JPRS-TEN-93-001
8 January 1993

JPRS Report

Environmental Issues

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Basel Convention Signatories Meet in Paraguay

Approve Draft Law on Hazardous Waste Transport

PY0312173392 Madrid EFE in Spanish 2228 GMT 2 Dec 92

[Text] Piriapolis (Uruguay), 2 Dec (EFE)—Experts from the signatory countries of the Basel Convention on transport of toxic material today approved a draft law on transport of hazardous waste from one country to another. This draft law will serve as a model for each signatory country to pass as law.

After three days of discussions, more than 300 experts submitted the draft model to a ministerial meeting that is scheduled to begin tomorrow, 3 December, at the Piriapolis beach resort, 96 km east of Montevideo.

The meeting is being organized by the UN Program on Environment and by the Uruguayan Housing and Environment Ministry.

Sources close to the meeting have told EFE that the model will have to be adapted to the needs of each state so that it conforms to each country's internal laws.

The draft model describes the various types of hazardous waste and mechanisms for custom offices and environment ministries to apply international treaties.

The international ecology organization "Greenpeace" has charged in Piriapolis that transfers of "toxic waste" are being disguised under alleged materials for "recycling" and alleged contributions for industrial projects in developing countries.

The Basel Convention, which was signed in 1989 by 104 countries, went into effect this year following ratification by 35 signatories. The convention does not include specific provisions to regulate the as yet uncontrolled transport of toxic waste.

Mostafa Tolba, executive director of UN Environment Program, admitted that this is the case and noted that "the convention is not a cure-all," but it is a beginning.

Call for Halt in Waste Exports

PY0612210692 Madrid EFE in Spanish 1846 GMT 4 Dec 92

[Text] Piriapolis, Uruguay, 4 Dec (EFE)—The first conference of the Basel Convention member countries today called on the industrialized countries to prohibit the export of their dangerous waste for its elimination in developing countries.

The 36 countries that ratified the convention on the transportation of waste—of the 104 that signed the Basel Convention in 1989—asked the developed countries for a detailed report on the progress made to prohibit the export of waste.

It is hoped that by the first meeting scheduled for 1994 enough progress will have been made by the developed world on this issue to prevent further contamination of the environment.

The treaty members hope that Japan, the United States, and the 11 EC countries that currently are committed to the ratification of the convention conclude their internal processes to become obligated to the international law on the transfer of waste.

France is the only EC country that has ratified the convention.

The majority of the countries that agreed in 1989 on the treaty's text attended the meeting in Piriapolis, 96 km east of Montevideo, and participated in the debates after several developing countries, with the support of environmental organizations, promoted a harsher stand by the international convention.

The Greenpeace international environmental organization, which attended the meeting as an observer, asked for the prohibition of the transportation of all kinds of waste, not only toxic, to prevent "cover" development projects that use poor nations as "waste dumps for the industrialized countries."

The developed countries that have not ratified the convention on the transportation of toxic waste produce 95 percent of dangerous waste, and the United States is among the first.

UN Environmental Progam Executive Director Mostafa Tolba said: "It is obvious that without the ratification by the United States and its active participation in the treaty's implementation, the Basel Convention will not fulfill its objectives."

Tolba added: "The traffic in poisons is a profitable business and there will be a growing number of middlemen in the world anxious to get benefits."

The meeting's conclusions indicated that it costs $40 [no unit specified] to eliminate waste in Africa while in Europe and the United States the cost is from $150 to $1,500.

Tolba said: "The most dangerous waste will always go for the lower cost." He noted the importance of the prohibition to prevent the Third World from becoming the developed world's waste dump.

Mideast Working Group on Environment To Convene in Tokyo

OW0512024992 Tokyo KYODO in English 0229 GMT 5 Dec 92

[Text] London, Dec. 4 (KYODO)—Two days of multilateral talks on the Middle East were to end in London on Friday [4 December], and a key source said a new round of working group meetings was scheduled in world capitals, including Tokyo. Meetings on regional issues will be held in February and March, said the source, who is close to the talks' steering committee.

He said the working group on the environment will convene in Tokyo, the arms control group in Washington and water resources will be discussed in Geneva. Oslo is to host talks on refugee problems, and economic cooperation will be handled in rome. Japan has been serving as co-chairman for the working group on the environment.

During their second meeting the international steering committee, which is part of the Middle East peace process, the results of the five working groups' most recent meetings were discussed.

The steering committee itself will have its next meeting, which is the third in the series, in Moscow in March or April. The source said Russia, co-sponsor of the committee like the United States, had voiced strong interest in hosting the meeting even though it had been unofficially assigned to Tokyo. Tokyo therefore will host the fourth meeting but no date has been set, the source said.

NIGERIA

Official Notes 'Sharp' Increase in Attempts To Import Hazardous Waste

AB0101154993 Dakar PANA in English 1544 GMT 30 Dec 92

[Text] Abuja, 30 Dec. (NAN/PANA)—Director of Nigeria's Federal Environmental Protection Agency (FEPA), Dr. Evans Aina, has said 1992 saw a sharp increase in attempted waste importation into the country.

He told a press briefing in Abuja on Tuesday [29 December] that in the last 20 months, 20 international alerts of proposed shipment of hazardous wastes toward Nigerian shores were reported.

These cases involved a Japanese ship "Maria Laura" which tried to export hazardous wastes to Africa, a Nigerian company in a Dutch deal, and a Romanian company which shipped wastes from Germany under the guise of paints.

The other cases involved a plan by one Dr. Ted Ekwe to dispose of toxic nuclear waste products in Nigeria and attempts by some Nigerian firms to import toxic waste. He said FEPA and Nigerian security agents were stepping up investigations to track down Nigerians involved in the deadly trade. He also said effective compliance and monitoring measures were being placed on Nigeria's high pollution industries such as those involved in cement production, asphalt, tanning and paints.

The director said, however, a lot of improvement had been achieved in changing the attitudes of Nigerian industry toward the production of wastes. He said the country's textile industries and the asbestos manufacturers association in particular, reported regularly to FEPA on the issue. He said that with the current accreditation of consultants and laboratory tests being carried out by FEPA, industries should be in a better position to carry out environmental audits of their facilities.

SENEGAL

African Ecologists Party Legalized

AB1612194792 Paris AFP in French 0925 GMT 16 Dec 92

[Text] Dakar, 16 Dec (AFP)—The African Ecologists Party, the first one in Senegal, has just been legalized by the Ministry of Interior and is the 18th political party in Senegal, it was learned today in Dakar.

The African Ecologists Party, which has not yet published a program, is led by a 46-year old linguistics and psychology lecturer, Mr. Aboubacry Dia.

A native of the River Senegal Region, Mr. Dia teaches at the Thies Advanced Teacher's Training School about 60 km from Dakar.

Steps for Improving Coal Utilization Rate Detailed

93WN0007A Beijing ZHONGGUO NENGYUAN [ENERGY OF CHINA] in Chinese
No 8, Aug 92 pp 35-37

[Article by Zhu Liangdong [2612 5328 2767] of the Resources Office, State Planning Commission]

[Text] China's energy consumption structure is mainly based on coal, with about 75 percent of energy provided by coal. Further, since direct burning is used extensively, coal consumption caused not only environmental pollution but also disruption of the ecology. In 1990, for example, China consumed a total of 1.055 billion tons of coal. Out of the total, 858 million tons or 81.3 percent were consumed by material production departments, and 197 million tons or 18.7 percent were used for daily life. Of the coal used by the material production departments, 832 million tons (78 percent of the national total) were used by industry, mainly the electrical, building material, metallurgy, chemical engineering, and coking industries. Together with part of daily life consumption, more than 80 percent of the coal was burned directly. Because of the poor burning technique, the utilization rate is low and the results are wasted energy, polluted environment and occupied farmland. During the winter season in northern China, the amount of ash and smoke released is more than twice that in other seasons. In southwestern China the sulphur content of coal is high and SO_2 emission in the cities exceeds the allowable level. The high emission of SO_2 in Chongqing, Guiyang, and Liuzhou caused severe air pollution and led to acid rain in some parts of the region. The solution is to use the resources sensibly and in an integrated manner, make use of energy conservation methods, improve the technology and equipment, reduce the energy consumption per unit of production, and improve the energy and heat utilization rate. These measures will not only conserve energy and increase the economic benefits, but also improve the ecological environment and reduce air pollution. It is killing several birds with one stone.

Energy conservation and environmental protection are intimately related. Fining without management is treating the symptom but not the disease, which will not improve the environment.

To improve the coal utilization rate and reduce air pollution, efforts must be made in the following areas.

I. Widely Promote Energy Conservation Propaganda and Improve the Energy Awareness of the Entire Population

China pays great attention to energy conservation. The State Council holds unscheduled working conferences on conservation to study the energy situation and energy policies. The State Council also requires departments in charge of conservation to make full use of the media in publicizing China's energy policy, the problems in supply and demand, the low utilization rate of energy, and the severe waste in energy resources so as to make the population aware of the urgency and the long-term strategic importance of the energy issues. To ensure a steady and coordinated development of China's national economy, and to accomplish the mission of "increase the total value of national production in the 1990's through further conservation and consumption reduction," a nationwide effort must be made to conserve coal, electricity, oil, water, gas, materials, and to have conservation business, city, plants, shops, section and work groups. The whole society must be made conscious of conservation, resources, and environment, so that the population will spontaneously conserve energy.

II. Conduct Technological Reform Using Advanced Science and Technology

In the Eighth 5-Year Plan in China, the emphasis on technology reform is to put conservation at the top of the agenda. We believe that the directions for conservation technology are:

1. Improve Industrial Boilers

According to incomplete statistics, China now has more than 400,000 industrial boilers and 800,000 steam-tons, and consumes 300 million tons of coal per year at an average efficiency of 55-60 percent, which is about 15-20 percent lower than that in industrialized nations. The low efficiency in coal utilization not only wastes a great amount of coal but also severely pollutes the environment. If the boiler efficiency were raised to 70 percent, China would save 50 million tons of standard coal per year. Boilers with a capacity greater than 10 steam-tons per hour and operated more than 4,000 hours per year could be used to supply heat and electricity; for example, they may be used to supply heat in the winter and for cooling in the summer, and to supply hot water all year round. This would be the best way to improve heating-supply efficiency, conserve energy, improve economic benefits, and reduce atmospheric pollution.

Low-efficiency boilers with a capacity less than 4 tons per hour should have their furnace chamber modified. A number of modifications have been developed for various models and the cost for modification may be recovered in the same year. Such modification not only conserves coal but also improves the thermal efficiency by more than 10 percent.

2. Continue To Renovate Industrial Kilns

China now has more than 140,000 industrial kilns that consume nearly 200 million tons of coal per year. The thermal efficiency is on average 10 percent lower than their foreign counterparts. Single-item technology modifications were made in the early 1980's and system improvements are available today. The improvements have not only raised the technical level of the kiln technology but also prolonged the service life of the kilns. For example, kilns in the metallurgy system may be improved to raise the efficiency by 12 percent. Cement kilns may be improved to lower the unit energy consumption by 20 percent and the production cost by 10 percent. Technological improvements for the future should emphasize steel rolling heat furnaces, refractory inverted flame kilns, ceramic kilns, cement kilns, and glass pool furnaces.

3. Make a Great Effort To Develop New Technologies for Coal-Burning Power Plants and To Lower the Coal Consumption in the Electric Power Industry

The structure of China's electric power industry is based on coal burning. About 80 percent of China's electric power is generated by burning coal. In 1990 the coal-powered plants (industrial heating plants) burned a total of 290 million tons of coal. In China the coal consumption for electrical supply is 427 g/kwh, but the figure is 330 g/kwh in industrialized countries. If China could lower the consumption by 50-60 g/kwh by the end of this century, it would save 50-60 million tons of coal per year. In the meantime, efforts should be made to actively develop new technologies for power generation by burning coal. Circulatory fluidized bed furnace is a new technology developed in the 1980's and it is suitable for burning coal with low heat content. Its combustion thermal efficiency is 99 percent, its thermal efficiency is greater than 85 percent, the desulphurization rate is greater than 90 percent, and the SO_2 and ash emissions are both low. The solid waste from the furnace may be used as cement additive or other construction material. Development and demonstration efforts are currently underway for this modern technology.

4. Develop Coal Gas in the Cities

Converting coal into gas is an important means for energy conservation, pollution reduction, and service to the city dwellers. In 1985, city coal gasification rate was 22 percent in China. The percentage increased to 42 percent in 1990 and more than 55 million people used gas. With the exception of Guiyang, Xining, and Lhasa, all the provincial capitals and the 14 open cities have some sources of gas. In the future the development of coal gas in the cities should be planned with local coal resources. Coal gas can improve the city environment, decrease pollution, reduce coal transportation, alleviate traffic jams, and increase the leisure time of city dwellers.

5. Develop Centralized Heating Supply in the Cities

Centralized heating-supply is an indispensable facility in modern cities. It is another important means for conserving energy and improving the urban environment. According to incomplete statistics, there are more than 200 million square meters of centrally heated city area in China and the cities use about 50 million tons of coal for heating per year. If centralized heating were used for all the cities, there would be a saving of about 15 million tons of coal per year. The progress is faster in northeastern China. In Dalian the centralized heating rate has reached 35 percent. Central heating should be actively developed in appropriate places in China.

6. Actively Develop Formed Coal

Coal forming is an effective way to control pollution and improve thermal efficiency. Many city dwellers in China still use loose coal, which has a thermal efficiency of less than 20 percent. Burning formed coal can conserve 20-30 percent of coal. China has a formed coal production capacity of 33 million tons per year, which is about 30 percent of the coal used in daily living in the cities. Burning honeycomb coal can reduce the amount of ash and smoke by 50-60 percent. With the addition of sulphur-fixing agents, the emission of SO_2 may be reduced by 40-50 percent. To improve the air in the cities, we should make a big effort in using formed coal.

7. Develop Coal Dressing Operation

Coal dressing is an important step in improving coal quality, conserving energy, improving thermal energy utilization, alleviating the transportation pressure on railroads, improving the quality of coke, improving the air quality, and increasing the economic benefits. Today about 18 percent of China's raw coal is dressed. Since most coal in China is burned directly without dressing, the thermal efficiency is very low, which is less than 30 percent. It is the undressed coal that causes air pollution. Preliminary data showed that since as much as 15 million tons of SO_2 was released into the atmosphere in 1990, acid rain has spread into more than 30 cities. Coal dressing plants should be built based on customers' needs so that coal may be used more effectively.

8. Develop New Coal Chemical Engineering and Coal Slurry Technologies

The cost for producing acetic acid and formic acid from coal gas is lower than that using the petroleum process. Attention should be given to the development of coal chemical engineering in suitable locations. Coal slurry is a fluidized low pollution fuel and may be burned in place of oil. It is also a means for conserving and sensible utilization of coal and for improving the environment. It should be promoted in places with the proper conditions.

9. Actively Consolidate Coke Production

The indigenous coking method not only wastes precious coal resources but also pollutes the environment and jeopardizes health. It causes severe damage to the ecology and releases a large amount of carcinogenic materials that threatens the health of local residents. It consumes 0.45 tons more of high quality coal to produce 1 ton of crude coke. Based on the current output of crude coke in China, 8 million more tons of coking coal will be used each year, which is equivalent to the annual output of a large coal mine. We must therefore make an early decision to rectify and renovate the crude coking technology and develop semi-mechanized production.

10. Actively Pursue Integrated Utilization of Resources

The large amount of waste gas, cinder, and water generated by industry are the main sources of pollution in China. Based on incomplete statistics, the annual emission is 14 million tons of smoke and ash, 15 million tons of SO_2, and 200 million tons of waste water. Each year the industry produces more than 600 million tons of coal cinder, about one-fourth of this is utilized and the rest piled up, occupying useful land and causing secondary pollution. Of the cinder produced, about one-third is coal refuse and coal dust. China is now placing a high priority on the integrated utilization of coal refuse and coal dust. The main cause of pollution is improper use of resources, and sensible and

integrated utilization of resources is the fundamental solution for eliminating pollution and improving the environment. When the resources are used properly, industrial waste water, gas, and solids will be reduced and the environment will be protected. Furthermore, wastes can be turned into something valuable.

Low-Temperature Reactor Refrigeration Technology Developed

93WN0007D Beijing RENMIN RIBAO in Chinese 14 Sep 92 p 3

[Article by Ma Xuquan [7456 2700 3123] and Wang Chengxuan [3769 0701 6693]]

[Text] Success in the low-temperature heat-supply nuclear reactor refrigeration system, a state key project in the Eighth 5-Year Plan, has enabled multiple use of the nuclear energy for refrigeration in the summer, heating in the winter, and co-generation of heat and electricity. It has opened up a new approach for integrated utilization of nuclear energy.

This new technology has been completed by the Nuclear Energy Technology Design Institute of Qinghua University. It employed the advanced lithium bromide absorption refrigeration technology and achieved large area air-conditioning refrigeration using the low-temperature nuclear reactor, instead of electricity, oil, or coal, as the power source. On hot days above 30°C, it can control the room temperature around 20°C. Expert evaluations conducted by the State Education Commission concluded that refrigeration using low-temperature reactor is safe, reliable, and has reached international standard.

The successful development of the low-temperature reactor refrigeration technology has broadened the application of low-temperature reactors. It can not only solve the energy transport problem for heating and cooling in China's cities, but will also greatly reduce air pollution and improve the environmental sanitation in the cities. It has great value for application and wide use.

Plans Announced for 'Waste-to-Energy' Power Plant

HK0412043092 Beijing CHINA DAILY in English 4 Dec 92 p 3

[Report by staff reporter: "Plant To Turn Waste to Power"]

[Text] A $75-million "waste-to-energy" power plant, the first of its kind for China, is expected to be built in Ningbo City, in East China's Zhejiang Province, sources with the Ministry of Water Resources said.

The power station, with a designed generating capacity of 30 to 60 megawatts, will make the best use of local garbage as material and will contribute greatly to the coastal province's economic growth in the years ahead, the sources said.

"Technology related to both sources of new energy and environmental problems is a matter of utmost concern in many countries today," the sources said, adding that the conversion of waste into energy is regarded as one of the developed countries' most advanced techniques.

This decision, the sources said, shows that "China has started taking practical action toward seeking new sources of energy through gradual introduction of advanced garbage-treatment technology in the near future. Some industrialized nations have already realized considerable economic benefits using their increasing amounts of garbage in this way."

Negotiations and specific studies on the technological feasibility and economic and environmental benefits of the new type of power generating station have been going on since 1991 under a joint inquiry by foreign and Chinese experts.

A memorandum of agreement has been reached between the Rural Areas' Electrification Research Centre (RAERC) under the Ministry of Water Resources and two overseas companies—one from Italy and the other from Hong Kong.

Based on the site survey conducted by experts in the past year, the power station with related docks and other transportation and water supply facilities will be constructed at Hutoudao Island near Ningbo City.

As a total of $75 million worth of overseas investment is to be poured into the proposed power station in the next few years, preliminary design and further feasibility studies by the RAERC's experts are also underway.

Yixing To Build First Environmental Protection City

HK1412150592 Beijing ZHONGGUO XINWEN SHE in Chinese 0336 GMT 7 Dec 92

[By reporter Chen Qi (7115 3825) and correspondent Sheng Pansong (4141 3961 2646): "China Builds Environmental Protection Science and Technology City in Yixing"]

[Text] Yixing, 7 Dec (ZHONGGUO XINWEN SHE)—The only environmental protection science and technology city in China—the Yixing Environmental Protection Science and Technology Industrial Center—is rising in the ceramics center of Yixing, a famous touring spot bordering on Tai Hu.

The Yixing Environmental Protection Science and Technology Industrial Center is a state-level high-tech development zone, and its establishment was recently approved by the State Council. It is also the only high-tech industrial development zone in China which focuses on environmental protection industries and new- and high- technology and which integrates science and technology, industry, and trade into an organic whole. The plans call for the center to occupy 11 square kilometers, and the first phase of development, which is currently being undertaken, covers five square kilometers.

The environmental protection industry, also called the "green industry," has been gradually rising in China in

recent years and is increasingly attracting people's attention. Yixing's ceramics center has always enjoyed the reputation of being the "home town of environmental protection" in China. It started developing the environmental protection industry earlier and is taking the lead in China. A product series of four large categories and over 2,000 varieties has taken shape, and some of its products have been used in key projects in China as well as exported to Southeast Asia and the Middle East. The environmental protection industry has become the superior industry in Yixing, with more than 500 environmental protection enterprises operating in the city. Last year, the output value of its environmental protection industry exceeded 600 million yuan, which accounted for 50 percent of Jiangsu Province's output and 15 percent of that of the entire country.

The development of the environmental protection industry and construction of the "environmental protection science and technology industrial center" is being treated as a hope project of accelerating economic development in Yixing and of "regenerating Yixing." It is alleged that the Yixing Environmental Protection Science and Technology Industrial Center will be developed into a multi-functional green zone with a fine environment and a high-tech new industrial city. It will also focus on the development of eight industries, specifically, new installations and technology for handling environmental pollution, micro-electronic environmental protection projects, new materials for environmental protection, devices for monitoring and controlling the environment, scientific and technological software for environmental protection, and biological projects. The concrete objectives are as follows: By the end of the Eighth Five-Year Plan period, investment in the center will reach 800 yuan; over 20 scientific research institutes will be established in the center; and a total of 150 environmental protection enterprises will be initiated. In addition, efforts will be made to develop 300 sophisticated projects, thus enabling the center to earn 400 million yuan in science and technology, in industry, and in trade and to realize an industrial output value of 3 billion yuan.

At present, the overall plan for the Yixing Environmental Protection Science and Technology Industrial Center has already been formulated; construction projects of 20 kilometer roads and 13 bridges in the center have been completed, and various coordinating facilities—such as power and water supply and communication—have already been put into service. More than 30 enterprises have already been allowed to operate in the center, and preparations for starting 11 projects with total investment of 165 million yuan have already been made.

Zhang Yunmin said: To attract investors inside and outside the country to initiate industries in the Yixing Environmental Protection Science and Technology Industrial Center, enterprises operating in the center will enjoy the preferential policies granted to state-level new- and high-technology development zones. Besides, they can also enjoy five aspects of preferential policies formulated by the Yixing City Government. Meanwhile, in constructing the environmental protection science and technology industrial center, the experience of special economic zones and high-tech centers in foreign countries will be drawn on, and a series of reform measures will be implemented, such as developing organizations in the center into enterprises, practicing a joint stock system in the enterprises, and using contracts to employ workers. It is said that 10 foreign business firms are discussing ways to invest in the center.

Concerned persons hold that the Yixing Environmental Protection Science and Technology Industrial Center will become an important base in which the scientific and technological achievements of China's environmental protection industry will be translated into commodities and industries and will be presented to the international market. This move shows that the Chinese Government attaches importance to environmental pollution and has started making efforts to provide effective material means and technical guarantees for improving China's environmental protection.

Government Reinforces Regional Environmental Standards

HK0912021692 Beijing CHINA DAILY in English 9 Dec 92 p 3

[Report by staff reporter Wang Yonghong: "Pollution Control Standards in Action"]

[Text] In another bid to improve environmental protection, the Chinese Government has set more than 230 environmental standards to be observed nationwide, officials from the National Environmental Protection Agency (NEPA) said.

The State issued these new standards to reinforce the 50 regional environmental standards already in place.

So far, nearly all major pollution sources in the country have been required to observe specific standards, officials said.

In July, China published standards for the discharge of pollutants from iron and steel plants, printing and dyeing mills, spinning and weaving factories, meat processing mills, boiler plants and papermaking mills.

Good Results

These standards have achieved good results, and China plans to go on drawing up such regulations to enforce environmental protection, the officials said. Six more standards are expected to be set next year.

China last year collected fines totalling 2 billion yuan ($344 million) from plants that discharged pollutants, he said.

Such fines are expected to reach 2.2 billion yuan ($379 million), involving 210,000 enterprises nationwide by the end of this year, the official said.

The charge has forced the polluters to strengthen their management of environmental pollution and to keep the discharge of pollutants at a low level.

The money from fines goes into a special fund for environmental protection projects, the officials said.

Thanks to the priority and favourable policies the Chinese Government gave to the development of environmental protection, this new industry has seen rapid progress in recent years.

More than 2,000 enterprises are producing about 240 different environmental products.

Guidebook

In order to continue the smooth development of the environmental industry, the NEPA has mapped out a guidebook for the development of environmental products, with a detailed introduction of each kind and its market demand at home and abroad.

According to the guidebook, 149 products have been listed as top environmental products, including products for the treatment of air pollution, water pollution, solid wastes, noise and environmental monitoring.

Meanwhile, obsolete industrial products that are harmful to the environment will be banned from production.

China has so far stopped production on 271 products in 14 categories harmful to the ecology. These represent 45 percent of total outdated industrial products.

According to NEPA's plan, about another 100 machines and electronic products with high power consumption and heavy pollution will be banned from production between now and the century's end.

And to further its management of environmental protection, the NEPA has planned to set up 15 stations nationwide for monitoring the quality of products for environmental protection.

ADB Approves Loan for Qingdao Environment Project

OW1012084492 Beijing XINHUA in English 0609 GMT 10 Dec 92

[Text] Manila, December 10 (XINHUA)—The Asian Development Bank (ADB) today approved a loan of 103 million U.S. dollars to China for the Qingdao environmental improvement project.

This was the first ADB project to adopt an integrated approach to environmental problems. The project will improve air quality by curbing coal usage and water quality by providing a water treatment plant.

Situated on the Shandong Peninsula southeast of Beijing, Qingdao, like many other cities in China, has been severely polluted because of rapid growth, industralization and a heavy reliance on coal-fired energy.

Qingdao's 6.7 million residents, especially those in the old city, breathe air far below acceptable standards, with an annual death rate from lung cancer in Qingdao five times the national average, the ADB said.

Under the project, hundreds of thousands of inefficient domestic coal stoves and small boilers will be eliminated under a program of coal gasification with a new gas distribution network to replace the existing old and inefficient coal gasification plant.

The Qingdao power plant will be renovated by replacing inefficient generators with a new generation system which will dismantle hundreds of small boilers and chimneys.

And, a new pipeline network will be installed to transport steam and hot water to factories and households in old Qingdao which are using coal-fired boilers.

Furthermore, a wastewater treatment plant will be set up on the Licun River in Cangkou district with a capability of treating 80,000 cubic meters of wastewater and sewage daily. The treated wastewater will be recycled for industrial plants and the sludge by-product for land reclamation as well as a soil conditioner.

The loan will be repayed in 25 years, including a five-year grace period, and its interest rate will be determined according to the bank's pool-based variable lending rate system.

