleshov, IZVESTIYA correspondent: "Turkmenistan Insists on Joint Action to Protect Against the Approach of the Caspian"]

[Text] Ashkhabad—**The Turkmenistan government has appropriated the first tens of millions of rubles for carrying out the "Caspian Sea" national scientific-technical program prepared by the ecology center of the republic's Academy of Sciences.**

"This program, I think, should be a part of those measures to be worked out in conjunction with scientists and leaders of the CIS countries abutting on the Caspian region," says Agadzhan Babayev, director of the Institute of Deserts of the Turkmenistan Academy of Sciences. "The sea is advancing."

Five or seven years ago this conversation was not yet under way; a different problem was being discussed: how

to fight pollution in the Caspian. Then Turkmenistan ecologists were trying to prove that the Caspian was on the brink of disaster. But the arguments and persuasions were not convincing; explosions at oil prospectors destroyed innumerable seals, sturgeon, pike-perch, and herring in the eastern Caspian. Spills at drilling sites released greasy oil patches over the sea that were fatal for its inhabitants. The Caspian, famed for its marvelous beaches and its pure water and sand, was transformed into a huge cesspool of pollutants hazardous to every living thing.

Documents from last year's international conference on the problems of the Caspian, held in Baku, are quite alarming: the concentration of oil products and phenols in the northern Caspian and along its eastern shore (the Turkmen shore) is 4-6 times the maximum allowable measurement, and 10-16 times that limit by the shores of Azerbaijan! Does it need to be explained how oil products and phenols, which render the spawning grounds, the Caspian's feeding base, unserviceable, affect the roe, larvae, and young of fish? Is there any point in asking why from 1983 to 1989 the number of sturgeon in the northern Caspian dropped by 7 million and even more by the shores of Azerbaijan?

The Caspian is dying, for to this day polluting waste continues to be dumped into the sea by the Kazan chemical combines and oil from drilling platforms in the waters off Baku and Cheleken, as well as the fatal poisoning from Karabogazsulfat soda production.

Old-timers say that the Caspian is angry and has risen up. That is why it has mounted an invasion against man. You can, of course, call this explanation fantastic, unscientific. But facts are facts: in the 14 years since the closing of the Kara-Bogaz-Gol, the level of the sea has risen 214 cm. The level of the water is rising today as well.

Recently I had reason to be on the island of Ogurchinskiy, which is 40 km from Cape Kheles on the Caspian, at a well-known state refuge for rare and endangered animals. There are about a thousand head of them there, and I would not try to predict what is going to happen to them in the near future: in some spots the width of the island is now all of 500 m. The area of the local locator station was inundated a long time ago, and the water is coming closer and closer to the lighthouse on the southern end of the island. What is to be done now with the djeyran, the small antelope there? What about the small settlement on Ogurchinskiy? The leaders of Valkanskaya Oblast, who previously were counting up the damages, are now giving this some thought.

But can those losses be counted up for the entire shore of the Turkmen portion of the Caspian? Cheleken became an island a long time ago. Railways and highways are being washed out, houses in settlements are being destroyed, sanitation equipment and sewer pipes are going out of service.

"The consequences of the Caspian's approach are very serious," asserts K. Amenniyazov, director of the Caspian Sea ecology laboratory of the Institute of Deserts. "Entire areas of coastal territories have been inundated, among them promising gas-bearing areas, agricultural lands, economics sites and points of settlements in Turkmenistan, Kazakhstan, Azerbaijan, Russia, and Iran. According to preliminary estimates, the losses already total in the tens of billions of rubles. That is now. If joint measures are not taken, the count will go into the hundreds of billions."

Baku, Shevchenko, Krasnovodsk, and Makhachkala do not question the reality of this threat. They do not doubt that nothing is being done to avert catastrophe. So far only Turkmenistan has undertaken concrete measures; it has eliminated an artificial dike that only recently separated the Caspian from Kara-Bogaz-Gol, which is capable of swallowing up another 20 cubic km of Caspian water a year. However, scientists say, we should not be expecting any quick result. Most interesting, says K. Amanniyazov again, is the possibility of diverting the Caspian's waters into the waterless cavity of Karagin, more than 1000 square km, which could absorb 92 square km. The new basin could be used for the fishing industry, and this would also have a beneficial effect on the microclimate of the surrounding desert. The useful area for pasturage would be expanded.

Nor can we reject the possibility of diverting some of the Caspian's waters to save the Aral, I heard from many scientists. The Aral is suffocating today from a lack of water. These possible scenarios are not the only ones for protecting against the approaching Caspian. The opinion of scientists, however, is just that—an opinion. What is needed is an intergovernmental agreement and a readiness to try to solve the problem.

No one can overcome this problem on his own.

BALTIC STATES

Estonia: Talks With Russia on Environmental Damage Compensation Tense

OW0904173793 Moscow BALTFAX in English 1708 GMT 9 Apr 93

[Following item transmitted via KYODO]

[Text] A few days ago, the delegations at the Russian-Estonian talks reached the general agreement on the future of the deposits of Estonian organizations and citizens, frozen by the former Vneshekonombank. Leader of the Russian delegation Vassiliy Svirin informed Baltfax that the repayment of this debt will begin on July 1, 1993.

To quote Svirin, the talks on military issues were difficult, tense and lengthy. No agreement was reached on the three cardinal questions: the schedule of the Russian troops' withdrawal, the military property and the compensation for the ecological damage. Svirin also said that although none of the parties proposed the so-called zero option (the transfer of the Russian military property to Estonia as a compensation for the ecological damage), such an option is quite possible.

Speaking about the Center for Training Personnel for Nuclear Submarines in Paldiski, Svirin said that Estonia was well aware that this center could not be eliminated by the end of 1994 for objective reasons, so a later date—1998 or 1999—is being discussed now.

In Svirin's words, there has been no progress on the issues of citizenship and rights of ethnic Russians in Estonia. He said that Estonian officials had been evading the problem, although in an interstate treaty Russia and Estonia pledged to enable their nationals to chose the citizenship of the country they like best. In this connection, Mr. Svirin stressed that Russia's foreign ministry regarded Estonia's refusal to discuss the issue as violation of article 3 of the interstate treaty and expressed the stern denunciation of Tallinn's position.

The ambassador reported that Russia intended to refocus the attention of the world public and influential human rights organizations on the situation with the rights of ethnic Russians in Estonia.

Lithuania: Department Statistics on Environmental Damage Given

OW0904175393 Moscow BALTFAX in English 1710 GMT 9 Apr 93

[Following item transmitted via KYODO]

[Text] According to preliminary findings of the Lithuanian Environment Protection Department, over 300,000 cubic meters of soil are contaminated with oil products and over 37,500 with chemicals where Russian army units were once or are stationed.

Experts estimate the contamination of the soil and surface and ground waters with heavy metals is five to ten times the background values while the contamination with oil products is nearly 10 times the maximal admissible level. Radioactive contamination is also present.

The Respublika newspaper quotes top officials of the Environment Protection Department as saying that ecologists are not allowed into the grounds of numerous Russian army units and so the exact statistics are not available. Some Lithuanian experts estimate the ecological damage done by the army to the country as nearly $100 Bn [billion].

Colonel Stasys Knezys, Lithuanian government's spokesman on troops withdrawal, says that the damage amounts to a minimum of $2 Bn. To send a bill to the military services, comprehensive ecological and laboratory tests are needed but the government appropriates no funds for this purpose.

Knezys emphasized that the commission which takes over the military property and especially ecological teams are under-financed. The colonel warns that unless the government acts soon, Lithuania is likely to miss a chance to be paid ecological damages.

FINLAND

Proposal To Lower Sulfur Dioxide Emissions

93WN0345A Helsinki HELSINGIN SANOMAT in Finnish 11 Mar 93 p 11

[Article by Jukka Perttu: "Sulfur Emissions To Be Reduced With Cleaner Fuel"]

[Text] The second Sulfur Committee is proposing that Finland's sulfur dioxide emissions be reduced to 116,000 tons by the year 2000. Head director Olli Ojala from the Ministry of Environment gave a statement on the contents of the report at the Energy 93 fair in Helsinki. The committee will submit its report to the Ministry of Environment on Friday [12 March].

In 1991 Finnish sulfur dioxide emissions totalled 194,000 tons and the 1980 level was as much as 584,000 tons.

Without Restrictions Emissions Will Increase

Without new restrictions sulfur emissions would again begin increasing.

In its proposal the committee establishes new maximum levels for the sulfur content of light fuel oil, diesel fuel, and gasoline. For domestic marine transportation the sulfur content of heavy fuel oils would have a maximum level of 1.5 percent by weight. The levels would become law at the beginning of 1995.

The proposal also has new upper emission limits for boilers and power plants. These limits would be in force beginning in 2000.

Industrial sulfur emissions should also be significantly reduced. Limits are proposed, for example, for oil refineries and the steel industry.

"Atmospheric sulfur dioxide levels in urban areas and near industrial plants have been diminishing continuously during the last few years. In the sulfate pulp industry even the mildly sulfurous, odoriferous gases are now trapped better than before, meaning a noticable lessening of odors in the vicinity of pulp mills," says Ojala.

Price of Electricity To Go Up

Industrial sulfur emissions can be decreased by changes in processing techniques and by utilizing raw materials and fuels with lower sulfur contents. In addition to this the sulfur can be trapped and removed or collected during the process.