Hong Kong Accused of Dumping Waste in 'Mainland Waters'

HK0101031593 Beijing CHINA DAILY in English 31 Dec 92 p 3

[Article by staff reporter Wang Rong: "HK Dumping of Rubbish Harms China Fisheries"]

[Text] Hong Kong's consistent dumping of sludge and rubbish in mainland waters have caused serious pollution and damaged Guangdong Province's fishing industry.

A joint investigation team of mainland marine and aquatic production administrations has started probing the situation, according to sources from the State Bureau of Oceanography (SBC).

The matter will be taken up with Hong Kong as results of the investigation come in.

According to the SBO, the polluted water between Guangdong's Wailindinyang Island and Hong Kong's Cheung Chau Island had spread to Guangdong's marine farming area during October.

Some 100,000 kilograms of artificially propagated fish died, causing losses of 9 million yuan ($1.58 million).

Where the Pearl River meets the South China Sea, a large amount of shellfish and fish died in the "foul smelling" water.

Hong Kong has been dumping its waste, mostly sludge and rubbish, in this area for years.

The amount soared in May this year, with waste being dumped up to 150 times each day.

The pollution spread, destroying fisheries which used to be a major source of Guangdong's revenue.

Fishermen now complain there are no fish to catch.

The dumping has also ruined the channel, which has become so shallow even a medium-sized fishing boat cannot traverse the lane in which 100,000-ton vessels used to sail.

The province's marine administration also found the aquatic farming area was so severely polluted that a clean net would be covered with sludge within three days.

The situation has become increasingly severe, according to the SBO.

In 1989, about 10,000 kilograms of artificially bred fish in this area died as a result of pollution, causing losses of 750,000 yuan ($131,578).

In 1990 up to 20,000 kilograms of fish valued at 1.88 million yuan ($329,800) were found dead due to pollution, and in 1991 more than 80,000 kilograms of fish died, causing losses of 3 million yuan ($526,000).

Although the flourishing economy of Guangdong Province has much to do with its co-operation with Hong Kong, various frictions have surfaced in the past decade, when the two neighbours' economic interactions boomed.

According to a report in Tuesday's China Environment News, Guangdong environmental administration has urged the provincial government to take legislative action against Hong Kong's shifting of poisonous chloro-fluor-hydrocarbon (CFCs) into the province, to prevent "inviting severe air pollution" into the province.

More than 34,000 tons of CFCs had been transported into Guangdong during the first six months of this year by Hong Kong businessmen, according to the provincial customs office.

REGIONAL AFFAIRS

Indonesia, Malaysia Agree To Counter Anti-Tropical Wood Campaign

BK0412071892 Jakarta Radio Republik Indonesia Network in Indonesian 0600 GMT 4 Dec 92

[Text] Indonesia and Malaysia have agreed to counter the anti-tropical wood campaign which is being fiercely launched by developed countries. At the ministerial meeting dealing with forestry in Kuala Lumpur, the Indonesian and Malaysian chief delegates underscored the need for the two countries to develop comprehensive forestry cooperation within the South-South framework.

Forestry Minister Hasyrul Harahap said that the anti-tropical wood campaign launched by the developed countries ostensibly to save the environment was in fact a pretext to protect their business interests. Meanwhile, Datuk Sri Lim Keng Yaik, Malaysian primary industries minister, stressed that South countries should hold a series of meetings to anticipate possible maneuvers by developed countries in the field of forestry.

Malaysia, Singapore, Indonesia Conclude Tanker Registration Accord

BK0712071192 Kuala Lumpur BERNAMA in English 0355 GMT 7 Dec 92

[Text] Kuala Lumpur, Dec 7 (OANA-BERNAMA)—Malaysia, Singapore, and Indonesia have agreed that tanker cleaning contractors should be registered to prevent indiscriminate disposal of sludge in the Straits of Malacca and adjacent waters.

The three littoral states have also agreed that details of the registration scheme would be worked out by the tripartite technical experts group.

Science, Technology, and Environment Minister Law Hieng Deng said Sunday that cleaning of tankers would only be allowed in designated areas.

Permits for such operations would be issued by the respective authorities of the various countries.

"We agreed that such contractors must comply with proper sludge disposal procedures under the scheme," Law said in a joint statement issued at a press conference with his Singapore Counterpart Dr. Ahmad Mattar.

Law said they would ask the Malaysia-Singapore Joint Committee on Environment to study the registration scheme to enable its implementation.

He also said Malaysia was seeking the help of states using the straits to clean up pollutants in the waterway.

He said they agreed that the experts groups could meet to discuss the proposal.

Mattar said he suggested the registration scheme—which was agreed to by Indonesia—to Law after receiving complaints of illegal dumping of tanker sludge off the Penggarang coast in Malaysia's southern Johor state.

He said cleaning work carried out on three Iranian tankers which sailed into Malaysian waters recently was done by a Singapore contractor with the approval of the Johor Port Authority.

"Our investigations found that no illegal dumping took place," he said.

"Singapore is studying the implementation of the scheme," he said, adding that there were 20 to 30 tanker cleaning contractors in the republic.

"We would like to see safe disposal of tanker sludge as one of the conditions that the contractors must comply with before we can register them," he added.

INDONESIA

Accord Reached With Malaysia for Maritime Security Team

BK0212133092 Jakarta Radio Republik Indonesia Network in Indonesian 1200 GMT 2 Dec 92

[Excerpts] Indonesia and Malaysia have agreed to further cooperate to improve stability in the two countries. The accord was reached at the 21st annual meeting of the Indonesia-Malaysia General Border Committee (GBC) in Jakarta today.

Military Commander General Try Sutrisno, who led the Indonesian delegation at the meeting, had expressed the hope that Malaysia will pay serious attention to the situation in the Straits of Malacca, particularly in the eastern part of the waterway which is frequently harrased by pirates. He also said that the two countries agreed to set up a Maritime Operation Planning Team (MOPT). [passage omitted]

Gen. Try Sutrisno said that efforts will be intensified through a clear mechanism of cooperation to prevent pollution and theft of natural resources in the territorial waters.

Defense Minister Datuk Sri Mohamed Najib bin Tun Haji Abdul Razak led the Malaysian delegation to the meeting. [Hong Kong AFP in English at 0928 GMT in English, in a similar report, adds: "Malaysian Defense Minister Mohamed Najib Tun Abdul Razak, who headed his country's delegation to the talks, said Indonesia and Malaysia were also discussing the idea of holding an inter-state conference on the Malacca Straits."]

JAPAN

Research Shows Acid-Rain Ions From China Increasing

OW2611150592 Tokyo KYODO in English 1106 GMT 26 Nov 92

[Text] Sakai, Osaka Pref., Nov. 26 (KYODO)—There has been a steady increase in the density and amount of acid-rain-causing sulfate ions brought from China by westerly winds, researchers at a university institute said Thursday.

The researchers, Assistant Professor Akira Mizohata and Assistant Norio Ito, working at an institute attached to the University of Osaka Prefecture, told a symposium in Sakai, southern Osaka, that data taken from instruments on the roof of their institute since 1986 shows a link between acid rain in Japan and China's increasing use of coal.

Mizohata and Ito said that during 1990, the density of the ions increased in March, when prevailing winds begin to blow from China, and that readings at 10-day intervals until the end of August averaged more than 6 micrograms per cubic meter.

This is more than the yearly average of 5.8 micrograms.

A microgram is one millionth of a gram.

Measurements of the density of the ions in the spring months of March to May fluctuated slightly, but showed an overall gradual increase.

If deductions are made to account for the presence of domestically produced ions from diesel vehicles and other pollutants, the researchers said the density of the ions coming from China in 1986 was 3.97 micrograms per cubic meter, and 5.26 micrograms in 1991.

The figure represents an increase of some 30 percent.

Mizohata and Ito said the change reflects China's dependence on coal as an energy source.

In 1990, the burning of coal released about 15 million tons of sulfur dioxide into the atmosphere each year in China, about 10 times the amount released in Japan.

The sulfate ions which result from the action of sulfur dioxide in the atmosphere last for a considerably long time and easily drift across to Japan on prevailing air currents.

They are absorbed by clouds and fall as acid rain.

Mizohata said he expects China to increase its consumption of coal. "The resulting effect on Japan will increase," he said.

Okinawa Governor Says Airport To Be Built on Farmland Site

OW2611143492 Tokyo KYODO in English 1112 GMT 26 Nov 92

[Text] Naha, Nov. 26 (KYODO)—Okinawa Governor Masahide Ota said Thursday the prefecture plans to build an airport on Ishigaki Island on inland farmland, ending a 13-year row on selection of the site.

Ota told a press conference he chose the Miyara-Makinaka area in the southeastern part of the island for the 140-hectare airport after "synthetically judging preservation of nature and local society."

The prefecture will begin negotiating with landowners and make specific plans to seek funds from the national government, he said.

Okinawa Prefecture launched the project to build the airport in 1979. Three areas—Miyara, Fusakino, and east of Mount Karadake—have been considered as possible sites.

The plans sparked international concern that the construction might destroy the world-famous blue coral unique to the area, forcing the authorities to make several reviews about the site.

Ota said choosing the Miyara-Makinaka area was "hard, considering the farmers' love for the land," and he will continue to make efforts to gain understanding from locals.

The governor said the plan to build the airport near Mount Karadake was dropped because the coral is an "asset not only for Japan but for the world."

Ishigaki Island, some 400 kilometers south of the main island of Okinawa, is known for its tropical climate and rare blue coral reef. The 221-square-kilometer island has been targeted for development as a marine sports resort.

Ota, elected in 1990 on a reformist ticket, has opposed the Mount Karadake site because of the expected impact on the reefs.

But the Ishigaki Municipal Assembly and many local citizens favor the site.

Government Panel Endorses Consumer Education on Environment

OW0212023492 Tokyo KYODO in English 0150 GMT 2 Dec 92

[Text] Tokyo, Dec. 2 (KYODO)—A government panel on Wednesday [2 December] issued a list of policies on consumer protection for fiscal 1993, with emphasis on promoting environmental awareness and other global issues among consumers. The consumer protection conference, headed by Prime Minister Kiichi Miyazawa and comprising 18 ministers, is responsible for basic planning and enforcement of consumer protection policies.

Environment policies in the list include increasing recognition among consumers of the "Eco mark," allowed only on environmentally friendly products, and promoting use of recycled paper for various purposes, such as postcards. The panel also suggested providing consumers with more information about energy- and resource-saving measures, and helping nature protection programs of local governments or private organizations. One policy encourages consumers to join a program of voluntary deposits for international aid connected with postal savings. Under the program, depositors donate 20 percent of their interest to various international aid programs.

The environment-related policy items come under one of four central themes. The others are consumer safety, fairer product standards, and protection from deceptive sales or services. Under the four themes, the conference has itemized 351 policies, including 31 new ones, which it said reflect the government's stated goal of improving the quality of life in Japan. The consumer safety theme is also

considered important because the government this year postponed legislation of a proposed product liability law.

In submitting the list to the cabinet, the conference said a comprehensive consumer protection system centering on such a law should be formulated within a year. The panel also said it is necessary to introduce unified hazard symbols for food and other products. It suggested the government study logos used in countries like the United States and Canada to warn consumers of possible dangers in using products.

Officials View Applicability of Basel Convention to U.S. Bases

OW0712105792 Naha RYUKYU SHIMPO in Japanese 5 Dec 92 Morning Edition p 2

[Text] Tokyo—At the meeting of the Committee on Foreign Affairs of the House of Representatives on 4 December, Eiichi Tamaki (Komeito) and Saneyoshi Furugen (Japan Communist Party) sought the view of the Ministry of Foreign Affairs concerning the Basel Convention, which deals with prohibition and punishment for the movement of toxic wastes across national borders—this in relation to environmental pollution inside U.S. military bases on Okinawa. While soil contaminated from the leakage of PCB's on Kadena Air Base has allegedly been transported to the U.S. mainland by ship, in the Basel Convention there is a strict regulation saying that unless it has been confirmed that wastes have been treated in an ecologically acceptable manner, the movement of such wastes across national borders is not permissible. Foreign Minister Watanabe said that "I am not sure whether the convention applies to (the bases in) Okinawa." This shows that the Foreign Ministry is unsure about its position on whether the Basel Convention applies to toxic wastes on U.S. military bases in Japan.

According to the Foreign Ministry, soil contaminated by PCB's on Kadena Base was excavated six times and completely disposed of. Around 110 tons of soil excavated during the first to the fifth time was moved to the U.S. mainland. The sixth time a total of 496 tons of soil was excavated and packed in drums, waiting for ship assignment. The U.S. side has said that disposal will take until July 1997.

Tamaki asserted that the Basel Convention stipulates that a written transport plan has to be submitted for approval or disapproval when wastes cross signatory countries's borders. Therefore, a written report is also required for wastes on U.S. military bases. However, Councillor Nomura of the Treaties Bureau of the Foreign Ministry said, "We cannot say for sure whether the Basel Convention applies to U.S. military facilities and areas. However, I think this is inappropriate in relation to matters pertaining to the status of U.S. Forces in Japan," thus indicating a negative view on the applicability of the convention to U.S. military facilities and areas. On the other hand, Director-General Sato of the North American Affairs Bureau limited himself to the statement that this matter would be dealt with based on established principles at the Environment Sub-committee under the Japan-U.S. joint committee, failing to mention the Basel Convention.

Furthermore, Furugen inquired about reports from the U.S. side that there has also been PCB soil contamination at Yokosuka Base. In response, Foreign Minister Watanabe said, "If this is true, we cannot remain indifferent; we will deal with it after verifying the facts."

MITI To Ask Industries To Set Up CFC Recycling System

OW0712111892 Tokyo KYODO in English 0940 GMT 7 Dec 92

[Text] Tokyo, Dec. 7 (KYODO)—The Ministry of International Trade and Industry is considering asking industries to set up a recycling system with a view to collecting chlorofluorocarbons (CFCs) to use again as a cooling agent after phasing out production of the ozone-depleting chemicals, ministry officials said Monday [7 December].

The move is in line with the agreement among signatories to the Montreal Protocol at a cabinet minister-level meeting in Copenhagen in November to ban the production and consumption of CFCs by the end of 1995, the officials said.

The signatories also agreed to ban in principle the consumption of hydrochlorofluorocarbons (HCFCs), an alternative to CFCs, by the year 2020.

Involved in the recycling is CFC-12, among other CFCs, used as a cooling agent for car air conditioners and refrigerators, they said.

Replacement of CFCs with HCFCs in car air conditioners has progressed ahead of the total ban on the production and consumption of CFCs in three years.

However, the need to supply CFC-12 to replenish old equipment using CFCs will remain. It is therefore necessary to collect residual CFCs from used vehicles before scrapping and recycling such CFCs by establishing a recycling route, the officials said.

Accordingly, the ministry plans to call on automobile, refrigerator, and airconditioner industries to set up a study group and will cooperate with them in establishing a recycling system as soon as possible.

The ministry also intends to instruct small and medium-sized companies, which are behind in stopping the use of CFCs like CFC-113 as a cleaning agent for electronic parts, to promote the use of ultrapure water or alcoholic substances, the officials said.

For this purpose, the ministry will hold seminars all over the nation on measures to reduce the use of CFCs.

For field instruction, it plans to open consultation sections at prefectural industrial research institutes in cooperation with local governments, the officials said.

MITI Official Opposes Gasoline Tax

OW0712113892 Tokyo KYODO in English 0714 GMT 7 Dec 92

[Text] Tokyo, Dec. 7 (KYODO)—Japan's Vice Trade Minister on Monday reiterated his ministry's stance to oppose proposed tax increases for gasoline and gas oil.

Especially commenting on an idea for tax hike for gas oil, Yuji Tanahashi, vice minister of the Ministry of International Trade and Industry, said at a press conference, "there is no need to increase taxes on gas oil as resources for local governments since they already have enough financial resources."

Asked about the idea of restraining emissions of nitrogen oxide from vehicles with diesel engines, Tanahashi said, "neither the Construction Ministry nor Home Affairs Ministry has brought forward such an idea."

Tanahashi indirectly criticized the environment agency, which advocates increased taxes on gas oil as a way of restraining nitrogen oxide emissions.

New Technologies Studied for Nuclear Sites

OW0812095292 Tokyo KYODO in English 0903 GMT 8 Dec 92

[Text] Tokyo, Dec. 8 (KYODO)—Japan's electric power companies are studying the possibility of building nuclear power plants on less solid structures than commonly used bedrock, industry sources said Tuesday.

The sources said the industry, in an effort to solve the difficult problem of securing new sites for the unpopular nuclear plants, is considering building facilities on the sea, underground, or softer grounds than bedrock.

The idea received a government panel's backing at a meeting last week, which said there is "a need to study (such possibilities) from a medium- to long-term point of view in order to widen the options of nuclear sites."

The Central Research Institute of the electric power industry, a think tank participated in by Japan's nine electricity firms, has already launched research concerning technologies needed to build nuclear plants on such sites. A report on the ongoing research is scheduled to be completed in three years.

The institute of energy economics, another private-sector think tank, released a report last spring on the feasibility of underground plants as well as two other possibilities.

Each of the three possibilities is considered "technologically feasible," especially on softer ground sites, according to studies made thus far. Tokyo Electric Power Co. and the Central Research Institute jointly built a model for nuclear plants on softer grounds in Taiwan.

Problems remain, however, of whether the plants would be economical and whether communities would accept them, the sources said.

Despite such hurdles, however, the industry sounds optimistic, with one industry official saying, "I'm confident these new methods will become a reality in the near future."

Communications Networks May Help Protect Environment

OW0812132692 Tokyo KYODO in English 1221 GMT 8 Dec 92

[Text] Tokyo, Dec. 8 (KYODO)—Businessmen would not have to make as many business trips if companies held more meetings by video hook-up, which would reduce transportation needs and save energy, according to a government guideline on environmental protection released Tuesday [8 December].

The guideline, compiled by the Posts and Telecommunications Ministry, said communications networks, if upgraded and more commonly used, can replace transportation and other energy-consuming means of doing business.

The ministry said it is willing to have its ideas included in the proposed environment law, which the Environment Agency plans to have enacted next year.

But ministry sources said the guideline, the first of its kind for the ministry, is expected to draw opposition from the transport and construction ministries since it runs against their policies of boosting the country's transport-related infrastructure.

The guideline also calls for greater use of radio waves for such purposes as gathering information on air and water pollution, and for atmospheric observation of ozone-layer depletion.

Also envisaged is the use of less polluting vehicles like electric-powered cars for delivering the mail.

Radiation From Uranium Waste Sites Exceeds Limits

OW0812134492 Tokyo KYODO in English 1244 GMT 8 Dec 92

[Text] Tottori, Dec. 8 (KYODO)—Two uranium waste depositories in western Japan pollute their surroundings with radiation far beyond the legally allowed limit, researchers of Osaka and Kyoto Universities said Tuesday.

The sites in the Asahata and Katamo Districts in Togocho, Tottori Prefecture, are run by Power Reactor and Fuel Development Co. of Japan (Donen), which dumps the waste of its uranium mining there.

The researchers found the concentration of the highly radioactive, lung-cancer causing gas radon in the air close to the depositories was 500 to 1,100 times higher than the average observed at other places.

Radons originate in the atomic disintegration of uranium residues which the waste still contains.

The survey carried out by Osaka University's physics department in cooperation with seven antinuclear groups

of Tottori Prefecture in June and July measured 5,670 becquerels per cubic meter of air at the edge of the Katamo depository, whose pit has been covered with sandbags.

On the moat surrounding the waste pit, the radiation measured 2,390 becquerels. The legally allowed limit for radon concentration in open air pits is 300 becquerels, the researchers said.

The law also stipulates that places with a high radiation be declared restricted areas and precautions taken so the surrounding areas are not exposed to more than 9 becquerels, they said.

However, scientists of the nuclear test center of Kyoto University found the air outside the Asahata site was polluted with radons measuring 350 becquerels per cubic meter.

The antinuclear groups said the high radiation threatened their lives and health and urged the waste be removed as soon as possible. "The dumping of this waste is a human rights problem," a spokesman for the activists said.

Donen said in March the air's radon concentration did not exceed 117 to 119 becquerels at both sites. "Radiation is within the usual limits," a company statement said.

Government Plans Stricter Rule on Chemicals Transactions

OW1712121992 Tokyo KYODO in English 1203 GMT 17 Dec 92

[Text] Tokyo, Dec. 17 (KYODO)—The government will start in the next fiscal year a stricter rule on transactions of chemicals to ensure greater safety, officials said Thursday.

Under the new rule, which will take effect on April 1, dealers will be required to submit information on the quality of the chemicals to be traded and other points when they deal in about 2,000 types of chemicals, including inflammable red phosphorus, poisonous arsenic and contaminants like trichloroethylene.

The government will draw up detailed guidlines on the rule, which has been jointly studied by the Ministry of International Trade and Industry, the Labor Ministry, and the Health and Welfare Ministry, by the end of March.

Thus far, dealers have only been required to put specific labels on the containers when dealing in dangerous chemicals.

SDPJ Urges Shift to Environment-Protective Economy

OW0201081493 Tokyo KYODO in English 0739 GMT 2 Jan 93

[Text] Tokyo, Jan. 2 (KYODO)—The Social Democratic Party of Japan (SDPJ) on Saturday [2 January] unveiled draft bills urging a shift from the present growth-oriented economy to an economic system that preserves the environment.

The largest opposition party plans to submit the bills to the upcoming 150-day regular Diet session slated to start later this month, party officials said.

Prerequisites for avoiding further deterioration of the world's environment are closer international cooperation, promotion of disarmament and peace, and more emphasis on local government and the participation of citizens, the bills say.

The SDPJ wants to set restrictions on emissions of greenhouse gases such as carbon dioxide in order to stop global warming—also known as the greenhouse effect—and to oblige the government to draw up a nationwide plan on energy demand.

The bills urge the government to carry out environmental impact assessments on all projects to which Japan's official development assistance is extended and call for stronger participation of local governing bodies in environment protection by allowing them to tighten environmental standards independently by issuing local ordinances, party officials said.

Japan To Contribute to Forest Research Center in Java

OW0301100693 Tokyo KYODO in English 0932 GMT 3 Jan 93

[Text] Tokyo, Jan. 3 (KYODO)—Japan will contribute 77 million yen toward an International Forest Research Center to be established soon in Indonesia, government sources said Sunday [3 January].

The center for international forestry research will be the 17th research center affiliated with the consultative group on International Agricultural Research, a worldwide umbrella organization founded in 1971 under the sponsorship of the World Bank, the Food and Agriculture Organization, and the United Nations Development Program.

Indonesia has offered to supply buildings for the center, in Bogor on the island of Java, as well as about 10 hectares of tropical forests for research purposes, the sources said.

The facility will conduct research into such basic areas as forest ecosystems and genetic resources, as well as the appropriate use of land surrounding tropical forests and the maintenance of tropical forests and reforestation.

It will maintain a data base on genetic resources and contribute the results of its research to forest preservation in developing countries.

The World Bank, the United States and Japan are among major contributors to the center's annual budget, originally estimated at about 3 million dollars, the sources said.

About 30 experts will work at the center coordinating joint projects with other research centers around the world once it begins full operations later this year.

About 200 million people depend directly for their livelihoods on tropical forests, which also play an important role in absorbing carbon dioxide.

A Japanese member of the center's board of trustees, Satohiko Sasaki, said demand for timber products, the encroachment of agricultural lands, and slash and burn agriculture are causing a rapid loss of tropical forests.

About 17 million hectares of tropical forests disappear each year because of deforestation and demand for agricultural land.

Sasaki, professor of forestry at the University of Tokyo, said people depending on the forests for their living must be assured of proper management of the forests.

SOUTH KOREA

Government To Join Two Conventions on Oil Pollution Damage

SK0512084092 Seoul YONHAP in English 0244 GMT 5 Dec 92

[Text] Seoul, Dec. 5 (YONHAP)—The government has decided to join two international conventions on oil pollution damage that would entitle Korea to greater international compensation.

They are the protocol to the International Convention on Civil Liabilities for Oil Pollution Damage, 1969, and the International Convention on the Establishment of an International Fund for Compensation for All Pollution Damage.

The International Maritime Organization (IMO) in London will be informed of the decision by the Korean Embassy in London, according to a Foreign Ministry official.

The protocols will take effect for Korea on March 8, 1993, 90 days after the IMO is informed of the decision.

Korea is currently entitled to oil damage compensation of only 16 billion won (14 million special drawing rights). With entry, however, the limit will rise to about 67 billion won (60 million SDR—[special drawing rights]).

The government plans to join as many international conventions related to oil pollution compensation as possible, according to the official.

ROK Becomes Member of Revised Montreal Protocol

SK0912070092 Seoul YONHAP in English 0520 GMT 9 Dec 92

[Text] Seoul, Dec. 9 (OANA-YONHAP)—South Korea has joined the revised Montreal Protocol, which bans production and consumption of more ozone-depleting substances than the original agreement, the Foreign Ministry said Wednesday.

The protocol, which goes into effect on March 10 next year, bans not only halon but chlorofluorocarbons, carbon tetrachloride and methyl chloroform. It also bans all production or consumption of these substances from the year 2000.

The banned substances are used in car air conditioners, refrigerators, fire extinguishers and aerosol products.

Protocol membership is expected to hit hard at Korea's estimated 4 trillion-won exports of these products, but not joining the protocol would have blocked exports that contain halon or cfcs.

Korea's per capita consumption of the substances will be roughly 0.8 kilograms this year and is projected to reach 2.2kg by 1998.

Environment Ministry Notes Air Quality Decline in Cold Weather

SK0401072993 Seoul YONHAP in English 0610 GMT 4 Jan 93

[Text] Seoul, Jan. 4 (YONHAP)—Sulfur dioxide and dust in the air has jumped with the sharp rise in fuel use for heating during the cold weather, the Environment Ministry said Monday.

Seoul registered with 0.049 ppm in sulfur dioxide in November, up fom 0.033 ppm a month before, while Pusan and Taegu recorded 0.041 ppm, up from 0.032 ppm, and 0.068 ppm, up from 0.042 ppm, respectively, during the period.

Inchon recorded 0.038 ppm, while Kwangju, Taejon and Ulsan marked 0.027 ppm, 0.031 ppm and 0.035 ppm, respectively.

Chungni-tong in Taegu recorded the worst with 0.179 ppm.

Dust pollution worsened, with Seoul recording 110 micrograms per cubic meter in November from 84ug/m3 in October. Pusan and Taegu registered 112ug/m3, up from 82ug/m3, and 128ug/m3, up from 112ug/m3, respectively.