The annual costs of the recommended procedures would rise to abour 1.1 billion markkas by the year 2000. Energy production plants would pay one-third of this and industry with sulfur-involving processes two-thirds. Ojala estimates that the proposed program would raise the price of electricity by 0.2 to 0.3 pennia per kilowatt hour.

A liter of diesel fuel or gasoline would cost an additional 1.5 pennia.

Emissions From Distant Sources Decreasing

The committee is assuming that sulfur emissions from European countries in general will decrease by 39 percent on the average. This figure for neighboring countries is expected to be 30 percent. Thus the annual sulfurous precipitate would amount to 0.3 to 0.5 grams per square meter in southern Finland, 0.2 to 0.3 grams in central Finland, and 0.1 to 0.5 grams in northern Finland.

In 1980 the annual sulfurous precipitate accumulation in a large part of southern Finland was over 1.0 grams per square meter.

Currently about one-half of the acidic precipitate is sulfur-based and about one-fourth of the sulfur precipitate is from domestic origins.

At this time the critical level is exceeded in many places and this has harmful affects in the environment. Excessive acidity damages forests and kills fish, among other things.

Olli Ojala says that for Finland to meet critical pollution standards it must also try to effect decreases in the emissions of other countries through international treaties.

Fifty-eight percent of Finland's sulfur emissions is due to energy generation and consumption. Industry's share is 38 percent and transportation's is 4 percent.

Agencies To Conduct Survey of Polluted Land Areas

93WN0332D Helsinki HELSINGIN SANOMAT in Finnish 21 Mar 93 p 4

[Article by Eeva Palm: "Polluted Land Areas Surveyed"]

[Text] Vaasa (HS)—The Water and Environment Board has commissioned a national survey of polluted land areas. In cooperation with local communities, the water and environment districts have drawn up a long list of areas in which the land areas constitute a danger to either the natural environment or human beings' health.

According to the study, the worst damage caused by pollution is in Uusimaa, the capital district, the Salpausselka area, and the area surrounding Oulu.

While they were drawing up the list, they prepared an order of urgency for the study and restoration of the areas. The areas surrounding metal, chemical, and wood-processing plants as well as dumps are the commonest targets. Since background content specifications for

nowhere near all pollutants have been formulated in Finland, the model for them was taken from the Netherlands.

It is based on the principle that the polluter pays for the costs of restoration. If operations have been at a standstill for a long time and speedy action is necessary, for example, because of the proximity of groundwater areas, aid to finance it may be applied for from both the government and the municipalities. Government aid may amount to no more than 50 percent of the total.

Ecoconcreting, the transfer of masses of pollutants to official dumps, or the covering over of land masses may be employed to restore land areas.

Some of the land areas that have now been surveyed were even earlier known to have been polluted, but new problem areas have also been discovered. The Korsnas lead mine area, for example, which the local municipality purchased from Outokumpu as an industrial and residential area, was discovered in the Vaasa water and environment district area.

Ministries Solicit Public Opinion, Support on Rio Conference Results

93WN0345C Helsinki HELSINGIN SANOMAT in Finnish 24 Mar 93 p 2

[Editorial: "Challenge for Those Involved in Debates on Environment"]

[Text] Citizens, communities, organizations, and others influencing policy decisions are asked to take a stand on how Finland is to implement the UN's Rio Conference proclamation, operations scheme, and several treaties of that conference. Early in the week the Ministries of Environment and Foreign Affairs sent a document, which is to be circulated broadly, detailing the results of the Rio conference. The objective is to give out information about agreed-upon responsibilities and to inspire a thorough debate on the possibilities of permanent advancements in the field.

The report is wisely being made available to anyone who is interested and is free of charge. Environmental policy, after all, does not make an impact unless it has broad support from the general public. The ministries have to deal with the UNCED [UN Conference for Environment and Development] environmental and development conference results within their own spheres of activity such as trade, transportation, and agriculture. Elected and appointed officials in individual communities will have to form opinions in a broader range of implementations.

If the document is successful in inspiring local-level discussions it has already reached one of its goals. Except for 14 counties that had been selected experimentally, counties accross the land have generally not dealt with responsibilities inferred from the UNCED programs or upcoming environmental impact requiring act. How are they to protect diversity of species or to restrict atmospheric quality impairing emissions within their own territory?

Statements from hundreds of people involved would then be considered in a committee of permanent advancement headed by the prime minister and a group of cabinet ministers. This high-level organ will be set up yet this spring. Hopefully this committee will not inspire pessimism and itself begin to doubt Finland's capability to honor its commitments without even trying. The requirements of recession era economics and permanent environmental advancement are not necessarily mutually contradictory.

Approval of Environmental Policy Department Unlikely

93WN0345B Helsinki HELSINGIN SANOMAT in Finnish 24 Mar 93 p 7

[Article by Pekka Vaisanen: "Sirpa Pietikainen Pushing for New Department for Ministry"]

[Text] Minister of Environment Sirpa Pietikainen of the Conservative Party wants to set up a new environmental policy department within the ministry. Her proposal is due to be presented to the cabinet on Thursday [25 March] but its prospects for approval are very slim since it is opposed by both Conservative and Center Party members.

Currently the Ministry of the Environment has an environmental protection department which the proposal would split into two. Both of these departments would operate under the Ministry of Environment.

The new environmental policy department would be responsible, among other things, for general development of environmental policy, determination of environmental impact estimates, monitoring environmental conditions, and environmental economics.

The Center Party is likely to regard Pietikainen's proposal like a bull does a red cape because of its promotion of centralized planning and development. The party has already been in opposition to several of Pietikainen's projects such as the proposal to make a law requiring emvironmental impact statements.

More Work for Rusanen

According to the latest proposal the planning and construction department would also be split so that the construction part would be transferred into the already existent housing department. The department would be renamed the housing and construction department. This department would be under Minister of Housing Pirjo Rusanen of the Conservative Party.

The new housing and construction department would provide two directorships. Current housing department head director Martti Lujanen would be promoted to the number-two spot with responsibility over development

and international affairs. According to plan the number-one spot would be given to a Conservative Party member. The Center Party's gain in the bargain is the post of housing treasurer. The head director of the housing agency would be terminated; Teuvo Ijas of the Center Party would be named to this post.

Increasing Rusanen's supervisory responsibilities is also to the Center Party's liking. One point that has Center Party members puzzled, however, is the proposal for a separate unit for dealing with international affairs. According to the current draft of the proposal this post would be filled via appointment by the minister of environment and not the president, as is the case with other high offices.

Another somewhat upsetting point in the proposal, from a Center Party interpretation, is that the sphere of influence for the Ministry of Environment is extended to overlap that of the Ministry of Agriculture and Forestry.

Foreign Broadcast Information Service (FBIS) and Joint Publications Research Service (JPRS) publications contain political, military, economic, environmental, and sociological news, commentary, and other information, as well as scientific and technical data and reports. All information has been obtained from foreign radio and television broadcasts, news agency transmissions, newspapers, books, and periodicals. Items generally are processed from the first or best available sources. It should not be inferred that they have been disseminated only in the medium, in the language, or to the area indicated. Items from foreign language sources are translated; those from English-language sources are transcribed. Except for excluding certain diacritics, FBIS renders personal names and place-names in accordance with the romanization systems approved for U.S. Government publications by the U.S. Board of Geographic Names.

Headlines, editorial reports, and material enclosed in brackets [ ] are supplied by FBIS/JPRS. Processing indicators such as [Text] or [Excerpts] in the first line of each item indicate how the information was processed from the original. Unfamiliar names rendered phonetically are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear from the original source but have been supplied as appropriate to the context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by the source. Passages in boldface or italics are as published.

SUBSCRIPTION/PROCUREMENT INFORMATION

The FBIS DAILY REPORT contains current news and information and is published Monday through Friday in eight volumes: China, East Europe, Central Eurasia, East Asia, Near East & South Asia, Sub-Saharan Africa, Latin America, and West Europe. Supplements to the DAILY REPORTs may also be available periodically and will be distributed to regular DAILY REPORT subscribers. JPRS publications, which include approximately 50 regional, worldwide, and topical reports, generally contain less time-sensitive information and are published periodically.

Current DAILY REPORTs and JPRS publications are listed in *Government Reports Announcements* issued semimonthly by the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, Virginia 22161 and the *Monthly Catalog of U.S. Government Publications* issued by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

The public may subscribe to either hardcover or microfiche versions of the DAILY REPORTs and JPRS publications through NTIS at the above address or by calling (703) 487-4630. Subscription rates will be provided by NTIS upon request. Subscriptions are available outside the United States from NTIS or appointed foreign dealers. New subscribers should expect a 30-day delay in receipt of the first issue.

U.S. Government offices may obtain subscriptions to the DAILY REPORTs or JPRS publications (hardcover or microfiche) at no charge through their sponsoring organizations. For additional information or assistance, call FBIS, (202) 338-6735,or write to P.O. Box 2604, Washington, D.C. 20013. Department of Defense consumers are required to submit requests through appropriate command validation channels to DIA, RTS-2C, Washington, D.C. 20301. (Telephone: (202) 373-3771, Autovon: 243-3771.)

Back issues or single copies of the DAILY REPORTs and JPRS publications are not available. Both the DAILY REPORTs and the JPRS publications are on file for public reference at the Library of Congress and at many Federal Depository Libraries. Reference copies may also be seen at many public and university libraries throughout the United States.