Sulfur dioxide and dust levels worsened in November from October but overall condition of the air improved than the same period of the previous year, the ministry said [sentence as received].

Sulfur dioxide in cities except for Taegu has dipped and in Inchon it was 0.038 ppm, down from 0.074 ppm.

Ozone levels in cities except for Inchon have improved.

LAOS

Memorandum Signed With Sweden on Forest Development

BK1812043892 Vientiane Vitthayou Hengsat Radio Network in Lao 1200 GMT 17 Dec 92

[Text] A memorandum on a cooperation project on the long-term development of forestry research and work in the Lao People's Democratic Republic between Laos and Sweden, which is represented by SIDA [Swedish International Development Authority], was signed in Vientiane on 15 December, following a successful meeting between Lao and Swedish authorities.

The main objectives of the meeting was to review results of their cooperation in 1992 and to map out future plans and guidelines for their further cooperation in 1993 in developing tropical forests and producing related personnel in Laos. The long-term project designed in accordance with Lao Government policy, will also encourage people to stop slash-and-burn cultivation, contribute to the reafforestation program, conserve the natural environment, and to produce various kinds of goods.

The above-mentioned project would efficiently contribute to the steady strengthening of solidarity, friendship, and cooperation between Laos and Sweden.

MALAYSIA

Official Urges Review of Reduced Use of Methyl Bromide

BK0212104392 Kuala Lumpur BERNAMA in English 0835 GMT 2 Dec 92

[Text] Kuala Lumpur, Dec 2 (OANA-BERNAMA)—Malaysia has asked for a review of the scaling down of usage of the ozone-depleting substance, methyl bromide, by 25 percent by the year 2010 under the Montreal Protocol, Deputy Minister of Science, Technology, and Environment Peter Chin said Wednesday.

Although the substance has already been listed as an ozone depleting substance (ODS) during the fourth meeting of members of the Protocol in Copenhagen, Denmark, last week, Malaysia had requested for a reevaluation at the next meeting in 1994, he added.

"We want the next two years to serve as a blanket period until more evidence and assessment can be obtained," Chin told reporters after opening a seminar on development of infrastructure to enhance quality of Malaysian products here.

Besides, Malaysian consumption of methyl bromide was only 40 tonnes a year, he said.

Methyl bromide, a substance used in soil treatment and pre-export fumigation of products, is claimed by the United States to have a 0.07 percent ozone depleting potential (ODP).

Peter Chin said the Copenhagen meeting, as expected, made adjustments to which Malaysia, as a developing country and to protect its industries, was against although the protocol was endorsed by other nations.

The move to bring forward the ban on use of chlorofluorocarbons (CFC) from the year 2000 to 1996 was approved by the parties, but this only applied to the developed countries, he added.

Chin, who attended the meeting, said he would be submitting a full report to the ministry soon.

Malaysia, he said, was still the vice chairman of the executive committee of the multilateral fund of the protocol although its term had expired. The United States is the chairman.

NGOs Made Aware of Western Double Standard

BK0512062892 Kuala Lumpur BERNAMA in English 0338 GMT 5 Dec 92

[Text] Kuala Lumpur, Dec 5 (OANA-BERNAMA)—Environmentalists are now realising that the West are practising double standards and discrimination against South nations, especially Malaysia, Science, Technology, and Environment Minister Datuk Law Hieng Ding said Saturday.

He said recently, an influential non-governmental organisation (NGO), the Sierra Club of the U.S., wrote a letter to the ministry stating that they were aware of the discrimination.

The letter said the club would explain the actual situation to other NGOs and to oppose the West's slander of Malaysia's enviromental policy.

He was giving a news conference after chairing the seventh ministers and state executive councillors meeting on the environment here.

Since attending the Earth Summit in Rio de Janeiro, Brazil, Malaysia had complied with the decisions taken, and the pressure by environmentalists and international NGOs had lessened, he said.

Law said the government had no intention to oppose the West but regretted that efforts in reafforestation had been focused on tropical countries.

The West, which had temperate forests, should also abide by all the conditions laid down by the International Timber Trade Organisation (ITTO), he said.

NEW ZEALAND

'Secret' Export of Chemical Waste to France Revealed

BK0712103892 Hong Kong AFP in English 1007 GMT 7 Dec 92

[By Michael Field]

[Text] WELLINGTON, Dec 7 (AFP)—New Zealand has been secretly exporting deadly waste chemical to France despite public protests there, an internal government paper reveals. The chemicals, polychlorinated biphenyls (PCBs), are used in electrical transformers and capacitors, and New Zealand is discontinuing their use.

French Environment Minister Segolene Royal called for a total ban on such imports after a controversial Australian shipment last September that led to protests by environmentalists at Le Havre. But the paper, obtained by AFP on Monday, said a French Government- owned company involved "has assured (New Zealand) officials that they wish the trade to continue."

The paper was written by an official in the environment division of the Ministry of External Relations and Trade to an Environment Ministry official. It said because Royal and French Trade and Industry Minister Dominique

Strauss-Kahn disagree over PCBs, Prime Minister Pierre Beregovoy will have to decide the New Zealand issue.

Simon Gimson, press secretary to the Minister of Foreign Affairs, Don McKinnon who confirmed the contents of the paper, said it contained "sensitive matter" that had yet to be considered by the cabinet.

Gimson confirmed there was an existing PCB trade with France but he denied it was a secret. "The trade has continued, we don't go around declaring where all exports from New Zealand go."

The key issue, according to the paper, is how New Zealand can dispose of its last remaining 300 tonnes of waste PCBs. The document does not say how much PCB has already been exported. But the environmental organisation Greenpeace claims New Zealand had 1,000 tonnes two years ago.

The affair has political implications in New Zealand, which for more than 30 years has protested on environmental grounds about French nuclear tests in the South Pacific. New Zealand has in recent world forums tried also to portray itself as a pro- environment nation.

One paragraph in the paper warns: "There is a real risk of negative publicity if media attention again turns to the shipment of PCBs, both in terms of the impact such publicity may have on New Zealand's 'clean, green' image in France and Europe, and in terms of domestic criticism."

The paper said over the past year PCBs have been sent for incineration by a plant near Lyon in central France. But public protests there over Australian waste have led to a re-examination by France of such imports.

Gimson said there was no irony in sending waste to France after years of protesting at nuclear tests. "It's a matter of disposing PCBs in the safest environmental manner possible. It is our intention to have all PCBs removed from New Zealand by 1 January 1994." Shipment to France was considered the only economical and commercially viable alternative. But the issue was now covered by the Basel Convention on the Transboundary Movement of Hazardous Wastes and Their Disposal, which demands bilateral government agreements for waste exports.

"That is why something is being presented to cabinet. The paper is seeking cabinet guidance on whether or not to negotiate a bilateral agreement or whether to consider establishing incineration, an environmentally safe system, in New Zealand."

The paper said that in view of differences within the French Government "we would hope that the issue could be resolved before import of wastes has the opportunity to become an issue in forthcoming French elections."

The paper said there were two options if New Zealand could not send PCBs to France. One was domestic storage until another country could be found to take it, or alternatively domestic disposal, "which has previously been regarded as both uneconomic and politically unacceptable."

TAIWAN

President Li Commends Ecologically-Minded Entrepreneurs

OW0312093192 Taipei CNA in English 0739 GMT 3 Dec 92

[Text] Taipei, Nov. 3 (CNA)— President Li Teng-hui Wednesday stressed the equal importance of development in both the economy and in pollution control, saying they should complement each other.

Environmental protection is a trend that cannot be resisted, Li said, adding that concerted efforts by everyone in the country are needed in realizing the government's pollution control policy objectives.

"However, proper standards of pollutant emissions should be adopted to see to it that the economy continues to grow in the years ahead," Li said while meeting with a group of entrepreneurs cited for their significant contributions in the promotion of environmental protection.

While punishment should be meted out to plants that have polluted our living environment, the president emphasized, encouragement to those having committed themselves to the field is even more important.

The entrepreneurs, representing 58 public and private enterprises, were honored during a ceremony earlier in the day.

Delivering a key-note speech on the occasion, Premier Hao Po-tsun said enterprises should meet the pollution control requirements set by the government while pursuing corporate interests.

Official Threatens To Expel UK Conservationist

OW0512085192 Taipei CNA in English 0744 GMT 5 Dec 92

[Text] Taipei, Dec. 5 (CNA)—An agricultural official Friday [4 December] threatened to expel British conservationist Ros Reeve for slander when she accused a former Republic of China [ROC] ranking official in Swaziland of involvement in rhinoceros poaching in the African country.

Reve, coordinator of the London-based Environmental Investigation Agency [EIA], in a press conference in Taipei Thursday claimed that the former ROC ambassador had been linked to rhino poaching in Swaziland.

Foreign Ministry Spokesman Ouyang Jui-hsiung categoricalty denied the charges, saying they were completely groundless and had smeared the image of ROC officials.

Reeve did not present concrete evidence when she made the charges. "This is irresponsible and can in no way be accepted," ouyang added.

The Ministry of the Interior is entitled to expel foreigners deliberately defaming the ROC government, the president, or other governmnt oficials by way of speeches, paintings, or any other form of expression.

The agricultural official argued that it is unfair that the EIA assailed the nation for failure to enforce conservation measures while turning a blind eye to prevailing practices in the British colony of Hong Kong.

"Tiger parts and a wide variety of wildlife are easily available in Hong Kong. Why doesn't the EIA visit there and look into the practices?" The official asked.

The radical British conservation organization, as well as several similar American groups, recently charged Taiwan with stockpiling and trading endangered rhinos.

Government Moves To Phase Out Use of First Category CFCs

OW1512090992 Taipei CNA in English 0805 GMT 15 Dec 92

[Text] Taipei, Dec. 15 (CNA)—The government is making extra efforts to curb the consumption of chlorofluorocarbons, a family of industrial compounds known as CFCs, gradually phasing them out on a yearly basis, an official of the Executive Yuan said Monday [14 December].

The Executive Yuan will see to it that the annual consumption of the ozone-depleting first-category CFCs will be below 6,000 metric tons in 1993, a spokesman of the World Environmental Changes Group under the yuan said.

The use of first-category CFCs in Taiwan totaled 10,159 metric tons in 1986, the spokesman said, adding that the amount will be substantively slashed by 40 percent this year to about 6,000 metric tons. By 1994, the use of first-category CFCs will be cut to 25 percent of the 1986 level, to 15 percent by 1995 and eventually banned in 199, [as received] he said.

Scientists believe that CFCs are the main factor contributing to the spreading "ozone hole." First-category CFCs are used mainly used as coolant in air conditioners and refrigerators and as a cleaning agent for electronic components.

THAILAND

Foreign Minister Questions Logging in Neighbor Nations

BK1212041592 Bangkok BANGKOK POST in English 12 Dec 92 p 1

[Text] For the sake of the environment, the Government must review its policy on logging in neighbouring countries, Foreign Minister Prasong Sunsiri said yesterday.

Thailand must cooperate with Burma, Laos and Cambodia in the management of natural resources, Sqn Ldr Prasong said.

"We do not want Thai concerns to destroy natural resources (of neighbouring countries) without regard to the consequences, which would make us look like robbers. We want to cooperate on the basis of mutual interest and mutual responsibility," he said.

Firms engaged in logging have been criticised for destroying the natural resources of neighbouring countries "because Thailand has no more forests for them to destroy," he said.

Thailand must try to be a leader of the Indochina region. Neighbouring countries will cooperate where the environment is concerned, he said.

At one time his work placed him on opposite sides to the Indochinese states, but the situation has changed, he said. Sqn Ldr Prasong is a former secretary-general of the National Security Council.

"People say a person who has carried out one duty is not able to do any other," he said.

"Given such an attitude, nobody could go for a change of position at all. At the national level, one must stick to policy. Let's wait and see."

Sqn Ldr Prasong said Thailand's policy towards Burma will not change. It is to continue the relationship "on the basis of creative cooperation, mutual understanding and opportunities."

Thailand will not support any sanctions or interference in Burma's internal affairs.

"Thailand is Burma's neighbour and cannot adopt the policy of the West on this," he said.

On Cambodia, Sqn Ldr Prasong reaffirmed that Thailand will comply strictly with UN sanctions against the Khmer Rouge.

He said the Government has a duty to protect the interest of Thais, but if there is a conflict it will place the national interest before that of certain groups of businessmen.

The national interest is more important as it involves the national image and the long-term interests of the majority of the people, he said.

"Thailand is not an obstacle to the UN resolution. On the contrary, we were among the first to support peace in Cambodia and we are still doing this, although many nations try to forget the part played by Thailand."

He said he will discuss with Lt-Gen John Sanderson, the military head of the UN Transitional Authority in Cambodia, the enforcement of UN sanctions.

"As long as no clear-cut enforcement plans are laid down, Thailand is entitled to alleviate the hardships of Thai businessmen doing business in the Khmer Rouge-controlled area," he said.

He said Thailand awaits a reply from Cambodia's Supreme National Council to its request to allow Thai merchants to take timber already felled out of Cambodia.

He said the world community has brought into question Thai sincerity in its stance on the Khmer Rouge although Thailand has never supported the guerrillas or defied the UN resolution.

"Many countries believe that without the revenue that comes from trading with Thai merchants, the Khmer

Rouge would stop being stubborn. But we do not trade only with the Khmer Rouge. We trade with all Khmer factions. There is no rule forbidding us from doing so," he said.

On Bill Clinton's choice of Secretary of State, Sqn Ldr Prasong said it will make no difference if the chairman of the Joint Chiefs of Staff, Gen Colin Powell, is appointed. Mr Clinton and his Cabinet take office on January 20.

The American Democrats are likely to concentrate on domestic issues such as debt and economic recovery and will tend to fight trading rivals such as those in the European Community rather than a relatively small country like Thailand, he said.

Agriculture Minister Defends Logging Concessions

BK1612031592 Bangkok THE NATION in English 16 Dec 92 p A2

[Text] Agriculture Minister Niphon Phromphan yesterday responded cautiously to the Nationnl Security Council (NSC)'s policy to discourage logging in neighbouring countries, saying the deals could continue if those nations granted permits. Niphon said Burma, Laos and Cambodia had the authority to decide whether they would continue trading in logs with Thailand.

Niphon said some countries might not consider that felling trees led to deforestation as they had rules to control logging.

The minister, defending the existing timber concessions in three countries sharing common borders with Thailand, said they were legal so long as the states that awarded the contracts did not seek to revoke them.

Prime Minister Chuan Likphai meanwhile clarified that the government policy was aimed at discouraging illegal log cutting in neighbouring countries as it would cause environmental degradation.

"If there is to be new concessions, they must be approved by the concerned countries," said Chuan.

NSC chief Charan Kunlawanit announced on Monday that the government would no longer support the private sector in exploiting national resources in Laos, Burma and Cambodia. The Chuan administration would step in to control private sector logging deals with those countries by taking into account the impact on their environment. However, Charan said the new policy would not affect existing concessions and that the government could not intervene if the host nations were willing to trade in timber with Thais.

Deputy Finance Minister Bunchu Trithong who recently came under fire from the opposition for his controversial logging business with the Karen minority group said it was impossible now to implement a total ban on cutting timber in the three countries.

Action Urged Against Loggers in Cambodia, Khmer Rouge

BK0401023293 Bangkok THE NATION in English 4 Jan 93 p A6

[Editorial: "Take Action Against Thai Loggers Who Violate UN Ban"]

[Text] On New Year's day, Thai troops manned checkpoints on the border with Khmer Rouge-held Cambodia to shut down trade in line with UN Security Council resolutions imposed on the Maoist guerrillas, after they reneged on the Paris Peace Agreement to end a civil war which had raged in the country for 12 years.

The UN sanctions require restrictions on Thailand's trade along the 680-kilometre border with Cambodia. Cambodia's Supreme National Council (SNC) voted the ban on raw log exports in September over the objections of the Khmer Rouge, and the UN Security Council endorsed it in November as a political measure against the radical faction while at the same time imposing an oil embargo.

Prevent Forest Depletion

The log export ban was imposed by the SNC to prevent forest depletion, but if successful it would strip the Khmer Rouge of the huge fees it charges Thais for logging concessions in Khmer Rouge territory near the Thai border. However, the ban covers only raw, uncut logs and as a result thousands of new sawmills have sprung up all over Cambodia, just slicing crude planks before export. Thai loggers have complained that strict enforcement of the ban on log exports will only benefit Japanese and Taiwanese loggers who they claim have sawmills in Kompong Som, Pursat and Phnom Penh.

Barely two days after the supposed closure of 27 border passes with Cambodia, an AGENCE FRANCE-PRESSE report filed yesterday from Choam Khsan border checkpoint, stated that hundreds of tropical hardwood logs poured over from the checkpoint into Thailand at the weekend. It was clear that Thai loggers had flagrantly violated the UN Security Council-endorsed ban, using the argument of free enterprise and market competition as an excuse.

The AFP report mentioned the culprit as BLP Import-Export Ltd, a Thai logging company having a legal concession to cut trees in Cambodia's northern Preah Vihear Province and whose contract expired on Dec 31. It now remains to be seen whether the Thai authorities will take action against this company for violating the UN sanction. The trite excuse that Bangkok has no control over the private sector will not work this time, especially when Thailand's international reputation with regard to the Cambodian peace process is already tarnished.

In the international community, Thailand has been accused of encouraging dubious activities in Cambodia which are more comparable with the pillage of the resources of a neighbouring country and engaging in business contracts with Cambodian factions who not only go back on their commitments made in the Paris Peace Agreement but are also the authors of crimes against

humanity. Taking action against Thai companies who violate the UN sanctions will prove to the world that we are serious in fulfilling our obligations on the implementation of the Paris Peace Agreement, and that we intend to honour the letter and spirit of the instruments of international law which we have signed.

Because of the restrictive mandate for the United Nations Transitional Authority in Cambodia (UNTAC), the UN peacekeepers have no power to enforce the ban on log exports, but can only advise Cambodian authorities to prevent trucks laden with timber from leaving the country.

More than a year after the signing of the Paris Peace Agreement, the Khmer Rouge still remains the single largest obstacle to Cambodian peace. The Maoist guerrillas have detained UN peacekeepers, launched mortar attacks on the peacekeepers, fired on UNTAC helicopters and refused to allow the peacekeepers unrestricted access to zones they control. UNTAC is now directly targeted by the Khmer Rouge because the guerrillas believe that the UN is manipulated by the State of Cambodia (the Phnom Penh faction) and hence "services Vietnamese puppets."

The UN on the other hand still believes that the door for the Khmer Rouge should be kept open and that UN sanctions should be aimed at bringing the faction back into the peace process. As UNTAC was engaging in this wishful thinking, Khmer Rouge guerrillas sneaked into a fishing village in central Cambodia and massacred 14 Vietnamese men, women, and children—only three days before the deadline for the closure of the Thai border.

Leaflets were then scattered around the village demanding that UNTAC chief Yasushi Akashi rid the country of ethnic Vietnamese.

Whether the United Nations accepts it or not, the Paris Peace Agreement is an undeniable failure. But it is impossible to start again from scratch, to recreate the situation which existed before the signing of the Paris accords.

Isolate the Khmer Rouge

As long as the Khmer Rouge refuse to participate in the real peace process, they must be isolated. This means setting up a tight sanitary cordon around territory they control, including Khmer Rouge-controlled areas adjacent Thailand, and neutralizing little groups dispersed over the rest of the country.

The present peace agreement should be modified to create conditions for economic and social stabilization before the elections are held in the 80 plus per cent of Cambodia not controlled by the Khmer Rouge. This is possible only by setting up a Cambodian authority endowed with real executive powers, assisted by UNTAC, headed by Prince Norodom Sihanouk and other Cambodian personalties recognized for their competence and integrity, with the exclusion of the Khmer Rouge. The creation and composition of this authority must be the subject of a UN Security Council resolution.

VIETNAM

Assembly Report Sets Forth Mountain Region Political, Economic Policy

BK1612081992 Hanoi Voice of Vietnam Network in Vietnamese 2300 GMT 10 Dec 92

[Text] Dear friends, at the opening meeting of the Ninth National Assembly's Second Session, delegates heard many important reports of the government, including a report by Comrade Hoang Duc Nghi, minister of state in charge of the mountain regions and nationalities affairs. The report dealt with the implementation of socioeconomic policy toward ethnic minorities and the mountain regions.

After presenting the mountain regions' unique characteristics and significant strategic role in the political, economic, national defense, and security domains, Comrade Hoang Duc Nghi's report stressed two major issues:

1. Achievements in the implementation of the policy toward ethnic minorities and the mountain regions and problems that remain to be resolved. Regarding this issue, the report stressed that during the past several years, the party, government, ministries, sectors, and administrative echelons have promulgated many policies, directives, and notices to guide the implementation of the policy on developing the socioeconomic and ethnic minorities situation in the mountain regions. However, low results have been achieved in the implementation of this policy, thus preventing the resolution of various problems of the region. It can be said that some mountain regions experienced more difficulties than those in the war years when forests were destroyed. At present, the mountain regions experience new pressure caused by population growth and serious environmental destruction.

Implementing the party renovation policy, especially renovation in the economy in accordance with the spirit of the Sixth and Seventh CPV [Communist Party of Vietnam] Congresses, agencies from the central to local levels have reviewed their activities to formulate new policies on the economy and ethnic minorities to meet the requirements of the renovation undertaking. The main points of these policies are contained in the party Central Committee's Resolution No. 10 and the government's Resolutions Nos. 22 and 72 on developing the socioeconomic situation in the mountain regions. The party and government have formulated orientations and strategies for the northern mountain regions' socioeconomic development program till the year 2000. Various projects on developing the socioeconomic, national defense, and security for the Central Highlands, and other regions have also been mapped out. During the past two years, the government has concentrated efforts on definitely and effectively resolving various major strategic problems related to the socioeconomic, national defense, and security domains. Moreover, various pressing issues in localities have also been promptly and effectively resolved. During the same period, allocation of loans and budget, investment in

building the infrastructure, and the implementation of other projects for the mountain regions and ethnic minorities have been improved.

In 1992, despite budget constraints, the state has strived to meet various urgent requirements and has gradually invested in building infrasturcture in the mountain regions. This year the government has also decided to build concrete projects for 15 mountain provinces in the north. In 1993, the government will build more projects for the Central Highlands and other mountain regions.

Despite implementing the economic renovation policy for the mountain regions in a short period of time, many localities have scored new achievements in production and business. The market economy has taken shape and developed in some regions. Agricultural production has been gradually shifted to intensive cultivation to optimally exploit fertile land. Some regions have become self- sufficient in grain. Many families have become rich thanks to the fruit orchard economy and other trades. Education, and economic and cultural activities have been expanded. These are encouranging achievements scored by the mountain provinces. However, difficulties still prevail in various mountain regions of the north and the Central Highlands, especially regarding the people's spiritual and material lives. These people experienced a shortage of electricity and grains; suffered from malaria, goiter, leprosy, and intestinal diseases. The most pressing problems now are population growth—which is higher than the increased rate of food production—and the serious destruction of forests and the environment.

After pointing out achievements and shortcomings in the socioeconomic development for the mountain regions, the report stressed eight major tasks to be urgently carried out. These include the strengthening of goods production; building more roads; improving the people's daily meals and other activities; formulating measures to eliminate malaria, goiter, and leprosy; ensuring the six essential consumer goods for the people's daily lives; organizing training courses for ethnic minorities; promoting cultural and information work; and improving the settlement of nomads to encourage them to stop planting poppy plants. In summing up, efforts must be made to improve transportation and irrigation, to supply more electricity to production and processing establishments, to promote cultural and information work, and to strengthen education and training. These are immediate and long-term tasks that require a substantial budget. However, we must satisfactorily carry out these tasks because they will greatly affect the socioeconomic development program. Most importantly, we must organize the effective implementation of these tasks while assigning cadres to supervise and work with the local people. Various central and local sectors and echelons must cooperate in providing localities with competent cadres.

2. Orientations and tasks for 1993. In this part, the report said that in 1993 we must strive to consolidate and develop the socioeconomic situation in the mountain regions to suit the local conditions while restoring and improving the environment. Efforts must be made to gradually improve the material, spiritual, and cultural lives of the ethnic minorities; encourage them to produce handicraft products for export; strengthen national unity to stabilize the politico-social situation; and improve national defense and security tasks especially in the border areas and regions of ethnic minorities. Special attention must be paid to promoting production in localities that have the potential to produce essential goods and the ability to expand markets. Attention must also be paid to production and the daily lives of ethnic minorities, especialy poor families, in remote areas near the border.

We must strive to formulate plans to satisfactorily implement the greenery program in areas of fallow land and bare hills; strengthen national defense in the border areas; promote the settlement of namads; improve education and training programs; expand cultural, information, and public health work; enhance the people's general background; quickly curb and eliminate diseases in ethnic minority areas; and resolve other social vices.

The report further said that investment in developing the economic and cultural domains in the mountain regions must be carried out in parallel with the national defense and security tasks in the areas. The report stressed that efforts must be made to effect uniform investment in various border provinces, especially those in the southwestern border, the Central Highlands, and other inland mountain regions. We must also strive to protect the country's coastal areas, offshore islands, and territorial waters, the report concluded.

BULGARIA

Assembly Amends Environmental Protection Act

AU0312105092 Sofia BTA in English 0913 GMT 3 Dec 92

[Text] Sofia, December 3 (BTA)—Last night parliament passed an act amending the Environmental Protection Act. The bill was introduced at the beginning of this year by the Ministry of the Environment and passed the first-reading vote in May. This is the first in a series of laws shaping the country's new environment policy. It is to be followed by several other laws dealing with individual components of the environment: Protection of the atmosphere, waters, protected wilderness tracts etc.

The most substantial amendment to the Environmental Protection Act, which was adopted a year ago by the Grand National Assembly, was the introduction of charges for utilization of natural resources and environmental pollution within admissible limits. Besides, the fines for pollution above the acceptable levels will be increased considerably. The amount of charges and fines will be fixed by the Council of Ministers, depending on the condition of the country's environment and economy. Under the act, the money thus raised will go into a special fund which will be used for environmental protection only: The municipal environmental protection funds will receive 40 percent of the revenue from charges on admissible pollution and 30 percent of the fines, and the national fund will get 60 and 70 percent, respectively.

The law expressly prohibits the import of waste and hazardous substances, a list of which will be approved by the minister of the environment. It is also prohibited to use equipment and technologies which pose a risk of inadmissible environmental pollution.

CZECHOSLOVAKIA

Officials' Assessment of Brussels Talks on Gabcikovo Varies

AU0212133092 Prague CTK in English 1637 GMT 28 Nov 92

[Text] Bratislava, Nov 28 (CTK)—Julius Binder, director of "Vodohospodarska Vystavba" enterprise which has been building the Gabcikovo hydroproject on the Danube, today said that the Friday talks on the Czechoslovak-Hungarian dispute over the project in Brussels produced no breakthrough.

In Brussels, representatives of Czechoslovakia, Hungary, and the European Community (EC) agreed to prepare within a fortnight proposals for a water regime to applied at Gabcikovo.

Binder told the Slovak news agency TA SR that the commission of experts from the EC and the two countries, which had been studying the Gabcikovo project, was not discussed on Friday [27 November]. He explained this saying that the Hungarian side wants nothing but liquidation of the project.

Binder thinks that the Hungarian side feels no inhibitions and that it will use anything that can be presented as Slovakia's irresponsibility.

He stressed that at the October 28 talks with the EC and Hungary in London, the latter pledged not to escalate the Gabcikovo issue. But it has not met its promises and has been slandering Slovakia in many world mass media, he added.

While the Hungarians follow a united line at all talks, the fact that Czechoslovakia is bound for split is evident in the conduct of the Czechoslovak side, Binder said.

Its (the delegation's) Czech part protects its interests or thinks that it protects them. Part of our delegation was incessantly persuading us that we must reach agreement with the Hungarians because otherwise Europe and the world will not recognize us (after the split of Czechoslovakia - ed), Binder said.

In an interview with CTK, Czechoslovak Deputy Foreign Minister Zdenko Pirek said marked progress was made in Brussels. It should help calm down emotions around Gabcikovo and facilitate finding a rational solution to key questions of the hydroproject in the near future.

Experts in Brussels said that what was attained at the talks is agreement on abandoning extreme stands on both the Czechoslovak and Hungarian sides.

Actually this means that Hungary has in silence quit its idea of bringing down the Gabcikovo dam and Czechoslovakia no longer insists on the complex completion of the project also on the Hungarian territory, that is damming the river at Dunakiliti.

The dispute is still to be comprehensively judged by The Hague-based International Court of Justice. Czechoslovakia has confirmed that it is interested in working out a special agreement to which questions The Hague court should seek replies.

The Gabcikovo-Nagymaros water works started to be built jointly by Czechoslovakia and Hungary in 1978. In 1989, Hungary unilaterally halted work on its part of the project at Nagymaros citing environmental reasons. In May 1992 Hungary rescinded its 1977 agreement while Czechoslovakia went ahead with its part at Gabcikovo.

Following the damming of the Danube, against which Hungary resolutely protested, first electricity was produced at the Gabcikovo hydroelectric plant October 26 and navigation in a new canal started November 10.

Commissioner Challenges Hungarian Interpretation of Gabcikovo Talks

AU0212133192 Prague CTK in English 2122 GMT 29 Nov 92

[Text] Bratislava, Nov 29 (CTK)—Dominik Kocinger, the Czechoslovak and Slovak Governments' commissioner for Gabcikovo, called mystification today's claim by Hungary that all parties to the Brussels talks understood that the Danube's damming at Cunovo was irresponsible and inexpertly carried out.

In an interview with the Slovak news agency TA SR, Kocinger said that though all structures have not yet been completed at Gabcikovo, the recent exceptionally fast growth of flood waters was harnessed. This means that the structures are not of a poor quality as claimed, he stressed.

In a statement issued by the Foreign Ministry today, Hungary says that it still insists on the removal of the structures built within the temporary "C" variant. The statement also says that during the talks in Brussels between the European Community (EC), Czechoslovakia, and Hungary earlier this month, Hungary did not abandon its demand for the removal and that it will not do so in future either.

I recommend to the Hungarian side to decide as quickly as possible to join us in adjusting the old bed of the Danube, Kocinger said. He added that before the spring vegetation period, it is necessary to ensure optimal conditions for ecosystems. This has also been urgently recommended by experts from the European Community commission.

Mikulas Pakha, deputy director general of the Hydrostav enterprise which is participating in the construction of Gabcikovo, told TA SR that thanks to the project, the inhabitants of adjacent areas did not even know that there was a threat of flood several days ago.

The "C" variant, that is completion of the Gabcikovo dam, was chosen by Czechoslovakia after Hungary in 1989 stopped work, citing environmental reasons, on its side of the joint Gabcikovo-Nagymaros hydroproject which started to be built in 1978. Gabcikovo started to generate electricity on October 26.

New Intermediary Depot for Spent Nuclear Fuel Proposed

AU1012190292 Prague METROPOLITNI TELEGRAF in Czech 8 Dec 92 p 6

[CTK report: "Problems With Nuclear Waste"]

[Text] "The Czech Republic will be facing problems connected with the disposal of nuclear waste in the coming years, unless the project of an intermediary depot for spent nuclear fuel in Dukovany is implemented," Zdenek Kriz, a representative of the Czechoslovak Atomic Energy Commission, said on Monday [7 December].

An intermediary depot with a total capacity for 5,000 cases [kazety] was opened at Jaslovske Bohunice in 1987 (each case contains 120 kilograms of spent fuel). A total of 3,500 cases are stored in the intermediary depot at present. According to Zdenek Kriz, nuclear power stations in the CSFR generate between 800 and 900 cases of spent fuel annually. The capacity of the intermediary depot at Jaslovske Bohunice will thus be exhausted in less than two years.

Nuclear power stations in the CSFR have produced 9,300 cases of spent fuel since the start of their operation. Of this, 676 cases, that is, about 7 percent, were exported to the countries of the former Soviet Union in the years 1983-86. The remaining cases are being stored on the premises of Czechoslovak nuclear power stations and in the intermediary depot at Jaslovske Bohunice. "Since 1986 when we stopped exporting nuclear waste to Russia, all of it has been stored in Czechoslovakia," Zdenek Kriz said.

Another Power Station To Be Built Near Gabcikovo

AU1412122892 Prague MLADA FRONTA DNES in Czech 9 Dec 92 p 2

["(kw)"-signed report: "Hydrostav Wants Another Power Station"]

[Text] Bratislava—According to Hydrostav Director Ivan Carnogursky, a power station and lock should be built close to the dike in Cunovo. Hydrostav, according to what he said, is holding serious negotiations with the Canadian firm Hydro Quebec and the German firm Bayer-Werke. "Investment amounting to $200 million is involved," Carnogursky said. He also expressed his opinion on the completion of the Mochovce nuclear power plant. He stressed that it is necessary to finish this construction quickly and put at least one reactor into operation, since in 1993, their type will not conform to standards. The problem with radioactive waste has been solved, he said, since there is storage space in Jaslovske Bohunice. Slovak Government Spokesman Bohus Geci told us that the government has no information about Hydrostav's activities in connection with the Cunovo power plant construction.

Klaus Disappointed by Terms of Possible Admission to EC

AU1712143292 Prague CTK in English 1926 GMT 15 Dec 92

[Text] Vienna, Dec 15 (CTK correspondent) — Czech Premier Vaclav Klaus told journalists here today that he is disappointed by the planned terms of the Czech Republic's admission to the European Community (EC).

At a press conference after his talks with Austrian Chancellor Franz Vranitzky and Vice Chancellor Erhard Busek on mutual cooperation, Klaus said the year 2002 which is fixed as the date for the Czech Republic's admission as an EC member is a disappointment for us because we are ready to enter the EC earlier. Klaus said that from the political viewpoint, the Czech Republic is as democratic as other EC member countries and that it can be compared with many European countries as far as privatization is concerned. I see no reasons for setting such a late date, Klaus said.

Vranitzky told journalists that under an agreement reached with Klaus Austria will send to the Czech Republic an expert team to examine whether the Temelin nuclear power plant in south Bohemia can be used for other purposes.

On the envisaged division of Czechoslovakia into independent Czech and Slovak Republics in January 1993, Klaus said that practically all important agreements with the Slovak Republic have been completed. Relations between the two republics are to be good and close, he said.

On cooperation within the Visegrad Troika regional grouping, Klaus said that preparations for a free trade zone which is to be established between its member countries (Czechoslovakia, Hungary, Poland) are going on too slowly. In the current situation the sides ought to declare their will to speed up the process, he said. However, Klaus added, talks with Hungary and Poland on lifting tariff barriers have not been so far successful. He said he hopes an agreement will be reached by the end of the year.

Referring to regional cooperation, Klaus said the relationship to the Visegrad Troika group is no more important for the Czech Republic than bilateral relations with other countries, including Austria.

HUNGARY

Effects of Gabcikovo Dam on Residents Described

93CH0154B Budapest KOZTARSASAG in Hungarian 13 Nov 92 pp 58-61

[Article by Janos Adonyi Sztancs: "Will Szigetkoz Be the New Place of Discontent? Good Times for Plunderers"]

[Text] Szigetkoz [area in northern Hungary bordering Slovakia] is becoming gloomy. The people who live there are just now beginning to wake up, enraged, become frightened, and swear. What is happening to them, what is happening around them? What is happening to the Danube, to the islands, to the backwaters? Water is disappearing from under landings and anchored boats, and wells dry up in many places. The water monster of Bos [Gabcikovo] sparked anger and fear. It is still unsure at whom the anger is directed. But when the people of Szigetkoz are faced with the first catastrophic results of agriculture, the anger may take on radical forms. Some think this is where the new place of discontent will be. Janos Adonyi Sztancs traveled around in Szigetkoz.

"What can happen to us next, what can happen to us next?" The old woman in Asvanyraro laments when I ask her about the water in the well. Then she sees the camera in my colleague's hands and flees into the house. "Newspaper? I've never been in a place like that. Not in court, either. What do you want from an old hag of 78? Take pictures of the young ones!" she shouts from her door.

We make a deal: No photos. We only want to know if there is any water left at the bottom of the well.

"Today, the bucket went under," the woman says, "but it hit the bottom." She suddenly looks me in the eye and says accusingly: "Hasn't it been enough yet?"

"What?" I ask dumbfounded.

"Listen! I married my husband in '41. What we scraped together by '45, the Russians took. Because they ordered us around like dogs. What we scraped together from '45 to '54, the flood took. But so much so, that we ate from other people's plates, with other people's spoons. What we made between '54 and '59, the cooperative took. Now they take our water? Hasn't it been enough yet?"

Imre Boosy, the young mayor of Asvanyraro, is glum.

"I will move away if they don't restore the original conditions. I was born here, and I love this place very much, but I wouldn't be able to look on the agony of the village."

"Do you think the situation is that disastrous?"

"Look, if things remain the way they are, the village will lose all of its assets. Half of the working people live from agriculture and forestry. But when the land becomes a desert because the water table is several meters lower, the trees will dry up and everything will be over. Fifty people are employed by the water management fleet. They cannot cruise about in a puddle. Incidentally, earlier we were planning a marina, because this village could become a paradise for tourists. People were renting out many rooms, especially to Austrians and Germans who came here to fish, boat, or hunt. But it is doubtful whether they will come again next year...."

The world press has discovered Asvanyraro. This is why we have to cut the conversation with the mayor short. He is expecting a group of journalists who are coming here on behalf of the World Foundation for the Protection of Wildlife.

"Where will you take them? What will you show them?"

"I will take them to see the man who did not have running water in his house before because he claimed the water in his well was better. Yesterday he came to me in despair that there is not a drop of water in his well, how will he water his livestock?"

Imre Boosy has become adept at giving interviews. He was visited by Swedish, Japanese, German, and English TV stations who, as he said, mostly pressed him to say "when there will be a Sarajevo here, when will there be a blast with the Slovaks?"

"The only thing I don't understand is," I quickly ask the last question, "if the ground is cut from under the feet of the people of Szigetkoz, why were there so few people at the demonstrations against the power plant?"

"Actually, from here about 100 of us went. But otherwise there were really not many of us. People are used to their fate being decided above, and regard demonstrations as fruitless. Now however, when they see what happened, they are becoming more and more nervous; they would like to do something, but don't really know what. It is a fact that what happened cannot remain unpunished. As soon as we receive intelligent counsel, we will sue someone in the spring."

We meet two people fishing at the village landing place. They go for pike and perch.

"We will come here until the wetlands disappear altogether," they say. "The shells show that the level of the backwaters went down at least one meter overnight."

Indeed, all along the bank one can see the shells, showing where the water level was a few hours earlier.

We leave the village and drive on along the Danube. At Cikola island we ask a group of women at the bus stop for directions.

"What will happen to us?" they complain. "We are full of unemployed people. They keep a lot of livestock, but there is hardly any water in the wells, and it costs a lot of money to water the livestock with running water. If we were as irresponsible in bringing up our kids as the people who made a decision about the power plant, where would this country be?"

We drive on. We stop in front of a house at random. Mrs. Karoly Bergauer readily shows their well. It is bone dry. Can they still cool watermelons in it? In Szigetkoz, the water in the wells rises or falls as the Danube floods or ebbs. But up to now, it has never dried up.

In Kisbodak we talk to an old man, Lajos Horvath.

"When I was a child, I heard that when King Matyas caught the robber knights, he had them sewn into leather and thrown into the Danube. This is what they should do now. What kind of a thing is this, to steal the river?"

At Dunaremete we cross the embankment again. We find a man of pensionable age. He is working with a fishing net, catching small crucian carps. He does not want to tell us his name, because "too many people" know him in Gyor-Sopron county. But he has an opinion. It turns out that he is a professional. He used to be officially in charge of this area.

"The people of Szigetkoz would have had to be educated and shaken up in time, so that they would have been aware that the water table would go down 6-8 meter. But once we reached this stage—because now we are at the beginning of a catastrophemm—they should have instituted emergency measures, for instance, to save the offspring of fish."

"Who should have done this?"

"The county self-government, together with the Water Authority. The latter could have determined where, at which segment of the river, there are hollows to which the offspring of fish could have been transferred. A part of the stock could have been saved."

Suddenly, the dam-keeper, Peter Dicsofi, rides over to us on his rattling motorcycle. He and the man with the fishing net recount how the thieves, the profit-grabbers gather up the fish stranded on dry ground or in the puddles. The time has come for plunderers and for wild boars. These large wild animals pick up the fish from the shallow waters or the mud and make a feast of them.

The two men familiar with the waters also agree that once the first poor harvest in Szigetkoz is in, the situation could turn explosive. Because here, they used to grow such good corn on the cob as few places in Hungary. But when the local population is faced with the dreary realities, Szigetkoz can easily become the new place of discontent.

Tripartite Talks Continue on Storage of Used Nuclear Fuel

AU0612175892 Budapest NEPSZABADSAG in Hungarian 1 Dec 92 p 5

[Unattributed report: "No Danger of Radiation at Paks"]

[Text] The tripartite Hungarian-Russian-Ukrainian talks are continuing on returning the burnt-out fuel elements of the Paks Nuclear Power Station to Russia. If Ukraine does not give a transit permit and the Russians do not receive any more deliveries, then temporary storage has to be created at Paks, otherwise some blocks would have to be stopped in three years' time. Journalists were informed on this after the Monday [30 November] session of the National Nuclear Energy Committee.

The annually 500 burnt-out fuel elements could be placed in the current storage area until 1995. The implementation of the construction that is currently in the preparation stage can begin in 1994. According to the plans, a central building and a storage space suitable for holding the burnt-out elements of six years of production would be created for 1.7 billion forints. The first unit of this could begin to be filled as early as 1995.

The committee dealt with the 10-year radiation protection inspection of the Paks Nuclear Power Station. On the basis of this, it can be established that in the immediate area and in a 30-kilometer radius area of the power station, the amount of radioactive gases or liquids is extremely small; it is only a small proportion of the background values and is less than the world average of nuclear power stations that operate with a similar reactor. This amount is so small that it can only be measured at the point of emission—for example, in the ventilation smokestack or the water outlet—but it cannot be traced in the environment where it is diluted. The radioactivity received by the population is one-thousandth of the permitted limit and one-tenthousandth of the natural environmental radiation.

The committee discussed and accepted a proposal to establish a national environmental radiation protection control system. This integrated system would implement a coordinated control program with a unified data basis and computer processing, under the coordination of the National Radiation Biology and Radiation Hygiene Institute.

The meeting also discussed the environmental effects of uranium mining and environmental tasks.

U.S. Congressman Promises Help in Solving Gabcikovo Dispute

LD0612173692 Budapest MTI in English 1633 GMT 6 Dec 92

[Text] Washington, December 6 (MTI)—U.S. Congressman Christopher Shays said he will examine possibilities of Congress to help settle the Gabcikovo dispute, he told American Hungarian Environmental Fund President Bela Liptak.

Last month, Professor Liptak, of Hungarian descent, requested several influential Senate and House of Representatives members to submit a bill under which the U.S. would grant most favoured nation status to a sovereign Slovakia only if the country gave up its plans to continue the operation of the Gabcikovo barrage, which is causing environmental catastrophe. Also, under the bill, Slovakia would get World Bank loans only if it met that condition.

Shays, a Democrat, said he would coordinate steps with Hungarian-born Congressman Tom Lantos.

At an American Hungarian Engineers' Society meeting in New York this weekend, Liptak publicized studies on how the Gabcikovo project threatens the existence of Lake Ferto, divided between Austria and Hungary. According to Liptak's findings, the lake's water level, which is low, anyway, will drop by spring or summer, due to the diversion of the Danube. Damming, in turn, will cause polluted water to flow into the lake, threatening it and the settlements near it with an environmental catastrophe.

The dangers require that Austria be invited to the EC Coordinating Committee, Liptak said.

Air Pollution in Silistra Exceeds Norm Fourfold

AU0912170092 Sofia BTA in English 1629 GMT 9 Dec 92

[Text] Silistra, December 9 (BTA)—At 6 a.m. today phenol in the air over Silistra on the Danube exceeded the admissible limit fourfold. Hydrogen sulfide yesterday measured an almost threefold increase over the limit. According to the laboratory of the Ruse Environmental Protection Inspectorate, the wind was blowing from the north-east when these readings were registered but figures have been similar on other occasions. The source of pollution can be located more precisely following further measurement.

The Bulgarian-Romanian Coordinating Committee on Environmental Problems in the Silistra-Calarasi area met to discuss these issues. The officials will hold further talks in January. Until solutions accommodating both sides are found, Silistra residents will have to breathe polluted air. Phenol has not dropped below admissible limits since early December, experts say.

Foreign Ministry Official on Relations With Slovakia

AU1612083092 Budapest NEPSZABADSAG in Hungarian 14 Dec 92 pp 1,8

[Interview with Foreign Ministry Deputy State Secretary Ivan Baba by Tibor Kis; place and date not given: "It Is Our Fundamental Interest To Have Good-Neighborly Relations"]

[Text] [Kis] *Slovakia will become an independent state on 1 January and, with this, Hungary will probably have yet another unpleasant neighbor. How is the Hungarian Government preparing for this situation? Will we be among the first to recognize the Slovak Republic, or will there be conditions for this step on our part?*

[Baba] There are international legal and political criteria for recognition. We can already see that, in the case of Slovakia, the act of recognition will essentially be an automatic and formal one on the part of the countries in Europe and North America. Our major partners will also recognize both the Czech Lands and Slovakia, as early as on 1 January, or immediately afterwards, or even as early as in December this year.

[Kis] *Is Hungary also treating this issue so "mechanically?"*

[Baba] Yes. We do not want to present conditions to recognition.

[Kis] *For the time being, independent Slovakia is regarded as one of the dark horses of the international community, a country that could both move toward the East and West. In your opinion, which alternative is more feasible?*

[Baba] At the moment, Slovakia is in a transition period from many points of view, including in the sense that it is seeking its own international role, and that a considerable percentage of the Slovak political elite is still living and working in Prague. If this elite returns to Bratislava, it will obviously affect the Slovak decisionmaking mechanism and the preparation of decisions to a certain extent. Slovakia's declared intention is to join the European integration. Whether it will actually start on this road will largely depend on the attitude of the European countries to the appearance of the new state. We also share the opinion that Slovakia's isolation would lead to the strengthening of extremist nationalism, rather than to a Western-type development. There is one more thing in connection with this: The Slovak domestic political medium is not homogeneous. This time, liberal parties did not make it into Parliament; in other words, this political color is now missing from the political arena, but it is present in society. It is also a fact that the political atmosphere is different in Eastern Slovakia compared with Bratislava, for example. It seems that the intention for an open and tolerant policy prevails in the area of Kosice.

[Kis] *Could this trend prevail in the whole country?*

[Baba] Yes. Slovakia's appearance on the international arena will not end by being diplomatically recognized by a lot of countries. This is only the first step. Its integration in the international organizations in which the CSFR was a

member will begin afterward. This will be the real task for Slovakia, and this is not so simple as diplomatic recognition. This process will not be an automatic one.

[Kis] *If it wants to, in principle Hungary can help Bratislava in this endeavor. The question is whether Hungary wants this.*

[Baba] Our goal is to ensure that Slovakia integrates in these organizations. However, there is a condition for this, namely that Bratislava should accept the rules and the system of political values on the basis of which the aforementioned organizations are operating. If Slovakia does this, it will have serious chances of integration. These international organizations have different conditions for various states asking for membership. There are organizations that do not have any special conditions; others, like the Council of Europe or the EC, has tough conditions. Taking all this into consideration, the pace of Slovakia's integration in each of these organizations will be different. Our endeavor is to make sure that Slovakia faces the same international criteria as the other applicants for membership in these organizations.

[Kis] *In spite of all this, however, at least in the beginning, Hungarian-Slovak relations are not expected to be very harmonious. At the same time, the Hungarian side has lately formulated the need for a Hungarian-Slovak rapprochement, and Slovakia's independence offers a historical chance for this. What could be the conditions for such a rapprochement?*

[Baba] There are no special conditions for this on our part. The most important thing is the good will and striving for this rapprochement. If Slovakia fulfills the aforementioned criteria of international cooperation, there will be no obstacles whatsoever to Hungarian-Slovak cooperation, because the societies in the two countries are really very close to each other both historically and culturally. Unfortunately, however, the political trends that have appeared in Slovakia in recent months do not seem to point toward rapprochement. This process should be reversed now.

[Kis] *What concrete phenomena do you have in mind?*

[Baba] For example, some elements appeared in the Slovak Constitution that do not have a positive effect on the broadening of the rights of Hungarians in Slovakia. This is all the more conspicuous because the need to treat the national minorities in a civilized and tolerant way and to legislate their rights is becoming a generally accepted European norm. Unfortunately, the Slovak Constitution does not show this intention. The same applies to Slovak political practice. The withdrawal of bilingual signs from places inhabited by Hungarians is part of an unfortunate and harmful process that should be stopped as soon as possible. I hope that there will be Slovak political circles that recognize that such steps are not in harmony with the emerging European processes.

[Kis] *The new Slovak state will probably have to face very many difficulties after its establishment. Many people fear that Bratislava will be inclined to make anti-Hungarian feelings the bonding substance of the new state. You say that the Hungarian side is completely open on the issue of developing cooperation. However, the matter is not as simple as that because it is not hard for Bratislava to find issues that it can present to the domestic public as Hungarian antipathy or a Hungarian threat. According to Bratislava, one of the proofs of the Hungarian ill will is that Budapest will not declare that it is by no means—including peaceful means—striving to change the current borders.*

[Baba] Nevertheless, we are ready to state this. It is quite certain that it is not the intention of the Hungarian government to change the borders. However, for Hungarian society to accept this thesis, the Hungarians living on the other side of the border have to be living in human circumstances that suit their needs. This means ensuring development in all aspects of life, not mere survival. If this is given to the national minorities, then the Hungarian public will be able to accept that the solution is not a change of borders. Therefore, I am convinced that nothing threatens the Hungarian-Slovak border from our side and that, as long as the Slovak government guarantees the political, cultural, and language rights to the Hungarians in Slovakia, the Hungarian public both in Slovakia and in Hungary will accept the current borders as natural and as possible to cross. This border can become just as transparent as the western borders.

[Kis] *If I understand you correctly, the Hungarian government intends to link the settlement of the borders and the national minority issue, at least on a psychological level.*

[Baba] This is true. On a social psychological level. The Hungarian public obviously has the feeling that the Hungarian minorities have to be protected. A number of means can be associated with this. It is perfectly natural that we are not trying to protect them through changing the borders but through developing, for example, international law and legal practice. We want to resolve the protection of national minorities by making the minority issue an all-European concern. The national minority issue is not a domestic but an all-European issue. In addition, it is not only an issue of human rights because, if it is not resolved, then it will turn into a security policy problem.

[Kis] *However, the undoubtedly existing Hungarian phobia in Slovakia can turn into a psychological barrier.*

[Baba] Which is artificially incited!

[Kis] *Perhaps, but the point is that it exists. Should Hungary be considering certain gestures now, at the moment of the birth of the new state, that could lessen this undoubtedly existing phobia? If by nothing else then through small steps, for example, in the economy.*

[Baba] Small steps do exist but they have not come to the forefront of attention. Several hundred Hungarian-Slovak joint ventures are operating at the two sides of the border. We are preparing to open new border crossing points. The draft free trade agreement of the Visegrad countries has been completed. Whether it will be signed is a matter to be decided but the text is essentially complete. We consider practical cooperation very important. The question is how fast the market economy will be established in Slovakia.

[Kis] *Bos is a further major obstacle to cooperation. What chance do you give to an agreement?*

[Baba] Bos is one of the basic issues. The problem should be resolved within the framework offered by the civilized Europe. Bos is a big issue from a number of viewpoints—it has legal, environmental, economic, and even geostrategic aspects. The attitude and the behavior are the basic problems. In other words, whether Bratislava wants to resolve the problem and if it does, then in how tolerant and European a way. At this moment, in my view, there are few signs of our partner trying to achieve a quick solution. I hope that we will get past this phase and then the issue will lose its political aspects. This situation has not yet arrived and, in my view, it is not we who over-politicized this issue.

[Kis] *Under the aegis of the EC, tripartite talks have started on Bos and at the same time, views that urge a compromise solution have become stronger in Hungary. You already held such views several months ago and were vehemently criticized for this. Is the general acceptance of the word compromise a satisfaction for you?*

[Baba] At that time, I was a member of the Danube movement that fought tooth and nail against the Bos-Nagymaros plan. Now, since the spring of 1992, we have been in a position where we should close the whole Bos file and then open it again and look through it with a special tolerance. We should examine all its aspects carefully and rationally. We have not succeeded in this yet. Turning to a third party is the only solution. This could be The Hague International Court. It is not the best but the only solution. Brussels cannot take on anything more than that. Naturally, the key issue is how much willingness the two sides have to come to an agreement. I would not say that I feel satisfaction because of the current turn of events. We have been engaged in trying to find the least bad solution—it would be good to make a step forward.

[Kis] *At the end of the interview, let us return to our starting point. You come from Slovakia and have personal links with this country. What kind of feelings does Slovak independence evoke in you? What do you expect will happen in Slovakia after 1 January 1993?*

[Baba] I was indeed born there, my mother, my relatives, and many of my friends are living there—Hungarians and Slovaks. It matters to me a lot what happens in the Independent Slovakia. As far as I can judge the situation on the basis of my experiences and as far as I know the traditions, culture, and people of this country, my impression is that Slovak society will get over this initial, exaggerated phase. The question is, at what cost. It would be good if the price were that the nationalist wave that is flooding it now calms down and all this is replaced by facing all the difficulties that the country will naturally have to face. I hope that Slovak society is adult enough to realize that problems cannot be solved through nationalist slogans, and that these slogans are completely anachronistic. I am convinced that the Slovak political elite also has a considerable group that can see precisely the existing positive traditions in Slovak-Hungarian relations, which can be used as a basis to build on, and that it is in the vital interest of the Slovak nation and society to have good relations with the Hungarians. Sooner or later, this force will get to the point where it can counterbalance those extremisms that behave completely irrationally against the Hungarians. In my view, this nationalist wave could fizzle out in one or two years and a more consolidated period will follow.

POLAND

EC Grants Funds for Warta River Basin Environment Program

AU1712112092 Warsaw PAP in English 2232 GMT 16 Dec 92

[Text] Poznan, Dec. 16—The EC Committee for Environmental Protection has granted 500,000 ECU's in support of the "master plan," a programme to improve the natural environment in the Warta river basin (western Poland) by 13 riverside provinces. The matter was discussed Wednesday by directors from the provincial departments of environmental protection.

The Polish ecological programme has been acknowledged by EC experts as a model for post-communist countries and stands the chance of gaining further financial support.

In a separate development, Premier Suchocka has recalled Jan Komornicki from the post of undersecretary of state in the Ministry of Environmental Protection, Natural Resources and Forestry, the Government Press Office reported on Wednesday.

ROMANIA

Nation To Join Ozone Convention

AU3112175692 Bucharest ROMPRES in English 1441 GMT 31 Dec 92

[Text] Bucharest, ROMPRES 31/12/1992—The government approved in its Wednesday, December 30, meeting, the decision that Romania join the Vienna Convention on the Ozone Layer Protection and the Montreal Protocol.

This is the first agreement of global importance in the protection of the environment, and more than 80 developed and developing countries have adhered to it.

The convention requires the adoption of a severe programme for the continuous diminution of the use of substances attacking the ozone layer.

Romania's adherence to the said convention is part of the measures for Romania's integration in the world policy for the environment protection.

Cabinet Members Outline Prospects for 1993

AU0301200493 Bucharest ROMPRES in English 1509 GMT 3 Jan 93

[Text] Bucharest, ROMPRES, 3/1/1993—Niculae Spiroiu, Minister of National Defense, told ROMPRES inter alia: "It is very important that we should start applying the reforms included in the government program that will ensure the gradual transition of the Romanian armed forces toward modern armed forces of a democratic state of law, in 1993, based on the platform that was established in the military body through the stability achieved with the support of the whole staff."

"As for the equipment of the army, this is the domain which unfortunately costs the most and we will have to work to update the Romanian armed forces and keep them fit and operative."

About the relations among armed forces, minister Spiroiu said that unquestionably they had to be in full harmony with the political relations. They had to be also in full harmony with the state's foreign policy orientation. "It is only this way that a coherent policy can be conducted also in the military domain."

Industries Minister Dumitru Popescu said that "the year 1993 will first of all bring about, I believe, a halt in the decline of industry and its refloating in the second part of the year. It is possible and we strongly want to accomplish it this year."

Constantin Ilie, Minister of Water, Forests and Environment Protection: "For 1993 I want to urge the reputed professionals who are concerned with environment issues to come with us in order to seek out the fittest way—although it is hard to find—in order to be able to keep afloat and sail as we should."

"The domain of interest to us cannot be separated from the country's economic activity and environmental protection cannot be achieved without the contribution of each and all. The closing of factories that bear negative influence on the environment is an extreme action. The best way should be found for these units to be kept in operation because they directly contribute to the state budget."

"Romania's environment strategy is being analyzed by a large team of Romanian experts who consider the proposals of foreign experts. We want to adopt a strategy suiting conditions in our country that will be included in the current government's program," Constantin Ilie said.

YUGOSLAVIA

FRY Official Calls for Lifting UN Sanctions To Protect Environment

LD0212203392 Belgrade TANJUG in English 1535 GMT 2 Dec 92

[Text] Belgrade, Dec 2 (TANJUG)—The government of the Federal Republic of Yugoslavia has asked the U.N. to lift sanctions in the area of environmental protection, Deputy Federal Ecology Minister Sofija Vujanac-Borovnica told TANJUG on Wednesday.

Vujanac-Borovnica said sanctions in this area could only aggravate the crisis in Yugoslavia.

The U.N. on May 30 this year imposed tough economic and political sanctions against the Federal Republic of Yugoslavia on account of its alleged involvement in the war in the former Yugoslav Republic of Bosnia-Hercegovina.

We have demanded an abolition of the sanctions - if not all, then at least those concerning scientific and technological cooperation and the right to a healthy life and clean environment, she said, adding that numerous water purification facilities in Yugoslavia had stopped operating as a result of a shortage of necessary materials or expensive upkeep, increasing the risk to the environment.

Moslems Said To Plan Destruction of Dam, Toxic Waste Release

LD0101182993 Belgrade TANJUG in English 1737 GMT 1 Jan 93

[Text] Sarajevo, January 1 (TANJUG)—Armed Moslem units have completed preparations for destruction of a dam on the Saska River, between Bratunac and Srebrenica, and the release of toxic waste from a local lead and zinc mine into the Drina River, the Army of the Serb Republic in the former Yugoslav Republic Bosnia-Hercegovina said on Friday.

This insane act would cause a major ecological disaster in the Drimu, Sava and Danube river basin and have unforeseeable effects on the environment, said the statement by the Information Service of the Serb Army headquarters.

Armed religious fanatics have been systematically preparing the operation by explicit orders from Bosnian Moslem leader Alija Izetbegovic, claims the statement.

Serb civilians were recently massacred in the area of the Bjelavac village where the dam is situated and preparations for its destruction were made, says the statement and adds that Izetbegovic, on receiving the information, ordered his forces to wait for further orders.

The operation is directly supervised by Naser [name indistinct] a Moslem from Srebrenica known locally as "the sultan."

The Army of the Serb Republic will take steps to prevent the realization of this insane plan, says the statement and expresses hope that international factors, primarily [word indistinct] mentors and financiers of Moslem fighters, would exert pressure on Izetbegovic to prevent a major ecological disaster.

Last May, Moslem fanatics led by Murat Sabanovic tried to destroy another dam, on the Drina River, but were stopped in time.

Izetbegovic, who had a role in the incident, was then heard as telling Sabanovic: "not yet, Saban."

REGIONAL AFFAIRS

Caricom Countries Plan 'Tough' Environmental Laws

FL1012012792 Bridgetown CANA in English 2305 GMT 9 Dec 92

[Text] Kingston, Jamaica, Dec 9 (CANA)—Tough new guidelines could be in place in Caribbean Community countries by 1995 to regulate liquid waste disposal, particularly industrial effluent.

Executives of industries refusing to comply with the regulations would be asked to pay penalties or face prosecution and even imprisonment if the regulations proposed by the Caribbean Environmental Health Institute (CEHI) are ratified by regional governments. Businesses could even face closure if violations are repeated.

About 50 delegates from northern Caricom countries including Jamaica, Belize, Bahamas, St. Kitts and Nevis, Antigua and Barbuda, and Montserrat met in Jamaica last week under the auspices of the CEHI, and developed guidelines and regulations which they hope will be accepted by regional governments next year, and imposed by 1995.

However, Jamaica, which already has an administrative body in place—the Natural Resources Conservation Authority—is gearing to impose penalties by January 1994, Singh told journalists. Naresh Singh, executive director of the Caribbean Environmental Health Institute (CEHI), which organised the seminar, said the guidelines were particularly aimed at those industries traditionally associated with industrial effluents. Such companies included sugar factories, soft drink plants, breweries, distilleries, citrus processors, slaughterhouses and meat processing plants, dairy products plants, bauxite and alumina plants, and sand and gravel washing plants. Sewage plants will also be a prime target.

Delegates at the three-day seminar which ended here last weekend stressed that guidelines and regulations governing pollution were particularly important because of the growing importance of tourism to the region and the ever increasing threat of Cholera.

Jamaica's tourism and environment minister, John Junor, who addressed the seminar, urged that international funding agencies rationalise their approaches to environmental problems facing the Caribbean. Junor said the region was been approached by too many organisations addressing the same environmental issues "... Creating replication at all levels ...." He said loan and grant funds from the various agencies could be more effectively used "if we could all agree as to what needs to be done."

"We (Caribbean governments and organisations) need to sit with them and to tell them what our needs are ..., to ask which organisations will do what, as opposed to everybody rushing in, doing the same thing and having one million conferences that really yield nothing, and studies that yield no action," junor said.

Another workshop for southern Caribbean countries was scheduled for Trinidad and Tobago this week.

REGIONAL AFFAIRS

Persian Gulf Air Pollution Decreasing

93AS0207H Tehran ABRAR in Persian 24 Oct 92 p 5

[Text] The air of the Persian Gulf region, which had been highly polluted from the burning of the Kuwaiti oil wells, has improved sooner than anticipated.

According to a report published by an environmental research center of Japan in Tokyo, the amount of sulphur dioxide in the air in the region is now 10 percent lower than in Japan.

According to Professor [Yasushi Kudama], who heads this research group, the amount of benzopyrene in the Persian Gulf air, which results from the burning of coal and oil and is a carcinogenic hydrocarbon, has decreased significantly.

At the same time, Prof. Kudama believes that although the air in the region has improved more rapidly than expected, undoubtedly the air pollution will have long-term effects on the health of the people in this area.

The results of the extensive research of this group is supposed to be presented at the air pollution symposium which will be held in the city of Osaka in Japan in December.

EGYPT

Government Inaction on Pollution Scored

93WN0014A Cairo AL-WAFD in Arabic 3 Sep 92 p 3

[Text] Two years and three parliamentary sessions have gone by, but the bill on protecting the environment is still trapped on the agenda of the People's Assembly. Pollution levels in Egypt have gone beyond what anyone could imagine. Cancer sneaks up on us in the air that we breathe, the water that we drink, and the food that we eat. Everything has become polluted. Research and studies are practically bursting with figures and statements concerning pollution levels, and scientists are shouting out recommendations that cannot be delayed. But all of them, without exception, run into the wall of the interests of a "Mafia" that operates in secret and profits in the billions at the expense of the Egyptian citizen. The cement factories are still spewing their product into the air to settle in Egyptians' noses. Pesticides are used without restraint or control. Factories dump their wastes and toxins into the Nile. All of this is absolute proof of the government's inability to confront the environmental Mafia. AL-WAFD has gone through several studies done by Egyptian scientists as a last warning before the Egyptian people are exterminated!

There sits above the residential area of Cairo a "thick, black cloud" composed of wastes released by the industrial complexes that ring the capital from north to south, in addition to the smoke and smells arising from more than 7,000 tons of garbage that are burned every day. Because greater Cairo lies between the Pyramid and al-Muqattam Hills, the winds circulate above Cairo like a whirligig, carrying all the elements of pollution, in addition to the dust that rises from these hills. As industrial development continues, the problem of pollution in Cairo has escalated because of the lack of planning. We built the industrial city of Hulwan south of Cairo, and then six years ago we built the industrial city of October Sixth north of Cairo. The fumes arising from these two cities meet above the Pyramid Hills, creating acid rain that falls on the three pyramids and the Sphinx. Thus, the curse of pollution sinks its fatal talons into the greatest archealogical treasure remaining on the planet Earth!

Where is the Microbe Chart?

Two years ago, some senior microbiology professors prepared a study that showed that there were high levels of 15 kinds of fungus in the air in Cairo. The results of this study were discussed, and it was proven that the high rate of chest allergies in Cairo was due to breathing air contaminated with these microbes. It was noted that doctors treat these cases haphazardly, without knowing what kind of microbe has caused the disease. Therefore the scientists and researchers advised that there was a need for a "microbe chart" for Egypt. The chart would explain the levels and presence of each micorobe in every region, but so far the state has not paid attention to this recommendation.

Cement Mafia

The Institute of Pollution Studies and Research at 'Ayn Shams University did a study several months ago in which it was established that 18 percent of total production of the cement plants in Cairo flies into the sky, while the maximum level permitted internationally does not exceed 5 percent. The same study, done by Dr. Mahmud al-Huwayhi, established that there are particulates suspended in the sky above Cairo in large concentrations that exceed internationally accepted limits. The international level for these particulates has been set at about 150 micrograms per cubic meter of air as a maximum, but results have shown that the concentration of this substance in Hulwan reaches 370 micrograms per cubic meter, 250 micrograms in al-Ma'adi, 220 micrograms in Tahrir Square, 260 micrograms in al-Daqa, and 250 micrograms in al-'Atabah Square. The study also established that there are only two regions in Cairo at less than the international level of particulates, namely Madinat al-Nasr and Heliopolis, where the levels reached 120 micrograms per cubic meter of air.

As for falling dust, the accepted international level for average dust fall per year is about 20 tons per square mile. The study established that about 36 tons of dust falls on each square mile of al-Ma'adi in the month of April, and only 32 tons during the month of August because of the difference in the movement of winds. As for the regions in the middle of Cairo, the quantity of falling dust is 26 tons in April and 23 tons in August. The amount of dust in Madinat Nasr and Heliopolis was found to be 20 tons for every square mile in the month of April and 16 tons in August.

As for polluting gases emitted from the cement plants, such as smoke, the level permitted internationally is 150 micrograms per cubic meter of air, but studies have established that the level of this smoke reached 167 micrograms per cubic meter of air in Hulwan, 220 micrograms in al-Duqqi,

180 micrograms in Shubra al-Khaymah, 178 micrograms in Maydan al-Tahrir, and 176 micrograms in al-'Atbah, but in Madinat al-Nasr and Heliopolis it reached a level of only 120 micrograms.

The studies have also established that sulfur dioxide concentrations, which internationally are permitted to be 200 micrograms per cubic meter of air, reached 316 micrograms in Hulwan, 280 micrograms in al-Duqqi, and 270 micrograms in Tahrir Square and al-'Atabah Square.

With respect to carbon monoxide, which is a toxic gas, the level permitted internationally is 2.5 ppm [parts per million], but the studies have established that the level in Hulwan reached 2.6 ppm, 2.8 ppm in Tahrir, 3 ppm in al-'Atbah, and 2.7 ppm in al-Duqqi, but it reached 2 ppm in Madinat al-Nasr and Heliopolis.

The Nile Is Another Story

In the Hulwan region, there are 33 factories along our everlasting river. These factories carry out their activities and dump their wastes into the water. In additon, there is pollution from the tourist boats that ply the surface of the river day and night. We must imagine the huge disaster that would occur if the level of pollution in the main source of drinking and irrigation water in Egypt were to rise. Moreover, the sources of water pollution are not limited to the factories and boats alone; there are also agricultural fertilizers and pesticides that play a prominent role in increasing the level of pollution. Officials must be aware that pollution on the surface of the water will be extremely harmful to life. Moreover, it is to blame for strange events that can have disastrous consequences. For example, a river channel in Russia ignited when somebody threw the butt of his cigarette into the river. The fire was caused by the petroleum pollutants that covered the surface of the river. Polluted river water also caused the death of 20 persons in England because of a cholera epidemic, and in 1970 in Switzerland's Lake Geneva, authorities discovered that a factory was dumping its wastes containing mercury into the Rhone River, which empties into Lake Geneva. This dumping caused the death of many people because mercury was stored in the bodies of fish in the lake.

And in Cairo, studies by the Environmental Institute have shown that there are 33 factories that dump their chemical wastes into the Nile River and that the acidic materials affect the level of oxygen in the water, which causes the death and disappearance of tiny creatures and makes them incapable of performing the vital function of purifying the water of pollutants. These acidic materials also cause clay deposits to break down into chemical compounds that are harmful even to the irrigation equipment used to pump water, causing them to corrode. These acidic compounds have also caused a gradual drop in the amount of fish in the river.

Pesticide Mafia

No intelligent person would deny that insecticides have many benefits in the area of agriculture, but we in Egypt use them excessively. AL-WAFD exposed this in several investigative reports that included pictures and statistics, but no one responded! In general, World Health Organization [WHO] reports confirmed years ago that the indiscriminant use of pesticides would turn the act of getting rid of agricultural pests into getting rid of the living creatures themselves. Scientists agree that pesticide pollution is a principle factor in cancer and kidney failure. Pesticides are also considered to be a direct cause of skin and chest diseases, allergies, and diseases of the nervous system. Unfortunately, Egypt is one of the largest indiscriminant markets for pesticides in the world. University professors point to the fact that Egypt uses 400 insecticides and spends more than $300 million a year to buy them! We consume 20,000 tons of the active compound a year!

WHO has divided pesticides into three groups—extremely toxic, toxic, and moderately toxic. It has been shown that Egypt uses most of the pesticides from the extremely toxic category. The U.S. Environmental Protection Agency has warned against these same pesticides, such as phophorus-based pesticides, but we in Egypt use them voraciously, even though they are among the most significant causes of cancer, birth defects, and mental retardation. For example, the pesticide Tamaron, which belongs to the class of phosphoric pesticides, has been shown to cause birth defects, female infertility, and some nervous disorders. Even though the oversight committees do not approve the entry of some of these phosphoric persticides, some of them slip into Egypt, and what is worse, they are advertized in the media!

Glaring Examples

The harmful effects of pesticides have begun to show up in Egypt in recent years. Four years ago, a child was born in Tanta without skull bones, and scientists began to look for causes of this phenomenon. The result was frightening. It was shown that his mother had eaten food contaminated with a pesticide that causes birth defects. The long-term toxic effects of pesticides increases their risk because the toxins are stored in the fats and oils of the body, leading gradually to disease. Studies have show that indiscriminate pesticide use in Egypt has led the milk of many women to become contaminated with a certain level of DDT because of excessive use of this pesticide during the 1950's and 1960's.

The phosphoric pesticides that Egypt is still using have caused the death of thousands of people in Egypt, in various countries of the Third World, and some countries of the developed world. The pesticide Parathion poisoned 1,500 people in Japan and caused the death of 336 others. The United Nations has warned against hydrocarbon pesticides because of their effects on liver function and cholesterol levels in the blood, in addition to the fact that they are a major cause of cancer.

Even the recommendations of past studies have not been adopted. In 1959, it was found that pesticides had harmful effects on the soil. It also was shown that between 5 and 15 percent of the pesticide dose used in combatting insects gets into the soil after one spraying, and this effect does not go away for a period of four to 12 years.

In 1965, it was found that pesticides used against root pests mix with the soil at depths of up to 6 inches and that they

remain at a high level for a long time. In turn, the fruit of the plants absorb a large amount of the pesticides. It has been shown that carrots have one of the highest absorption rates among plants, with a concentration of 12 and 100 percent of the pesticide residue.

Insecticides also have extremely serious effects on fishery resources, as studies have confirmed. Pesticides are concentrated in the bodies of the fish for long periods of time. In Egypt, it was shown that salmon store a level of DDT. Entomologists have done applied studies on the lives of some aquatic animals, such as shrimp and crabs, and have found that they are affected by these pesticides. We should not forget that these pesticides led to the extinction of some animals that are important to man, such as the white egret.

Egyptian scientists have pointed to the fact that Egypt is one of the highest consumers of pesticides among Third World countries. Therefore attention must be drawn to the fact that worldwide pesticide companies consider Egypt to be an experimental field. This has been proved by the fact that half a million people die every year as a result of pesticides and that a person dies every second in the Third World because of pesticide poisoning.

Environmental scientists demand that the problem of indiscriminate pesticide use must be looked at in a more comprehensive and general way. Officials in Egypt must take a strong stand against the demon of pesticides. Scientists point to the decision by former U.S. President Jimmy Carter in 1980 to stop the export of products that threatened public health in other countries.

A Word

A journalistic campaign would have to go on for many months in order to cover all aspects of the environment and pollution, but in the preceding lines we have been content to publish some statistics that we doubt are available through government agencies because these figures are from studies, and research done by scientists and the government does not recognize them. With this investigation, AL-WAFD has blown the whistle. A huge disaster is approaching, and the time has come to for the environment bill to be brought out into the light. It is not appropriate for the Egyptian Administration and the government of the National Party to hold any elections or political battles while the problem of the environment is getting worse. Look at what the developed world has experienced!

Official Describes Ozone Protection Initiatives

93AF0219A Cairo AL-AHRAM WEEKLY in English 4 Nov 92 p 4

[Unattributed report]

[Text] The destruction of the ozone layer can be prevented if the world unites in eliminating its use of ozone depleting substances. Last week Egypt was awarded the funding which will allow its phasing-out process to begin. **Dr. Yusef Mazhar**, first under-secretary to the Ministry of Industry, explains the situation.

Last week, as part of a global effort to prevent the destruction of the ozone layer, Egypt was given grants totalling over $3 million which will help it to eventually eliminate the use of all ozone depleting substances (ODSs).

Although it could be seen as yet another financial burden on a country already stretched by the demands of economic restructuring and development, it is a necessary task.

In 1988 Egypt ratified the Montreal Protocol, an agreement signed by over 70 countries to reduce the emissions of ODSs by regulating the consumption of these substances.

ODSs are mostly found in aerosols (used for cosmetic purposes or for insecticides), in the compressors of refrigerators, water coolers and air conditioners, and in the foam industry in the manufacture of mattresses, furniture and packaging materials.

The ozone layer protects the earth from dangerous ultra-violet rays, which can cause skin cancer, destroy plankton (the main source of nutrition for marine life), destroy some kinds of crops and, in the long term, increase global temperatures, with all the drastic ill-effects that this could entail. ODSs destroy the ozone layer at an alarming rate, thus letting through the ultra-violet rays.

Egypt began to reduce ODS consumption in 1986. So far a 60 percent reduction in use has been achieved by a government ban on the use of chlorofluorocarbons (CFCs) in aerosols. The current consumption of ODSs is nearly 2000 tons per year, or 0.033 kg per capita.

The bulk of the demand is concentrated in industries that manufacture and service home refrigerators. The seven fridge and freezer manufacturers in Egypt have a capacity to produce and install about one million units per year. There are also an estimated 150,000 air conditioned vehicles in Egypt, approximately one-third of which need service and recharging each year.

A study prepared with the assistance of the United Nations Environment Programme and the United Nations Development Programme gives two alternative scenarios for the optimum phase-out strategy for Egypt.

In strategy one the transition to ODS substitutes is not completed until the year 2000, as the Montreal Protocol requires. Strategy two aspires to fully accomplish the transition over the period 1992 to 1998.

The study puts the net incremental cost at between $26 million and $129 million depending on the speed of the phasing-out process on economic growth conditions.

It is important to mention that there is actually no choice in the adoption of these changes, not only because of world commitment to the Montreal Protocol but also because there will eventually be no production of the substances now used.

The economic cost associated with the forced early replacement of household refrigerators makes up the dominant part of these figures. There will be about 10 million refrigerators in service by the year 2010; replacement costs will be needed for manufacturers to shift from the banned CFC-12 to HFC-134a, which does not deplete the ozone layer.

The Interim Multilateral Fund for the Implementation of the Montreal Protocol will help offset these costs. In the eighth meeting of the Interim Fund's executive committee held last week, Egypt was awarded grant funding for a number of essential projects.

In order to produce new compressors which conform to requirements a new compressor company, Misr Compressor Manufacturing Company, a joint venture between the private sector and a number of banks will receive $2.8 million. The public sector Misr Engineering and Refrigeration Company will receive $272,000 and three private sector foam manufacturers will also receive an unspecified amount. Further assistance will be discussed in the ninth meeting of the Interim Fund in February next year.

The next essential step is to turn this "interim" fund into a permanent one so as to continue the work needed until the developing countries have completely phased out their use of ODSs. Next month the signatories of the Montreal Protocol will meet in Copenhagen where they will come to a decision over this.

Egypt will have thus contributed to the sustaining of the vital ozone layer. Its risk of depletion is entirely due to technologies developed by man, ignorant at the time of dangers, fascinated only by his ability to develop methods of cooling and refrigeration. Little did he suspect the damage he was doing to the heavens while he solved his problems on earth.

INDIA

Air Pollution in Major Cities Increasing

93WN0175A New Delhi PATRIOT in English 10 Nov 92 p 6

[Text] Hyderabad, Nov 9 (UNI)—Air pollution in major urban areas is increasing although urban growth rate nationwide has declined from 46 percent between 1971-80 to 36 percent between 1981-91.

Dr. C.P. Kamle, Director, Centre for Research in Environmental and Biological Sciences, told UNI here that the alarming increase in air pollution was due to the increase in automobiles and industrial growth in the past decade. Automobiles have doubled from 310,000 to 628,000 in the past 10 years.

Mr Kamle said Bombay city which has an estimated population of 9.91 million, (about one million less than projected figure) was the worst affected. The daily pollutants let out into the air was about 2,971 tonnes of which 52 percent came from automobiles, two percent from domestic fuels and the remaining 46 percent from industries which have sprung up around the city.

The public transport system alone contributed 1,538 tonnes of air pollutants per day. The drop in the population growth in Greater Bombay was due to the growth in the urban agglomeration around Bombay, he said.

Mr Kamle said there was a prevalence of chest-related ailments and upper airway morbidity in areas recording higher levels of air pollution: children below the age of five and people above the age of 50 years were the worst affected.

He said the cause for these diseases was due to the high synergistic effect of sulphur dioxide, nitrogen dioxide and Suspended Particulate Matter (SPM). Increased carbon monoxide (CP) levels in the air caused chest pain, irritability and indirectly chest morbidity.

There was also a high prevalence of dermatitis Eczema and rashes among residents of the city, he added.

The director said New Delhi was heading for an environmental disaster with regular migration into the city from the neighbouring states which had contributed to deterioration in the living standards according to the provisional figures released by the census, Delhi population in 1991 stood at 9.3 million, an increase of 3.1 million over the 1981 figure.

He said the ambient air quality in the national capital gave it the dubious distinction of being the forth most polluted city in the world with a total of 2,090 tonnes of air pollutants per day being let out while the levels of sulphur dioxide and nitrogen dioxide were within the prescribed limits, the level of Suspended Particulate Matter (SPM) was extremely high which was partly due to natural dusty conditions, he said.

In addition to this, industries, power stations and stone-crushing quarries located on the pheriphery of the city contributed to the SPM lead, he added.

Mr Kamle said Delhi's transport system was "chaotic" with the vehicle population growing from 592,584 in 1982 to 1.99 to 1.97 million in 1992, choking the roads and polluting the air with noxious emissions of the total air pollution, automobile exhaust accounted for 60 percent, he added.

Calcutta which was planned to accommodate a population of one million was presently overflowing with a 4.12 million strong population with a density of 21,933 inhabitants per square km.

The population density in four ward in North Calcutta is about 175,000 per sq.km, which is the highest in the world.

The conditions were so bad that "Physical Quality of Life Index" (PQLI) used to measure the quality of life in the urban areas, could not be applied to Calcutta, the director said.

He said one of the main causes for air pollution in the city was motor vehicles. The volume of smoke in the air was due to 80 percent of the people still using coal for cooking. Smoke emanating from coal contains a series of pollutants, including benz pyrene concentrations.

Mr Kamle said a survey carried out by the Calcutta Metropolitan Development Authority in the city's slums revealed that more than 76 percent of them suffered from respiratory ailments.

Mr Kamle said Madras city which has a population of 3.8 million as per the 1991 census has nearly one third of the population living in slum areas.

The city's air pollution is mostly from poorly maintained trucks and public transport vehicles, with SPM so2, co in excess when compared to ambient air quality standards, he said.

The director said the civic authorities have resorted to biological control of the vectors and conducted field trials of a biocide under a Central Government Sponsored programme.

He said Hyderabad has a population of 4.3 million, an increase of 67 percent since 1981. The city has about 622 slums for an approximate population of 900,000. The air pollution consists of 250 tonnes of co, no, pbo and other hydrocarbons which is caused by 740,000 vehicles.

Besides this, odorous gases were released by more than 400 chemicals and pharmaceutical companies on the outskirts of the city, resulting in the people suffering from lung and skin ailments, he said.

Mr Kamle said Bangalore, the city of gardens had an unbridled population growth in the past three decades. In 1951 it was 779,000 and in 1991 the population was 4.1 million. One of the main reasons for this was rapid industrialisation about 15 to 20 percent of the total population level in slums, he added.

Shifting Cultivation Poses Threat to Northeast Ecosystem

93WN0203A Calcutta THE STATESMAN in English 19 Nov 92 p 11

[Text] Agartala, Nov. 18—The uninterrupted practice of age-old shifting cultivation by a large population of tribal nomads has threatened the region's eco-system, particularly in the three North-eastern States—Manipur, Mizoram and Tripura. Though social forestry schemes are claimed to have started yielding results in Manipur, the measures to check massive soil erosion are yet to make headway in two other States.

The eco-system of stagnant wetlands, like the Loktak Lake where the region's one of the main hydel generation unit has come up in Manipur, along with the State's vast water areas of Ikop, Kharungpat and Pumlel is degrading fast. Tripura's Gumti hydel project reservoir, a place of tourists' attraction, is facing the same problem, while recent landslides in Mizoram resulting in death and destruction have mainly been attributed to tribals' "slash and burn" farming on a large scale.

Though "jhuming" is a way of life of the people in the hills, it is one of the main factors for deterioration of forest resources. On the recommendation of the task force, set up earlier by the Centre for "jhum" control, the programme for economic rehabilitation of tribal nomads has been initiated. Progress of work under the scheme is slow because of dearth of funds and proper initiative on the part of the administration.

The inherent potential of land and water resources in this region is governed by a set of factors, such as climate, geological characteristics, present land use and socio-economic levels. Experts feel that an optimum interaction among these factors can be observed, especially for proper utilization of land and water resources, to prevent environmental degradation.

Silt Deposits

According to an official study conducted recently, the beds of wetlands and lakes are being silted up at an accelerated rate throughout the North-eastern region and decreasing their waterholding capacity and longevity. River-beds are also coming up rapidly, resulting in frequent floods.

Consequent upon silt deposits, the wetland's bottom topography is changing fast. Many micro-organisms, which live in mud deposits at the bottom of lakes, have been affected. The flora and fauna of the lakes are also in a process of change. Fish population has been hit badly in the region both in quality and quantity.

The Brahmaputra River Board has taken up a study of Tripura's river basins, mainly of the Gumti, Manu, Juri, Dhalai and the Howrah. The bed of the Howrah river flowing down alongside the town has almost risen to the level of the Assam-Agartala National Highway at a number of places in the plains. Devastating floods have become almost an annual feature in the Barak valley.

The eco-system of virgin soil is disturbed completely in the process of "jhuming." Many species of flora and fauna belonging to minor strata are disappearing. A "truncated eco-system" now seems to be emerging in the North-eastern region which is considered by specialists to be "highly injurious in the long run."

Academicians Voice Concern Over Threat to Lake

BK1712110692 Delhi INDIAN EXPRESS in English 4 Dec 92 p 14

[Text] Over 50 academicians of Delhi University, Jamia Millia and Jawaharlal Nehru University have in a letter to the Prime Minister expressed concern for Chilka Lake whose future is threatened because of the determination of the Tatas and the Orissa Govemment to push through the Chilka Aquatic Farm for prawn culture on a commercial scale.

The brackish water lake, they have pointed out, is unique in the tropical world for its rich genetic diversity and unique eco-system. Because Chilka is a repository of bio-diversity, the proposed prawn farm would violate the principles of the recently concluded bio- diversity treaty. It would also violate the Ramsar Convention for internationally important wetlands.

Without clearance from the Environment Ministry, it is pointed out, the Orissa Government has given 400 hectares of Chilka area to Chilka Aquatic Farm for construction of a 15 kms long embankment inside the lake. This would create an artificial lake for prawn culture.

All this activity, it is pointed out, would play havoc with the ecosystem—the home to thousands of migratory birds—and deprive the fishermen of their livelihood. Once the corporate giant, the Tatas, gets an entry to the lake, the

floodgates will be open for others. This could eventually lead to the death of the lake.

The academicians have pleaded for the demolition of the half- constructed embankment and the road from the shore to the site inside the lake. Among the signatories are Prof Mira Sinha Bhattacharjea and Dr Manoranjan Mohanty of Delhi University .

JORDAN

New Water Lines Planned for Irbid, al-Ramtha

93WN0112C Amman AL-DUSTUR in Arabic 9 Oct 92 p 2

[Wire Service Report: "To Save Water: 600 km of Water Lines Planned for Irbid and al-Ramtha"]

[Text] The Jordanian Government and the European Investment Bank signed at the Ministry of Planning yesterday a financing contract in the amount of 4.995 million ECU's [European Currency Units] from the balance of the third technical and financial protocol to help finance a project to revamp the Irbid and al-Ramtha water networks.

The project hopes to reduce the two networks' water loss, estimated at 40 percent, by laying approximately 600 km of water pipes to Irbid and al-Ramtha and by installing some 10,000 water meters.

The contract was signed by Minister of Planning Dr. Ziyad Fariz and by Robert Wells for the European Investment Bank. The secretary general of the Ministry of Planning and a number of officials from both sides were also in attendance.

Water Authority Reports Rain, Irrigation Figures

93WN0112E Amman AL-DUSTUR in Arabic 11 Oct 92 p 2

[Article by Yahia al-Juju: "Water Authority Had 27 Million Dinars in Revenues Last Year; Issued and Renewed 363 Well-Drilling Permits"]

[Text] The Water Authority generated revenues of about 27 million dinars last year. Of these revenuse, about 20.65 million dinars were from water and connection charges, meter fees, earned interest, and payments received for water line repairs. Sewer revenues amounted to 6.225 million dinars.

Water Authority sources said that Jordan is one country where annual rainfall is both relatively scarce and unevenly distributed. The kingdom averages between 500 and 600 mm in rainfall annually, and more than 91 percent of its area is desert.

They estimated the kingdom's rainfall for fiscal year 1990-91 at about 8,400 million cubic meters [as published], of which al-Hamad and al-Azraq Basin received the lion's share.

The authority, through its observation points and stations, monitors and analyzes surface and underground water reserves. All sectors consumed a total of 511 million cubic meters of water from all water sources, including 155 million cubic meters for drinking, not counting the amounts extracted from springs and from Dayr 'Alla. Agriculture, including public sector projects, utilized 326 million cubic meters of water. Industry consumed 31 million cubic meters of water.

The sources added that the authority's competence extends beyond underground water and includes issuing drilling and extraction permits to the private sector, monitoring well drilling by both private and public sectors, conducting water pumping experiments, surveying rock formations, mapping subterranean water sources, calculating the rate of extraction from water basins, and undertaking research.

The authority last year issued 363 new and renewed permits for drilling new and replacement wells and for deepening, purging, etc.

The sources added that the authority has maintained research on water resources in the kingdom, including a study of water resource policies, planning, and management; exploration for underground water in al-Azraq Basin; a regional project for environmental applications; technical cooperation between the Governments of Jordan and Germany; an evaluation of underground water resources at al-Disa Basin; water harvesting at dams; and digs and canals. The authority has also undertaken a project to line water pipes in the Amman, al-Balqa', and 'Awjan Governorates, repair flood damage in the southern governorates, and recondition canals in the northern, central, and southern parts of the country, not to mention water testing and monitoring.

The sources pointed out that Amman, Irbid, and al-Zarqa' Governorates enjoy the highest annual water consumption at about 127 million cubic meters, or 71 percent of aggregate water consumption in the kingdom.

Government Launches Wetlands Protection Project

93P40044A London AL-MAJALLAH in Arabic 11 Nov 92 p 77

[Text] Jordan will be making direct arrangements in the next two months to implement a project to rehabilitate and preserve natural resources in the al-Azraq protected area east of Amman. This comes after securing the necessary financing from a grant to Jordan via the Ramsar Agreement To Protect Wetlands.

Government sources noted that this project, with an estimated cost of 3.3 million Jordanian dinars, will be implemented in cooperation with, and under the directives of, the Ministry of Agriculture, the Ministry of Water and Irrigation, and the Royal Society for the Protection of Nature.

As part of this project, the Ministry of Municipal and Rural Affairs and the Environment will create a unit to evaluate the environmental impact, to monitor the environmental effect of various projects in the al-Azraq area, and to train staff in wetlands administration and management. The projects' goal is to protect the environmental balance in the al-Azraq area, which is considered internationally important as a home for migrating birds.

Germany Finances Water Recycling Projects

93P40057Z London AL-SHARQ AL-AWSAT in Arabic 15 Nov 92 p 12

[Text] Amman, AL-SHARQ AL-AWSAT Bureau—Germany has agreed to offer Jordan 55.2 million Deutsche marks, equal to $34.5 million, in aid to finance used water discharge projects.

Germany will send some experts to Jordan as part of the agreement.

Foreign Minister on Peace Talks, Water Issue

NC0101162093 Cairo AL-WAFD in Arabic 27 Dec 92 p 5

[Interview with Jordanian Foreign Minister Kamil Abu-Jabir by Sana' al-Sa'id in Cairo on 26 December]

[Excerpts] [Al-Sa'id] *Water may be the reason Israel is keeping the territories. In view of this, some might say that international law is not enough to deal with the issue of using the Jordan River's waters and that there is a need to form a body to undertake a long-term role in planning a policy on water and its uses.*

[Abu-Jabir] Water is one of the principal issues in the negotiations. We have rights which we will demand, insist upon, and defend. Don't forget that the water talks are being held at two levels: the bilateral one (Jordanian-Israeli), and the multilateral Israeli-Jordanian-Syrian-Lebanese-Palestinian level. If settlement is reached on the water issue, then it will include the entire region. But so far, no one knows how to tackle this issue.

[Al-Sa'id] *Despite the many difficulties impeding progress in the peace talks and despite the deportation of the Hamas [Islamic Resistance Movement] members, President Mubarak advised the Arab parties not to boycott the peace talks because it would be wrong and could have grave consequences. What is your opinion?*

[Abu-Jabir] President Mubarak's wisdom is highly valued. His views merit respect and appreciation. We in Jordan deeply respect him. The issue of withdrawing from the talks is not under discussion, at least for now. As far as Jordan is concerned, it is insisting on peace and on continuing this process. Like President Mubarak, we believe that withdrawal from the talks would hurt the Arabs.

[Al-Sa'id] *Does this mean that the possible collapse of the talks and the resumption of the armed struggle is out of the question?*

[Abu-Jabir] Of course it is out of the question now because we are at the start of the peace process. [passage omitted]

[Al-Sa'id] *"Clinton" has said that any peace agreement between Israel and any Arab party requires a high level of security for Israel. What is your view?*

[Abu-Jabir] I really don't know which one of us has a greater need for security. Is it Israel, which is armed to the teeth with conventional, nuclear, chemical, and biological weapons, or is it we who really need these kinds of weapons, but do not have such an arsenal or guarantees like those given by the United States to Israel? When we hear such statements, we are surprised and ask: Who needs more security arrangements than the Palestinian people, who are dispersed inside their homeland—their own soil—inside Jerusalem, Hebron, Tulkarm, Janin, and Nabulus. These people are dispersed and persecuted in their own land. The world has to face this truth, which we should make evident to it. Evidence of this is the unjust and cruel deportation of 418 Palestinians and the violation of international legitimacy. I ask: Has the world forgotten that these are human beings with feelings, dreams, and families?

[Al-Sa'id] *Israeli officials are reiterating that Jordan is the key to the solution for the Palestinian problem and that Jordan is the Palestinian state.*

[Abu-Jabir] We could describe this claim as mere hollow words. A look at history prior to Islam shows that there is one thing called Jordan and another called Palestine. [passage omitted] To say that Jordan is Palestine and the key to the solution is a falsification of history and baseless. The Palestinian people are Palestinians and I cannot eliminate their identity with the stroke of a pen. I cannot erase their identity and say they are something else. These are hollow and meaningless words.

[Al-Sa'id] *What about the reports that King Husayn will abdicate in favor of the crown prince?*

[Abu-Jabir] This is out of the question. His Majesty King Husayn was clear in his recent speech. The speech showed that he has a responsibility and a course he must complete. Hence, words such as those you noted are out of the question. [passage omitted]

KUWAIT

Oil Minister Denies Intention To Sign Earth Summit Treaty

LD1312152992 Kuwait KUNA in Arabic 1340 GMT 13 Dec 92

[Text] Kuwait, 13 Dec (KUNA)— Kuwaiti Oil Minister 'Ali Muhammad al-Baghli today denied press reports that Kuwait and the Kingdom of Saudi Arabia will sign the environment treaty which was signed at the Rio de Janiero earth summit conference in Brazil recently.

In a statement to KUNA, Minister al-Baghli said that there is a tendency to call on some of the countries which refused to sign the treaty "at the beginning" to sign it now.

He added that this tendency also calls for working within the group of countries that signed the environment treaty so as to ensure that the voices of the countries which failed to sign the treaty and their views as oil-producing countries would reach the world. This is particularly, he said, because the majority of these countries totally depend on oil as a main source of revenue. He pointed out that their sources of production are the safest, cleanest, and cheapest sources of energy.

It is noteworthy that Kuwait and Saudi Arabia have not signed the environment treaty agreed upon at the Rio de Janeiro earth summit conference in Brazil.

REGIONAL AFFAIRS

Moscow Center To Provide Peaceful Work for Nuclear Teams

PM0312114792 Moscow ROSSIYSKIYE VESTI in Russian 28 Nov 92 p 1

[Report by Pavel Shinkarenko: "Military-Industrial Complex Cadres. Work Will Be Found for Them in Russia Too"]

[Text] Russian nuclear scientists will get this opportunity in the International Scientific-Technical Center [ISTC] that is being set up in Moscow. An agreement on this was signed yesterday by Russian Federation Foreign Minister Andrey Kozyrev together with representatives of the other founders—the United States, Japan, and the EC.

"The international center will provide scientists from Russia and other CIS countries, and Georgia too, in particular those who possess knowledge and skills in the sphere of mass destruction weapons and missile delivery systems, with the opportunity to apply their talents to peaceful activities," Russian Federation Deputy Foreign Minister Grigoriy Berdennikov told me.

Grigoriy Vitalyevich stressed that the United States is providing $25 million, Japan $17 million, and the EC 20 million ECU's to support the ISTC and its activities and projects. At its own expense, the Russian Federation will provide the center with suitable official premises (provisionally, in the Tsaritsyno park area) and will also provide maintenance, services, and security.

"Before parliamentary ratification of the agreements," the deputy minister continued, "we have agreed to set up a preparatory committee which will start studying the administrative, financial, and cadre questions literally in the next few days. So the center itself will not have to waste valuable time bothering with all these things: It will start dealing with scientific problems immediately."

"We intend," Aleksandr Pavlov, deputy chairman of the Russian Federation Atomic Energy Ministry International Relations Committee, added, "to recruit for this work nuclear scientists who deal with nuclear weapon problems. Primarily from the well-knwon institutes and laboratories in Arzamas-16, Chelyabinsk-70, and the like. By means of their research they will give considerable support to the CIS countries and Georgia in the transition to a market economy that meets civilian needs. It will include projects in the spheres of environmental protection, energy production, and safety in the nuclear energy industry."

It is hoped that the ISTC will soon get some new cofounders. For example, Sweden, Switzerland, and Canada have expressed a wish to work in the collective. There have been similar noises from other countries as well.

RUSSIA

Russian-Canadian Environmental Cooperation Praised

93WN0169A Moscow LESNAYA GAZETA in Russian 14 Nov 92 p 1

[Interview with Len Good and Nikolay Rybalskiy, deputy ministers of the environment, by a LESNAYA GAZETA correspondent: "Trouble Does Not Recognize Borders"]

[Text]

The Planet's Complex Ecological Problems Today Can Only Be Solved Together

Canada and Russian have been cooperating in the area of ecology for more than two years now. The work is coordinated by a joint commission headed by deputy ministers of the environment, Canadian Len Good and Russian Nikolay Rybalskiy. Our correspondent asked them to answer a few questions.

[LESNAYA GAZETA] *Canada and Russia are the world's two largest timber nations. This fact probably determines the priority in their cooperation, does it not?*

[Rybalskiy] Our partnership covers numerous fields. Joint programs are being implemented in five area, each of which is handled by a special working group. In the first place, there are the problems of environmental pollution as a whole. The working group studies technologies for cleaning up the environment and passes them on to each of the parties. A second problem involves water resources. Programs for managing ecological systems shared by Canada and Russia and the management of national parks constitute the area of work of a third group. A fourth group deals with environmental protection policy. The fifth and last group deals with educating people on ecology and implementing programs for reducing the negative effects of social and economic activities on natural ecosystems. Naturally, all of the groups deal in one way or another with timber problems.

[LESNAYA GAZETA] *Could you be more specific?*

[Good] Forests play a very large role in Canada's economy. Our nation has an effective program for managing timber resources focusing on the protection and prudent use of all components of that unique natural complex, the forests: trees, the animal world, side products and so forth. We plan to develop timber management models for other countries. Canada's experience is generating a lot of interest in Russia. A representative of the Canadian timber department plans in the immediate future to begin talks on cooperation with the Russian Timber Committee.

[Rybalskiy] ...which will focus on solving the problems of restoring forests and combatting forest fires. The protection of forests is not the concern of a single department, however. This is why it is covered by the Ekologiya Rossii, Ekologicheskaya Bezopasnost Rossii and other programs.

One cooperation project calls for applying Canadian models for the management of natural resources in the

Pechora River basin in the Komi republic. It also covers the region's timber problems.

The preservation and prudent use of Russia's forests, like all other natural resources, is directly dependent upon ecological enlightenment. In this area there are plans for exchanging information and developing training aids and software for computer games, as well as for the exchange of students and specialists.

[LESNAYA GAZETA] *The intergovernmental agreement on bilateral cooperation was signed more than 2 years ago. How would you assess the results?*

[Good] Our cooperation has been extremely fruitful. It focuses on the study of matters of mutual interest and on the resolution of complex ecological problems. The state of the planet's environment is presently one of the most urgent international problems. I believe that the functioning of the joint committee is in complete conformity with the new thinking. Our partnership involves interaction by neighboring northern nations and citizens of the world concerned about the fate of the planet. It stems logically from the desire of our peoples to ensure healthy conditions for life on Earth. I hope that many other countries will follow our example.

Organization, Activities of 'Green' Movement Examined

93WN0151A Moscow ZELENYY MIR in Russian No 25-26 Jul 92 (signed to press 14 Jul 92), No 35-36 Oct 92 (signed to press 1 Oct 92)

[Article in two installments by Yuriy Galkin, candidate in philosophical sciences and member of the "Rosekopress" Council: "The 'Greens'—Who Are They?"]

[No 25-26 Jul 92 (signed to press 14 Jul 92) p 8]

[Text] *The newspapers often mention the "green" movement. As we can see, the ecological forces have considerable weight there, including political. How did they manage to achieve this? And in general, what do they do? What do they want? Please explain about this in ZELENYY MIR.* ...N. Nikolayenko, reader from Chernigov.

The "green" movement is the first association of healthy forces on the planet for protection of its future in the struggle against technocracy and the military-industrial complex. It is specifically the "greens" who in a number of countries have become that force which has motivated the ruling circles to re-evaluate their views and to face all-human values. In our country as well, the "green" movement has become one of the first organized forms of the democratic movement in recent years.

It was a Russian by birth—a citizen of France, the hereditary nobleman from Yaroslav Province, G. A. Krasovskiy—who first proposed that we consider the color green to be the all-world symbol of nature and all living things. This proposal resounded in an article which he wrote on 6 June 1971.

Meanwhile, the independent movement for ecological safety was already in existence by this time. In 1962, the Worldwide Fund for Nature (WWF) was founded—the most numerous private international organization. Its 27 national organizations on all continents united approximately three million members. It dealt primarily with ecological education of the public and creation of funds for protection of the environment and endangered species of animals. In the almost 30 years of its existence, the fund has invested over $130 million into 5,000 projects in 130 countries around the world. Through its activity, the WWF helped to formulate the International Council for Protection of Nature and Natural Resources, the International Council for Protection of Birds, the International Scientific-Research Bureau and the Charles Darwin Fund.

The cute little panda, the symbol of the Worldwide Fund for Nature, is ever more often casting its glance in the direction of the developing countries. In 1988, the WWF helped to create funds for the protection of nature in Thailand, Ecuador and Argentina, and in February of 1989 a similar fund was formed in Nigeria. Existing primarily through voluntary contributions, the WWF uses all its means only for purposes of defending nature and protecting the environment.

The "green" movement is most active in the countries of Western Europe: the FRG [Federative Republic of Germany], England, Sweden, and Belgium. The first party unifying the defenders of nature in this region was the National Party of Great Britain. It was created in 1973, and two years later transformed into the Ecology Party. The absence of unity in its ranks and of a clear-cut program of action, as well as its difficult material situation, keep it from occupying a significant place among the ranks of the other parties.

The "green" movement took on serious scope in the Federative Republic of Germany. Only in 1980, motley groups and groupings of "ecologists" announced themselves as a party, but three years later at the parliamentary elections they already received around 6 percent of the votes and took fourth place among all the political parties. After the unification of Germany, the parliamentary factions of the "greens" of the FRG and GDR [German Democratic Republic] spoke out with a "Joint Announcement." One of the main points of this document was the demand to adopt a new Basic Law, at the heart of which must be the following principles: Environmental protection as a basic right and state goal; Love of peace as the foundation for the newly emerging state; A clear, well-defined intensification in the scope of social rights, the emergence of guaranteed rights to housing and to labor...

The achievements of the ecological movement make it a force to be reckoned with by the other political forces. In 1984, a coordinated group of "greens," uniting political parties from Austria, Belgium, Great Britain, Ireland, the Netherlands, France and Sweden, elected 11 of its representatives to the European Parliament. During the direct elections to the Europarliament in June of 1989, the "greens" won 38 seats, which gave their opponents from the right a reason to present a new slogan: "A spectre is wandering through Europe and America—the spectre of the green alternative order."

As for the "spectre" of an alternative order, the idea of creating a new society different from capitalism and socialism is most consistently preached by the Swedish Party for Environmental Protection. The "greens" of Sweden see the basic principle of the third path of development of society as the development of forms of production which are in tune with nature. They give preference to small-scale projects and small-scale forms of ownership.

The broadness of views and the sphere of activity of this party may be judged by its four leading principles: Solidarity with nature; Solidarity with future generations; Solidarity with the third world countries; Help to those who are needy and in trouble.

Differences of opinion in selecting the strategic direction of action between the two leading ecological organizations of France—the "Friends of the Earth" and the "Political Ecology Movement" (this concerns primarily their definition of partners in the struggle)—have negated all the efforts of the "greens" to create their own party, although the first mass demonstrations in defense of the environment were held in France as early as 1968.

The number of participants in the movement for protection of nature in Italy numbers around 150,000 persons, who are members of various ecological organizations which vary in their spirit and priorities. All these formations in Italy and abroad have come to be called the "Ecological Archipelago." The most influential in the alliance are the "Alps Club," "Italiya Nostra," a branch of the World Nature Fund, and "Friends of the Earth." The primary goals of the "Ecological Archipalago" are to improve the quality of life and to bring nature and man closer together. Unlike many ecological movements in other countries, the Italian "greens" firmly reject the idea of creating their own party.

The formation of the ecology movement in the countries of Eastern Europe occurred somewhat more dramatically. There, any announcements by the "greens" were perceived as being anti-governmental, as manifestations of dissent. Thanks only to the implementation of the November "gentleman's" revolution in the Czechoslovak Federative Republic did it become possible for the "greens" to formulate and expand their circle of party activity: the "Green Alternative," the "Czechoslovak Antarctic Program," the "Prague Ecological Center," the "Prague Ecological Club" and others. In 1989 the association of the "Green Circle" emerged, which coordinated the activity of 130 ecological organizations in the republic. They consider their most important task to be the provision of complete information to the population on the status of the environment.

On 5 June 1982, on the 10th anniversary of the UN Conference on the Environment, certain American ecologist-instructors proclaimed the organization of the World Movement for the Biosphere, whose goals were to substantiate the means of protection of the biosphere; to reduce the negative influence of the biosphere on man; to increase the level of scientific research on the mechanism of functioning of the biosphere, and to develop programs of education which provided for understanding of the concept of the biosphere by every person.

Here is but a single example of the development of this movement: In 35 states, 3,100 miles of "greenways" have been created—green corridors connecting population centers and national parks, wildlife preserves and other places where nature has been preserved in a more or less native form.

As in Western Europe, the "greens" of Canada have concentrated their efforts on fighting for peace and the protection of the environment. Activists from British Columbia have also spoken out against the testing of cruise missiles on their territory. The Ecology Party of Montreal is fighting to limit the use of automobiles, to increase park zones, and to reduce the reserves of harmful waste products.

The activity of the international non-governmental organization, "Greenpeace," which was created in Canada in 1971, is widely known. Its success has been ensured by competent and persistent activists and well-organized propaganda and advertising work. As a result of the efforts of "Greenpeace," the seemingly unrealizable plans for France to stop atmospheric testing of nuclear weapons in the Pacific Ocean basin have been realized; the EEC [European Economic Community] has banned the import of furseal skins and products made from them; the International Commission on Whaling has voted to introduce a moratorium on commercial whaling; an agreement was reached at the London Conference on Questions of Waste Disposal regarding the introduction of a law banning burial of nuclear waste at the bottom of the World Ocean, and a ban on dumping toxic waste into the ocean has been imposed in Europe.

"Greenpeace" has organized a number of major international actions and campaigns: The anti-nuclear campaign, the campaign against toxic substances, and the actions in defense of the atmosphere, Antarctica, the Pacific Ocean, etc.

Today "Greenpeace" has around 40 representatives in over 20 countries, several ships, a base in Antarctica, and around three million supporters throughout the world. Its also includes 400 full-time associates and thousands of volunteer helpers. "Greenpeace" has the status of a full-fledged member or official observer in a number of international conventions on environmental protection.

The "green" movement abroad is striving toward consolidating its efforts, coordinating its strategy and tactics, and strengthening the might of its ecological forces. The World Congress of "Greens" was held in Dover (England) in March of 1988.

Their colleagues and companions-in-arms in the struggle for a clean future in the Russian Federation are gravitating toward unification of efforts and establishing contacts with foreign ecological organizations.

[No 35-36 Oct 92 (signed to press 1 Oct 92) pp 12-13]

[Text] **Ecological Societies and Unions**

At the end of 1924, at the initiative of Moscow State University Professors G. A. Kozhevnikov and N. M. Kulagin, the **All-Russian Society for Protection of Nature [VOOP]** was formed. It was the first in Russia to set the goal of attracting as many people as possible to the struggle for environmental protection. Even today, VOOP is the largest ecological organization, whose achievements in the cause of environmental protection are extensive and widely known. The work of the Society is and has been well publicized in the mass media.

Let us turn to more recent times. The students stand at the sources of the current social ecological movement. Already in December of 1960 the instructors and students of the Moscow State University imeni M. V. Lomonosov soil-biology faculty organized the **Brigade for the Protection of Nature.** Over 150 people participated in its first mass operation, "Yel" [fir tree]. Later there were raids along the Klyazma and the Volga, and active efforts by the group in the struggle against poaching...

During 1973-1975, brigades for protection of nature appeared at the faculty of soil science, as well as a group for protection of nature at the geography faculty of MGU [Moscow State University]. By the beginning of 1991, the **Movement of brigades for protection of nature** numbered over 100 organizations, with a total membership of over 5,000 people. Over 70 percent of them operate within the higher educational institutions of the Russian Federation.

The interstate ecological organizations, the **"Ecology and Peace" Association,** the **Social-Ecological Union** and the **Ecology Union** enjoy great popularity and trust within the community. To this day, they involve in the orbit of their activity concerned people who understand the vital importance of environmental protection work for mankind.

The Ecology and Peace Association created in 1987 does not have a branched network of primary organizations, branches and sections. The head of the association, writer and academician Sergey Pavlovich Zalygin, and his fellow associates do not strive to create a strong, unified organization with directive structures. However, it is within the association's powers to perform highly skilled, independent economic-ecological expert evaluations of large-scale nature-molding projects in the Russian Federation and the CIS countries. Its active membership is comprised of some rather authoritative ecologists. The "Ecology and Peace" Association has organized and performed expert evaluations of the projects for re-routing part of the drainage of the northern rivers to the south and of the Siberian rivers to Central Asia and Kazakhstan, the projects of the "Volga-Don-2" and "Volga-Chogray" canals, etc. In the Spring of 1991 the association's governing board held a press conference for Soviet and foreign journalists on the topic of "Ecological Catastrophes in the USSR: Facts, Causes, Consequences," which focused the attention of journalists and scientists on three deepening large-scale crises in the zones of the Aral Basin, the Lower Volga and the Caspian, the Nevskiy Inlet and the Bay of Finland.

The association members gather and generalize ecological information, consult with other public ecological organizations, and aid in the development of their cooperation.

The formation of the Social-Ecological Union (SEU) in July of 1987 was undertaken by the Movement of Brigades for Protection of Nature and the Moscow Ecology Center. Democratic partnership relations between its organizations are characteristic for the Social-Ecological Union. All of them have equal rights, are not subordinate to orders from some directive agency, and consolidate themselves around an informational and coordinating center. The main principle goal of the SEU is to unify the intellectual potential, material and financial means for preserving and restoring the natural and cultural environment of man's habitation, to prevent destruction of natural and cultural values and to protect human health. A set of specific tasks has also been defined, whose resolution facilitates the achievement of this goal which is common to all members of the Social-Ecological Union. These tasks are:

—to comprehensively aid in the activity of citizens and their associations aimed at preserving and restoring natural complexes and facilities and revitalizing the environment;

—to formulate an ecological ideology, to propandize knowledge about the status of the natural and cultural environment and about the principles of activity for preventing ecological crises on a local and global scale, and to facilitate the development of ecological openness;

—to organize public control over adherence to legislation in the sphere of natural resources utilization and protection of natural and cultural values, and over the state of the environment, natural and cultural values and objects;

—to stage public actions in defense of the environment.

Already by January of 1990, the SEU had united over 300 social ecological groups and movements.

The Altay section of SEU, in conjunction with the union's coordinating center, has directed its efforts toward preventing the construction of the Katunskiy GES [hydroelectrical station]. The materials of its expert evaluation of the construction project became openly publicized and were reviewed at a meeting of the USSR Goskomprirody [State Committee on Nature] Community Council Buro. The section organized an ecological lectorium, and the Humanitarian-Ecological Lyceum, which is based at secondary school No 73 in Barnaul, was founded at its initiative.

The members of the Pskov regional section of the SEU, "Green Movement," held a conference on "Ecological Problems of the Northwest of Russia," and took an active part in the plenum sponsored by the Academy of Sciences Scientific Council Northwest Department on "Problems of Power Production and the Region." The Kuybyshev, St. Petersburg, Tambov, Ulyanov and certain other sections of the Social-Ecological Union have proposed holding a broad protest action against the building of the Volga-Chogray canal.

The number of supporters of the Social-Ecological Union is constantly increasing (according to certain data, by the beginning of 1992 the membership numbers of the social ecological structures united by the SEU had reached 600), and it is becoming a really authoritative, active and influential social ecological organization.

The **USSR Ecological Union** created in December of 1988 is reminiscent of the well-known Roman Club in terms of the directionality of its work and its membership. Its program of action includes the development of positive solutions for the ecological development of the country and the world, and the provision of ecological safety.

The Ecological Union is actively formulating a professional lobby for the realization of ecologically rational projects. Its watchwords have become: "Less emotion—more action!". At the initiative and with the direct participation of the Ecological Union, a concept is being formulated for creating a network of scientific-technical centers to develop new productive technologies and solutions capable of making our planet ecologically safe. It holds the right and the patent for granting the most successful and promising technologies the unique ecological seal of quality, the "White Lotus." This Union has created a scientific-production and commercial association of ecologically oriented organizations and enterprises—the **"Natural Resources Utilization" Federation.** The chairman of the Ecological Union Council buro, Professor N. F. Reimers, organized a series of lectures on ecology on the pages of ZELENYY MIR, and published for the first time in our country the "Dictionary of Natural Resources Utilization," on which he worked for over 20 years, as well as the brochure, "Methodology of Scientific (Ecological-Social-Economic) Expert Evaluation of Projects and Economic Endeavors."

Today the USSR Ecological Union has been transformed into the **Russian Ecological Union.** Now its efforts are directed primarily toward revitalizing the ecological situation in the rayons of North Russia, the Urals, Siberia and the Far East.

We may also mention the **USSR Ecological Society,** created at the initiative of Professor B. I. Iskhakov in January of 1989. Sometimes it was called the Soviet Ecological Society, and sometimes the All-Union Ecological Society. At first it seemed that the new structure had great prospects. After all, around 200 people had gathered for its constituent conference. However, as yet the Ecological Society does not have any notable achievements and actions to its credit, and the efforts to bring together all the country's social ecological organizations have not met with success.

Politicized Ecological Organizations

In Russian political science, parties are understood as groups of people comprising the most active part of a social class or strata, striving toward common goals by political and other methods.

In December of 1988 the **Movement for Creation of the "Green" Party** arose in the Soviet Union. Its main idea—the radical transformation of society on the basis of the primacy of ecology, civic self-government and direct democracy—at that time found many proponents in the Russian Federation, Belorussia, Kazakhstan, and the Ukraine.

It seemed that this new structure was capable of unifying and leading many different informal ecological organizations. However, already in March of 1990, during the Movement's congress, serious differences of opinion between its organizers became apparent. The proponents of the solution of ecological problems primarily through political means could not agree with the representatives of ecological organizations propagandizing scientific-technical, technological and organizational methods of operation. Due to the absence of unified approaches to the strategy and tactics of action of the future "green" party among the congress participants, the party was proclaimed at that time, but not ratified.

In Chechnya and Ingushetiya, in Krasnoyarsk Kray, in St. Petersburg and in Bryansk, in Suvorovo Tula Oblast, in Chita and other regions and cities there are organizations calling themselves "green" parties or "green movements." They do not aspire to the role of leaders and, as a rule, are engaged in the solution of local problems.

The **"Green Front"** in Norilsk is fighting for the preservation of the republic's northernmost protected health resorts and intermontane-forest natural landmarks "Valek," "Melkoye," and "Khantayskoye," as well as for the reduction of harmful emissions from the Norilsk Mining-Metallurgical Combine.

On the basis of the informal **"Rodnik" association** in Kursk, the oblast **Social-Ecological Party** was created, with rayon organizations in the cities of Zheleznogorsk and Kurchatov.

The **Southern Sakhalin Urban "Green" Party** has concentrated its efforts on the creation and realization of a system of ecology education.

The formulation of an ecological ethic is one of the basic directions of activity of the **St. Petersburg "Green" Party.** Its membership is comprised largely of young people, and therefore its specific forms of operation are non-traditional. On "Earth Day" its members bought seedlings at the farms outside of town and planted them in the city. They created several youth groups "Ekorok," organized the "Ekostroitel" [ecobuilder] cooperative, which builds and improves resort areas with minimal detriment to the environment. Working in conjunction with the Oblast Committee for Protection of Nature, the members of the party also compile "blacklists" of polluter enterprises.

The activity of the **Moscow "Green" Party** is interesting. It strives to influence the government and the legislative agencies. It has formed working ties with the "greens" of the FRG, Great Britain and France, and together they are working out the question of opening a representation of the "green group" of the European Parliament in Moscow. In the opinion of party activists, the improvement of the ecological situation is possible only under the condition of political transformations. This party has decisively spoken out against the war in the Persian Gulf, citing serious, and

perhaps even irreversible, ecological consequences not only in this region, but in the entire world as well. The Moscow "greens" picketed (although they do not consider pickets and other protest actions to be the only true forms of struggle) the construction of the Moscow-Voronezh railroad line, and, together with the "Nekostop" organization, conducted a series of actions in defense of Yamal.

The position of the ecological political party is most completely formulated in the program announcement published in the independent ecological newsletter of the **Samara Section of the Movement for Organization of a "Green" Party:** "We are contraposing our own holistic conception to the unidimensional policy of increasing production. Our policy will be guided by long-term aspects of the future and will be oriented on four principles: It is ecological, social, basically democratic and compulsory."

The **Federal Ecological "Greens" Movement,** which was created in the Summer of 1990, stands by itself. Its founders were the V. Vysotskiy Charity Fund for Ecology and Mercy, the Association for Alternative Aid (Medicine), and the International Association for Stress Therapy. At its congress, the Bank for Ecology and Health was also founded for the purpose of financing nature programs. The goal of the movement is to create a "World Earth Community" with a single economic, ecological and political management.

Ecological Funds

In recent years, the need has become apparent not simply for uniting the efforts of representatives of ecological social currents, science, technology and culture, but also for finding material resources to embody their endeavors. It was specifically for this purpose that the **USSR Ecological Fund** (today the **International Ecological Fund)** was created in November of 1988 and registered in April of 1991. It was oriented primarily toward promoting the rational application of all forms of raw materials and energy, manpower and health, and introducing alternative power sources into national economic use: Sun, wind, water, and ocean tides. In 1991 this fund already united around 30 sections and over 50 cost accounting organizations and enterprises working on regional and local programs. At their initiative, an ecological expert evaluation of Chukotka was conducted, tree felling waste in Khabarovskiy Kray was inventorized, the northern Baykal and Lake Khanka, the Neva inlet in the eastern part of the Bay of Finland were studied, an ecological cadaster of Orlov Oblast was developed, etc. With the participation of the Ecofund, an international symposium, "For the Ecological Rebirth of Russia," was held in April of 1992 in Moscow.

It is specifically under the aegis of the USSR Ecofund that the Informational-Publication Center "Ecopress"—the publisher of the newspaper ZELENYY MIR—was organized in 1989-1990, and considerable funds were collected at that time to ensure the viability of ZELENYY MIR up until 1992.

In 1990-1991, for purposes of organizing financial and material-technical support of the newspaper ZELENYY MIR, for organizing and collecting reliable information for it and aiding in its dissemination, actively operating permanent public associations were created—the "Inzhenernaya ekologiya" [Engineering ecology] publication fund, the Union of Journalists and Publishers of the Ecological Press (they are active in Russia and Belorussia) and the Association for Development of the Russian Ecological Press ("Rosekopress"). All of them, along with VOOP, are co-founders of ZELENYY MIR.

In June of 1990, the **Fund for Ecological and Social Harmony** emerged—a charitable cultural organization whose purpose was to further man's and mankind's harmony with the environment and the world.

There are also smaller, but quite active, regional funds.

In May of 1989, the **"Clean City Fund"** was created in Moscow. It organized the actions, "Moscow River," "Children in the city," and "Ecological express-analysis." "Ecological first aid" operates at its initiative.

The **Fund for Ecological Protection of the Yamal Peninsula** held a competition for ideas, projects, technologies, and directions for improving the ecological situation in the Far North which were in need of financing.

The **Fund for Ecological Protection of Lake Baykal** and its sections in Buryatiya and Irkutsk Oblast held the international festivals, "Baykal—the Pearl of the World" and "Baykal-Michigan;" obtained the allocation of funds from the budget for holding a social-ecological expert evaluation of the development and location of production forces in the Baykal region, and for performing cleanup work in the forest-park zone in the north of Baykal; opened the Baykal School for Huntsmen, etc.

The **Ecological Fund "Man, the Environment, Nature,"** in the southern district of Moscow is working on the creation of an automated system for control of harmful emissions and radiation survey of children's institutions in the capital.

Instead of a Conclusion

Does our state need the "greens," or are they—eternal exiles? How does the present-day democracy, at whose sources and in whose front ranks of defenders the "greens" stood, view them now? Perhaps today, when the problem of a piece of bread is becoming ever more pressing, the "green" movements and groups are merely an obstacle along the road to "general prosperity?"

We believe the prospects for development of the "green" movement lie in their close contact with the environmental protection agencies and with those who design, build and operate enterprises. After all, many of our troubles stem from our old habit of falling into extremes. This is true of land development, chemization of agriculture, etc. Yes, the criminal gigantomania in the sphere of this very land development has led to a complication of the ecological situation, yet we—instead of calmly getting to the bottom of all this—began to speak out against land development in general. Even in the places where it is really needed.

Someday a strong "green" party will emerge in Russia. Perhaps it will be formulated at first specifically as a coalition of the currently existing movements, funds, and "parties." More precisely, of those who survive in the years of severe economic crisis because of their clarity and specificity, and because of the obvious nature of their work within the scope of cities, rayons and oblasts. The need for unification of all ecological forces will in time intensify and become insurmountable. Yet it will not be easy to resurrect this need. As, we might add, it will not be easy to do so on a worldwide scale, a fact which, unfortunately, was manifested quite obviously at the UN Conference on Safety and Development in Rio de Janeiro.

Ecology Minister, Deputy Address Volgograd Regional Conference

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[Comments by Minister of Ecology and Natural Resources of the Russian Federation V.I. Danilov-Danilyan and A.F. Poryadin, his first deputy: "Russian Environmental Protection System Plans To Shift to Economic Methods of Work Without Delay in the New Year"]

[Text] **It was not just the idler who railed against the Ministry of Ecology and Natural Resources as recently as a half year ago. Moreover, everyone knew about the objective difficulties that the leadership of industry encountered, but few thought it necessary to take them into account in their assessments. It can be said today that the situation is gradually changing for the better. This can be seen especially clearly in the example of three regional conferences that took place in June through August in Khabarovsk, Novosibirsk, and Volgograd. In the first, representatives of the ministry discussed their problems with the managers of ecological territorial subdivisions of the Far East and Eastern Siberia; in the second, of Western Siberia and the Urals; and in the third, of the European part of Russia.**

The first conference started in an atmosphere of confrontation, and mutual understanding was established slowly and with difficulty. The last one took place in a constructive situation from the very beginning. In two months, the ministry succeeded in doing something to regulate the activities of its territorial organs.

The readers of ZELENYY MIR already know about what happened in Khabarovsk and Novosibirsk. Today, Minister of Ecology and Natural Resources of the Russian Federation V.I. Danilov-Danilyan and A.F. Poryadin, his first deputy, share their impressions of the meeting in Volgograd.

V.I. Danilov-Danilyan:

A little less than 100 million persons live in the European part of Russia—two-thirds of the population of Russia, and it is exactly here that an enormous industrial potential is concentrated. And if the Kuzbas and the Urals are not taken into account, then it is the European part that is the dirtiest ecologically, and the main field of our activity is here.

To our great regret, we were also unable this time to submit a full package of documents to our colleagues that regulate their work. They are ready, but they have not been drawn up yet in the form of legal decrees, inasmuch as we have to coordinate them with dozens of departments. And even if we encounter a full understanding of our problems there and sympathy and a sincere desire to help, nonetheless, our "paperwork" will take a couple of days. But when it is necessary to explain our position or, what is worse, to coordinate the text with those who have objections, sometimes we cannot get squared away even in a week.

It is true that very important protocol decisions were made at the Collegium of the Russian Government on 17 July. In particular, the principle of the separation of the functions of state control from the functions of production and trade was affirmed. The protection of fish resources and the animal world was transferred to the Ministry of Ecology; our proposals on ecological insurance were approved. The decree on the system of payments for polluting the environment and the use of natural resources was also ratified and already published in ZELENYY MIR. In addition the Collegium decided, starting on 1 January 1993, to return our territorial organs to centralized financing from the federal budget, and it affirmed the need to designate capital investments in environmental protection activity as a separate line item of the budget. Well, and so forth...

Undoubtedly, the protocol decisions denote only the position of the government. They will acquire legal force only after they are drawn up in the form of decrees; however, everything that concerns the budget falls in the sphere of jurisdiction of the Supreme Soviet, which will have the final say. At the moment of publication of this article, I am confident that part of the documents will already assume real force.

But as for our internal problems, then this is what I would like to talk about first of all.

In Volgograd, a very strong differentiation of the committees on environmental protection became obvious. It is reflected even in the simplest qualitative factors. There are oblasts and republics in the structure of Russia, for example, where clearly more than half of that payment for pollution of the environment is collected that can in principle be collected. But there also are places where not even a kopek is collected and, accordingly, nothing is transferred to the budget or to the ecology funds. But these places, from the standpoint of the ecologist, are far from safe.

Some of our subdivisions are trying independently to resolve all of those questions that can be resolved at their level, but others, for example, are asking the ministry to petition for lowering the lease payments for their premises. The people there are not right, nor do they know their own capabilities—consequently, they also do not understand their duties. Everything here is interrelated.

As a rule, the participants of such conferences also mix with each other a lot outside the meeting hall. And this mixing, perhaps, is no less useful than the official part of such meetings. A direct exchange of experience in a relaxed

situation is one of the most effective forms of learning. And I also had the opportunity to learn how the oblast and republican collectives live, what they are thinking concerning one or another matter, etc. Today, I have every reason to assert that the overwhelming majority of the leaders of our territorial organs are people who, first, are competent, and, second, are dedicated to their work.

A.F. Poryadin:

When we recall the first conference in Khabarovsk and the grounds for the sharp criticism of the ministry, then we will see that almost all of these grounds were removed from the agenda by the time of the meeting in Volgograd.

First, the decree of the government concerning the specially empowered organs was adopted, and now no one, except our own structures, claims this role. Second, until the confirmation of the statute concerning the Ministry of Ecology, the action of the statute concerning the former Committee for Ecology, confirmed in 1990, applies to us.

Third, documents on the federal and territorial ecological funds were adopted. They officially confirm the principle of their formation and the system by which they are administered, and the direction of their activity. Fourth, a single maritime inspectorate was established. We will confirm the statute on it in the near future, and it will begin to operate.

Of course, a lot of criticism directed against us could also be heard on the banks of the Volga—this is normal. But everyone already understands that it is necessary not for a clarification of relations, but for improving joint work. The position in the European part of the country is very difficult, and numerous and difficult duties are being placed on the backs of our committees as well—and they are not very broad and strong, when the material base, the conditions of work, and the number of employees are taken into account.

The market economic activity and the privatization of state property leads to attempts by everyone to acquire a profit as quickly as possible. If production is not placed within strict boundaries, the ecological situation in Russia will deteriorate rapidly. In the meantime, many large cities, the Volga, and other rivers are already in a critical state now.

Under the old system of fines for polluting the environment, the committees for ecology would not be able to cope with the onslaught of entrepreneurs, even if they tried very hard. But the new system of payments for pollution (already approved) and for the use of natural resources (I hope it will be approved any day now) will become a component of all of the economic activity of an enterprise. In principle, the pollution of nature will be economically unprofitable. Therefore, the localities will be compelled to think about how to do without harmful wastes, and if this is not possible—how to make them less harmful and how to get rid of them in general.

But how is this being done now? All liquids are poured into the municipal sewer system and they are there and then forgotten. But now, payments will have to be made for this. Hundreds of thousands of tonnes of raw materials that are suitable for reprocessing flow out of the pipes. The high payment for pollution will make their reprocessing profitable. The work of our committees will become principally different. While previously they mainly caught and punished violators, now they will ensure uninterrupted work of the economic mechanism.

And there is one more present-day feature: The right of making use of natural resources has been shifted to the localities—to the subjects of the Russian Federation. The oblast and republic authorities must resolve many questions jointly with the Ministry of Ecology; however, they do not intend to surrender any of their rights to anyone. Thus, the committees for environmental protection will have to work more independently now—in contact not so much with the ministry as with the soviets and the administration of their city or oblast, while being guided by instructions from Moscow, the law "On the Protection of the Natural Environment," and other legislative acts.

Our committees and the resources committees are now in conflict. Their mutual relations and division of functions have not been successfully settled everywhere, and parallel structures have emerged. And once again demands on Moscow can be heard: "Tell them that we are primary!.." But how can a single formula of management be established, let us say, for water resources for all of Russia?

Let us compare Kalmyk and Saratov oblasts. The water resources and the water utilization problems of these territories are different. Is it sensible to introduce a single system of management and control for them? Kamchatka Oblast has an exclusive principle of forming and using water resources, but in the Volga area, the system is much more complex... Only detailed and consistent work with the local organs of authority can help work out the most acceptable system of economic management and control that is acceptable for a given region.

A lot of examples can already be cited of the fruitfulness of such an approach. The minister talked with the deputy chief of the administration of Volgograd Oblast, and he encountered full understanding of the ecological problems. I met with the leaders of the administrations of several oblasts, and I did not find differences on the principal questions. I am confident that by the end of this year we will resolve all misunderstandings, that we will conduct the necessary negotiations, and that we will shift to economical methods of work in the new year without any vacillation.

A concluding all-Russia conference will be held in Moscow at the end of October that will be attended by members of the Committee on Questions of Ecology and the Rational Use of Natural Resources of the Supreme Soviet of the Russian Federation and by managers of the ecological resources structures and of those ministries and departments that are responsible for the resolution of environmental protection tasks.

Moscow Suffers Growing Incidence of Mercury Contamination

93WN0178B Moscow KOMMERSANT DAILY in Russian 26 Nov 92 p 15

[Article by Aleksandr Kudakov and Boris Kazakov: "A Mercury Puddle in School: The Director Discovered Mercury on the Floor"]

[Text] **There have been increasingly more cases of mercury contamination of the territories and buildings of the capital. This time it was School No. 336, located on Volgogradskiy Prospekt, which suffered. The administration was forced to cancel all studies and evacuate the children from the building.**

The fumes from mercury affect the mucous membranes of the respiratory organs and have a negative effect on the blood picture, the state of the central nervous system, psychology, and teeth, and produce memory loss. Mercury practically does not leave the organism. It is difficult to diagnose mercury poisoning.

On Tuesday morning, the director of the school, Yelena Golubeva, discovered puddles of mercury on the first floor of her school. Thanks to the effective actions of the director and the teachers, it proved possible to lead the students within the shortest possible time from the dangerous building. Civil defense staff members of the Yugo-Vostochnyy District who came to the scene of the accident carried out the decontamination of the poisoned premises. The next day, mercury was again discovered in the school, but it was quickly cleaned up by the same service.

As they informed correspondent "b", the children will not go to school for another few days—until the content of mercury fumes in the air is reduced to sanitary norms. Up to now it is not known where the mercury in the building came from.

According to the information of "b", secondary mercury (already once used in production) is not processed in Russia. The closing of the border with the Baltic, where it went previously for reprocessing and re-export to the West, does not allow commercial and criminal structures to export it from Russia, which leads to the appearance of the toxic metal in the most unexpected places—from dumps and sewers to doorways of apartments.

As correspondent "b" was told, in the civil defense staff of Moscow incidents of mercury pollution of premises, land, sewers, etc. are an almost daily occurrence. Moreover, one-third of the cases of pollution, as the mercury experts asserted at their conference (cf. "b" of 21 November), are perpetrated intentionally.

Government Acts To Quarantine Sanitation Systems in 3 Oblasts

93WN0145C Moscow ROSSIYSKAYA GAZETA in Russian 25 Nov 92 p 5

[Text] The Government of the Russian Federation has accepted the proposals of the Federation of Independent Trade Unions of Russia and the State Committee For Sanitary and Epidemiological Oversight, approved by the Ministry of Agriculture and Foodstuffs of the Russian Federation, the Ministry of Environmental Protection and Natural Resources of the Russian Federation, and the administrations of Kurgan, Chita, and Smolensk oblasts, on the establishment of the boundaries and rules of the quarantine zones of health resorts on Lake Medvezhye in Kurgan Oblast, Kuka and Urugchan in Chita Oblast, and the mineral springs and therapeutic mud used at the Sanatorium imeni Przhevalskiy in Smolensk Oblast.

The administrations of Kurgan, Chita, and Smolensk oblasts have been instructed to take the necessary public health precautions in the quarantine zones of these resorts and the sources of mineral water and therapeutic mud.

Presidential Council Considers Drinking Water Shortage

93WN0131A Moscow VEK in Russian No 13, 6-13 Nov 92 p 6

[Article by Nikolay Tereshko: "What Will We Drink? Coordinating Presidential Council on Problems of Ecology and Health Considers How To Provide Pure Water for the Population"]

[Text] Russia is one of the richest countries in water resources. There are about 30,000 cubic meters of water annually for each of us. According to this indicator, we are second only to the Canadians and the Brazilians. However, the guaranteed supply of water of normal quality for Russians is a critical socioeconomic problem.

A majority of our rivers and lakes are polluted by organic fertilizer, phenol, petroleum products, and heavy metal sodium chloride. They have lost every kind of capability for natural self-purification. Filth and poison penetrate into subterranean waters. Therefore, more than half of the drinking water that is delivered by water mains does not meet standards of hygiene. Every third swallow from a domestic water main is chemically polluted, and every tenth is bacteriologically polluted. In this year alone, eight outbreaks of severe intestinal infections resulting from dirty water were registered—in Krasnoyarsk, St. Petersburg, Uglich, and in Chelyabinsk, Kemerovo, Amur, Novosibirsk, and Irkutsk Oblasts.

At the same time, more than 100 cubic kilometers of fresh water from drinking sources, half of the Volga flow, is taken for technical needs. This water, on returning to the people, brings with it about 25 million tonnes of harmful substances annually just from discharges equipped with purification facilities. But there are so many of those that are not equipped with them and that are not monitored! The economic damage just from intestinal infections and infectious hepatitis runs into the billions of rubles annually.

Despite the drop in production in the national economy, a reduction has not occurred in the volume of sewage used in enterprises. On the other hand, the number of one-time emergency spills has increased—on the average, there are five every day in Russia.

The Volga experiences the greatest anthropogenic and technogenic load; a third of its water discharge goes for production needs. The dirtiest water is returned to it.

Russia's water main network, and this is more than 200,000 kilometers, is half worn out. As a result of this, about 75,000 bursts, cutoffs, and accidents occur annually in the water mains of Russia. There is no centralized water supply in hundreds of cities, and in 100 cities water is delivered according to schedule two or three times a day.

This dismal picture was ascertained recently by members of the Coordinating Presidential Council on Problems of Ecology and Health. At the same time, N.N. Mikheyev, chairman of the Roskomvodkhoz [Russian Committee of Water Management], noted that even if all of the collectors of discharges of industrial wastes are shut down and all air effluents are stopped, the situation will not be improved much: Surface sewage will provide us with all kinds of "gifts" for many decades to come. The situation is such that it is not the water that has to be protected from the individual, but the individual from the water. At present, there is no science, there are no laws, and there are no economic levers capable of preventing a catastrophe.

Professor A.F. Poryadin, the first deputy minister of the Ministry of Ecology, thinks that if today's water main is fed the purest water, poor water will come to the apartment, nevertheless—such is the condition of the water lines. Aleksey Filippovich knows this exactly—until recently it was he who was the minister of housing and communal services. V.M. Dolgov, the current chairman of Roskomzhilkhoz [the Russian Committee for Housing and Municipal Services], complained that there are quite a few ecologically dangerous enterprises in water supply zones. But Valeriy Mikhaylovich is alarmed to no less a degree by this trend: Under the privatization of enterprises, the new owners are refusing to assume responsibility for water service installations. V.P. Loginov, deputy minister of agriculture, tried to gladden the members of the council: The pollution of water by pesticides has been cut in half. But the reason turned out to be simple—there are no pesticides. On the other hand, the influx of manure from farms into the rivers has increased. A.A. Monisov, deputy chairman of Goskomsanepidnadzor [the State Committee for Sanitation and Epidemiological Oversight], reported that this department submitted specific proposals to the government and to the president five times on how to correct the developing alarming situation—there was no answer.

The coordinating presidential council considered it necessary to develop a draft decree of the government on providing the population with drinking water of a standard quality and the economic mechanism for its implementation; and, starting with the new year, on beginning certification of the production of drinking water, and passing legislative acts concerning the provision of good drinking water for all of us.

Kurchatov Institute Reactor To Be Halted

PM1412101992 Moscow IZVESTIYA in Russian 10 Dec 92 Morning Edition p 1

[Report by Yuriy Rogozhin of the State Committee for the Supervision of Nuclear and Radiation Safety press bureau: "Nuclear Reactor To Be Halted in Moscow"]

[Text] The Moscow inspectorate of the State Committee for the Supervision of Nuclear and Radiation Safety has issued directions that the operation of the nuclear research reactor at the Kurchatov Institute be halted.

The reactor is to be halted 10 December and remain in that state until existing violations of the rules and norms adopted in nuclear energy have been eliminated.

Decree on Free State Insurance Against Risk of Chernobyl Radiation

935D0121A Moscow ROSSIYSKAYA GAZETA in Russian 23 Nov 92 p 5

[Decree No. 851 of the Russian Federation Government on Mandatory Free State Personal Insurance Against the Risk of Radiation-Related Impairment Resulting From the Chernobyl Disaster, issued in Moscow on 5 November 1992]

[Text] In accordance with the Russian Federation law "On Amending the RSFSR Law 'On Social Protection for Citizens Exposed to Radiation as a Result of the Disaster at the Chernobyl Nuclear Power Station'" of June 18, 1992, the Russian Federation government **resolves:**

1. To charge the Russian State Insurance Company with providing mandatory free state personal insurance against the risk of radiation-related impairment as a result of the Chernobyl disaster.

2. To establish that Russian Federation state insurance agencies bear insurance liability as of April 26, 1988, i.e., from the moment of the disaster at the Chernobyl Nuclear Power Station, and that they are to pay insurance benefits to citizens who were victims (or their beneficiaries), provided that findings issued by agencies authorized by the Russian Federation government indicate that an insured event is related to the effect of radiation (radioactive contamination) resulting from the Chernobyl disaster, or that an insured event is related to participation in operations to deal with the effects of the disaster at the Chernobyl Nuclear Power Station, in the following amounts:

a) in the event of the death of the insured: a benefit equal to 200 times the minimum monthly wage established by law at the time of payment;

b) in the event that the insured is found to be disabled:

Group 1: a benefit equal to 150 times the minimum monthly wage established by law at the time of payment;

Group 2: a benefit equal to 100 times the minimum monthly wage established by law at the time of payment;

Group 3: a benefit equal to 50 times the minimum monthly wage established by law at the time of payment;

c) to an insured person who had or has radiation sickness and other diseases: a benefit equal to 30 times the minimum monthly wage established by law at the time of payment.

The payment of insurance benefits under mandatory free state personal insurance against the risk of radiation-related impairment resulting from the Chernobyl disaster is to be adjusted to allow for benefits paid to the insured previously under this type of insurance and must not exceed an amount equal to 200 times the minimum monthly wage established by law; insurance benefits are to be paid without regard for social insurance and social security benefits paid as compensation for damages resulting from the Chernobyl disaster and without regard for benefits paid under other types of insurance.

3. To take notice that, under Art. 28 of the aforementioned law, banks that process transations in connection with mandatory free state personal insurance against the risk of radiation-related impairment resulting from the Chernobyl disaster are not to earn commissions on these transactions.

4. To recalculate insurance benefits paid to insured citizens (or their beneficiaries) earlier in accordance with the RSFSR Council of Ministers decree of November 4, 1991, No. 581, "On Providing Mandatory Free State Personal Insurance to Citizens Who Were Victims of the Chernobyl Disaster and to Persons Sent into Radiation Risk Zones," and to pay the difference between the previously paid insurance benefit and the benefit to which the insured (or his beneficiaries) is entitled under this decree.

5. To direct the Russian Federation Ministry of Finance and the Russian State Insurance Company to draw up, within 30 days, procedures for setting up an insurance fund and for settling mutual accounts relating to paid insurance benefits.

6. To establish that, in order to compensate Russian Federation state insurance agencies for their expenses in providing mandatory free state personal insurance against the risk of radiation-related impairment resulting from the Chernobyl disaster, funds are to be allocated in the amount of six percent of paid insurance benefits from appropriations earmarked for the payment of insurance benefits.

7. To direct the Russian State Insurance Company to draw up, within 30 days, procedures for providing mandatory free state personal insurance against the risk of radiation-related impairment resulting from the Chernobyl disaster.

8. To declare null and void the RSFSR Council of Ministers resolution of November 4, 1991, No. 581, "On Providing Mandatory Free State Personal Insurance to Citizens Who Were Victims of the Chernobyl Disaster and to Persons Sent into Radiation Risk Zones."

[Signed] Ye. Gaydar

Chernobyl Legacy in Russia Recounted

Radiation Persists, Treatment Lags

93WN0138A Moscow ROSSIYSKIYE VESTI in Russian 23 Nov p 4

[Unattributed report: "Chernobyl's Imprint on Russia"]

[Text] As of March 1992 radionuclide soil contamination with an average cesium-137 density of 1.0 curies/square kilometers or more was recorded in 15 of Russia's administrative territories: Bryansk (contamination of 34 percent of the oblast's area), Kaluga (17 percent), Belgorod (eight percent), Voronezh (1.5 percent), Kursk (4.4 percent), Leningrad (one percent), Lipetsk (about eight percent), Orel (40 percent), Penza (three percent), Ryazan (15 percent), Smolensk (0.5 percent), Tambov (1.7 percent), Tula (47 percent), Ulyanovsk (0.6 percent), and Mordova (two percent).

About 400,000 citizens who took part in eliminating the consequences of the accident at the ChAES [Chernobyl Nuclear Power Station] and were exposed to the radiation live in Russian territory. Illnesses of the blood's circulatory system and the heart, vegeto-vascular distonia, hypertonia, and so on have been observed in them. In this situation, prophylactic medical examination for the population that was affected by Chernobyl should be conducted annually. However, in the past year, for example, only 65 percent of the residents of the southwestern parts of Bryansk Oblast who are subject to medical examination were inspected in the past year.

According to the data of S. Fetisov, a member of the RF [Russian Federation] VS [Supreme Soviet] Committee on Women's Affairs and Protection of the Family, Maternity, and Children, 78,000 children (5,000 of them less than a year old) live in the Bryansk area that was contaminated by radionuclides. The morbidity indicators for children from the contaminated regions also have exceeded the oblast average for five chief illnesses, among which are sicknesses of the endocrine system and the blood.

For some time an effort has been made to take children out of the contaminated areas. This year 183,000 children and adolescents received health-resort and general health-improvement therapy. This is 62 percent of the total number that need it.

During 1949-1956 wastes from radiochemical production were discharged into the Techa, a small South Ural river. As a result, 124,000 people were subjected to radiation within Chelyabinsk and Kurgan oblasts. In 1957, as a result of the overheating of one of the tanks for storing highly radioactive liquid waste and the ensuing explosion of the nitrate-acetate salts that they contained, radioactive substances were dispersed by the wind over great distances in Chelyabinsk and Sverdlovsk oblasts. As a result, 13 rayons and the cities of Kyshtym and Kamensk-Uralskiy were subjected to contamination.

The number 20 mkR/ch [microroentgens/hour] is considered the norm for the RF. A number of less than 0.1

ber/god [roentgen equivalent, mn/year] is safe for habitation. Resettlement begins when the indicators are more than 0.5 ber/god. These figures are not Greek to us. Each citizen can buy his own personal dosimeter and read its indications. In three years 28,500 people were resettled from contaminated regions of Bryansk Oblast. In all, during the post-accident period, 42,300 residents left voluntarily and were resettled, 900 people left Kaluga Oblast, where only voluntary resettlement occurred, and 5,000 people left Tula Oblast, where resettlement was not mandatory. Another 4,400 people should have been resettled involuntarily from Bryansk Oblast territory and it is planned that this will be done during the current year and the first half of next year.

Expenditures for resolving Chernobyl problems on Russia's territory were 3.7 billion rubles [R] last year and will be R65 billion this year. Ukraine spent R6.2 billion last year, R147 billion this year, Belarus R4.9 billion and R33 billion, respectively.

Chernobyl State Committee Chairman Commentary

93WN0138B Moscow ROSSIYSKIYE VESTI in Russian 23 Nov 92 p 4

["Commentary by Chairman of Russian Federation Goskomchernobyl Vasiliy Voznyak"]

[Text] Today, all that has been done on Russian territory to overcome the consequences of the Chernobyl catastrophe still cannot be considered satisfactory. During at least the first year much less attention was given to this problem than in, let us say, Ukraine and Belarus. It is natural that quite a few remarks critical of the Government, ministries, agencies and, in particular, our state committee and the Bryansk Oblast administration were made at the RF Supreme Soviet session that was held in October and examined this question.

At the same time, I would like to inform readers of definite positive action by our Chernobyl affairs committee. This year, let us say, despite all the difficulties, the Russian Federation Government is providing the Chernobyl program with financial resources in the full amount. Every tenth ruble from general state centralized investment is devoted to these purposes. They are realized in various activities. Special attention is given, of course, to the construction of housing for resettlers from the areas contaminated by radionuclides above the level permissible for further habitation.

Things were not done here in the early period that was noted, so it was necessary to make up for the lost time with all our efforts. This is why the Government is constantly putting into practice a whole system of material measures that will motivate builders to do their jobs. And the result is already visible. During the past 10 months we have raised the indicators for carrying out the Chernobyl construction program. During the third quarter of this year R12.2 billion of capital investment were assimilated, which was 109 percent of that forecast for the period.

Extremely important is concern for providing the people with pure food products, not excluding what they have produced. We have seen some results already. While for seven of the most hard-hit areas of Bryansk the production of meat contaminated by radionuclides was 27 percent above the norm in 1986, this year it is only 0.06 percent of total production. But nevertheless many people in the regions affected by the Chernobyl ailment should buy in the stores. In the new era of management, there have been definite obstacles in the path of moving produce to the customer. This is why a decision was made that called for the creation prior to 1 January 1993 of a specialized "Chernobyl" trade structure. The Central Bank of Russia is charged also with accelerating the creation of a specialized joint-stock and state commercial bank, Chernobylbank, which can, in particular, grant favorable credit terms for trade institutions in the contaminated territories.

Udmurtia Drive Against Lewisite Destruction Facility Gains Momentum

LD0212171092 Moscow Mayak Radio Network in Russian 0900 GMT 2 Dec 92

[Text] In Udmurtia, the protest campaign against constructing an enterprise for destroying Lewisite is starting to gather momentum. Lewisite is a chemical warfare agent which has been kept in the vicinity of the town of Kambarka, in Udmurtia, since the postwar period. Over 6,000 tonnes of the death dew, as Lewisite is also described, are stocked there.

People's deputies of the town and rayon soviets were the first to voice protests. They accused Vladimir Konyashin, head of the local administration, of neglecting the interests of the population. Destroying chemical weapons in the same place where they are being kept is dangerous not only for those living in the area of the Kama river, but also in the whole of Udmurtia. Our correspondent points out that the situation has in fact reached deadlock, for it is just as dangerous to take the chemical warfare agent to a different region.

History of Errors, Accidents in CW Production

PM1012170392 Moscow IZVESTIYA in Russian 3 Dec 92 Morning Edition p 3

[Article by Doctor of Chemical Sciences Lev Fedorov: "The Myths and Legends of Chemical Disarmament"]

[Text] If we asked ourselves why we got involved in preparations for chemical warfare, many awkward details would come to light. For example, chemical weapons could not have acted as a defensive shield like nuclear missiles. Nor were they a deterrent: It was thought that our probable enemy did not know about them.

However, that is theory. The reality stemming from our strategic error of preparing for large-scale chemical warfare is bleak. The weapons have rebounded against their creators, and the military-chemical complex, without having become involved in battles on foreign soil, has ensured that we have a genuine war on our own.

A Little History

The serious problems began with mustard gas and lewisite, which are blister agents. The Germans and Americans were cautious about lewisite: On the one hand, the enemy begins to be affected immediately after its use, but on the other hand it is based on arsenic, and it is not clear what to do if the lewisite reaches not the enemy but your own side. Well, our military-chemical chiefs have left us 7,000 tonnes of lewisite as a keepsake (and have "recycled" [utilizirovali] the rest).

Mustard gas was famous in World War I: Some 12,000 tonnes were used on both sides, affecting a total of 400,000 people. Its "inconvenience" from the military point of view (it can act undetected for up to 24 hours) was compensated for by its ease of production, and mustard gas occupied an honored place in our arsenal.

We manufactured mustard gas and lewisite in Moscow before the war—at the somewhat shady chemical institute which the present State Union Research Institute of Organic Chemical Technology used to be—and buried tonnes of these chemical agents there in 1941. We manufactured mustard gas and lewisite all through the war in Chapayevsk at a chemical fertilizer plant and at the "Kaprolaktam" plant in Dzerzhinsk. For many years after the war production of these chemical agents continued in Dzerzhinsk.

It is thought that people were affected en masse by chemical agents in the Italian port of Bari during World War II—the cause was mustard gas from an American ship with a cargo of chemical bombs which was damaged by German aircraft. Eighty-three people perished then and 534 were seriously injured. I will give a domestic example of which the public is ignorant. For the whole of the war the plant in Chapayevsk which produced mustard gas and lewisite was filling the graveyards: Young men who were unfit to serve at the front and girls arrived in trainloads, and just as quickly became invalids or died. Once the plant stopped work due to a holdup in bringing in manpower. It is difficult to adduce figures for the losses, but you only have to study the graveyard register to see that they amounted to thousands of people. And the Order of Lenin was awarded 62 times there.

During the war we poured mustard gas and lewisite into munitions (topping it up from kettles!) and sent them to military-chemical bases. After the war on the whole we poured it into tanks and yet again dispatched it to bases. However, when we showed our hand, it turned out that we had nothing to our name—not a single shell, mine, or bomb. The ill-starred 690 tonnes of mustard gas in containers which the military-chemical "peace fighters" are going to destroy at their leisure before the year 2000 are nothing compared with the mustard gas which has gone missing. According to conservative estimates, several tens of thousands of tonnes of it have gone missing (and this is only from the plants at Chapayevsk and Dzerzhinsk). In general, a tour around the military chemical workers' sites of combat and labor glory was unavoidable.

I asked the generals in MOSKOVSKIYE NOVOSTI where the mustard gas was. They replied with silence. Then I put the question to Chapayevsk's inhabitants. We made a start: According to a telegram from the chief of chemical troops, it turns out that 1,200 tonnes of mustard gas were buried at a base near Chapayevsk without bothering about the technical side of the matter! What is more, 50 trains of 50-60 cars, each carrying aerial bombs filled with lewisite, were loaded at this base. We... dumped this in the Arctic Ocean! But, as people say, this was only the beginning. Who can say anything certain about the burial of adamsite, which has been cast into oblivion somewhere in the expanses of Russia? Adamsite is related to lewisite, being based on arsenic...

New Chemical Agents

Our generals (like any others) prefer "new" chemical agents which kill people more quickly and effectively than the "old" ones. According to official figures, Russia possesses 323,000 tonnes of these "latest" chemical agents. I am talking about the highly toxic phosphoric chemical nerve agents—sarin, soman, and VX. They were not invented here, but our enthusiasts quickly snapped up the foreign ideas and became keen on all three of them (the Americans did not have sufficient money for soman). The technology for producing them was developed in Moscow at the State Union Research Institute of Organic Chemical Technology and additional work was done at its branches. "Samples" were tested at Shikhany (Saratov Oblast), and this horror weapon of the 20th century was produced at the "Khimprom" plants in Volgograd (sarin and soman) and Novocheboksarsk (VX). Without any fanfares, but with Lenin Prizes and other tangible signs of attention from above.

According to General A. Kuntsevich, "throughout the years right up to 1987, when we ended production of chemical agents, not even the slightest accident or emergency occurred" at chemical weapons plants in Russia. This is not true. To name but one of the things that have happened, there was the huge fire which occurred in shop No. 83 at the Novocheboksarsk "Khimprom" plant in 1974. This major ecological crime's effects have been concealed and have still not been eliminated, but this secret shop produced a military phosphoric agent of the VX type (see SOVETSKAYA CHUVASHIYA, 22 January 1992). The general recently sent a telegram to Cheboksary proposing to investigate the fire. Thanks, but we will now investigate it on our own.

Some 10 years earlier in Volgograd another ecological disaster occurred—effluent from shop No. 34 of the Volgograd "Khimprom" plant, which produced sarin and soman, reached the Volga. According to the recollections of eyewitnesses, the river's surface as far as Astrakhan was white with dead fish. The population never learned the true reasons for the disaster... There have also been "problems" due to chemical agents in the capital. We know about the fire at the State Union Research Institute of Organic Chemical Technology building in 1980 when several hundred grams of highly toxic VX were carried away by wind and water. The city fire fighters joined the

battle. Where are those brave young men who were never told about the danger to which they were exposing themselves?

When the military-chemical complex's elite conducted talks on chemical disarmament for decades in Geneva, the talks were not only about military chemical agents, but about a wide range of means for waging war. That is they were about chemical weapons in general, including psychotropic compounds (incapacitating agents), irritants (in common parlance they are called police gases), and much else. Our military-chemical complex did not wait to find out whether police gases (irritants) would be considered in Geneva to be chemical weapons, it manufactured them. For use not against an enemy, but against our own people! An opportunity to flex their muscles came in spring 1989 in Tbilisi and was used to the full. A year later one Moscow newspaper wrote that apart from riot-control gas [cheremukha], CS gas was also tested there. This is untrue: They tried out a wide range of agents and CS just served as a cover.

Of course, military-chemical circles understand the danger if facts are uncovered about an intention to use or the actual use of irritants. This is why General I. Yevstafyev recently stated that irritants "are not chemical weapons." It would be possible to discuss this if General A. Kuntsevich had not requested money from the Supreme Soviet to carry out research and development into the "recycling of irritants." Translating this into terms which we can understand, the request for capital means that there is an excess of police gases in storage. In other words, the role of the chemical industry and applied science in producing chemical agents for fighting the population of Russia continues to be hidden. It is not planned to place irritants in the charge of the Ministry of Internal Affairs [MVD], although it is the MVD which, if Russian legislation allows the use of police gases in the future, will have to decide how many agents it should have and how much should be destroyed. They are trying to get rid of them on the quiet.

Incidentally, we still have not been told why till 1990 the word "dioxin," which signifies a group of the strongest artificial poisons, did not appear in official vocabulary as if it was an unprintable expletive. No, they did not ban it, they simply did not use it. To the average Russian this fact means little, but yet another criminal act by the military-chemical complex is concealed behind this—preparation for dioxin warfare. In Moscow the research institute for chemical plant protection agents had a closed department for this, and work was also found for Volsk and Shikhany. There were, of course, accidents and other problems. Matters went no further than development work, but the toxin which they developed proved "promising" and was much more toxic than the one known to the world from the Vietnam war and from the explosion in the Italian city of Seveso.

However, we mention dioxin only in passing, and there have been many criminal affairs concerning chemical agents. It is simply that dioxins did not fit into the military framework and, having escaped onto the expanses of Russia, will make their presence felt for many years to come.

Dead End Road

The idea underpinning the plan of action for chemical disarmament which General A. Kuntsevich has proposed to the Russian Supreme Soviet is, alas, mistaken. Fundamentally mistaken. It does not emanate from the state's most important aim—to resolve the series of questions connected with overcoming the consequences of the many years of preparation for chemical war. Accordingly, the question of responsibility for or the elimination of this strategic mistake's consequences did not arise.

The program only touches on the part of the problem of ridding Russia of chemical weapons which is connected with carrying out international obligations. It could not have been otherwise: The tasks of the Committee for Problems of Chemical and Biological Weapons under the Russian Federation president, as follows from its name, purely concern the [chemical and biological weapons] "convention." No one is proposing to examine retrospectively the actual pollution of cities ruined during the production of chemical weapons: Volgograd and Ufa, Novocheboksarsk and Dzerzhinsk, Chapayevsk and Bereznikov, Volsk and Slavgorod, and others. The generals are talking only about destroying arms, and even so not all arms and not in the right way. The question of the consequences of their many years in charge of chemical weapons does not arise! So until we find out everything about Russia's polluted land (in particular about the Volga basin), it is pointless to raise the question of the ecological side of their activities.

...Anyone who remembers the literature of the 60's will probably not have forgotten N. Smelyakov's "Commercial America." In one conversation the author expressed his bewilderment: How did the United States organize in just one-and-a-half years large-scale production of the military transport ships which transferred the expeditionary corps across the ocean to open the second front? The answer was surprisingly simple: If you want to do anything serious, don't let the generals anywhere near. Now we fairly often look across the ocean in search of formulas and ideas, and it would not be a bad thing if we remembered this piece of advice. It is very relevant.

Mirzayanov Justifies CW Site Revelation

PM1512161992 Moscow NOVOYE VREMYA in Russian No 50, Dec 92 (signed to press 8 Dec 92) p 49

[Interview with Doctor of Chemical Sciences Vil Mirzayanov by unidentified correspondent; place and date not given: "Vil Mirzayanov: 'Chemical Weapons Tests—Recklessness or Crime?'"]

[Text] [NOVOYE VREMYA] *It is some six weeks since you were arrested—sufficient time to appraise the substance of the problems raised by you and Lev Fedorov in your published material. Do you have any regret about what happened?*

[Mirzayanov] I am convinced that the chemical weapons problems affect each and every person without exception. After all, we all breathe the same air, we drink the same water, and finally we all are equally defenseless in the face of the dangers posed for us by our own and foreign "fans" of mass destruction weapons.

[NOVOYE VREMYA] *You are accused of revealing the sites where chemical weapons are produced and tested. Meaning the Central Asian test site at the Ustyurt Plateau. Was there really any need to "publicize" this secret?*

[Mirzayanov] Let me refer you to mankind's lamentable experience associated with the use of physiologically active compounds. The Swiss scientist Mueller, who synthesized DDT—the means used against natural parasites of agricultural crops—was awarded the Nobel Prize. A few decades later, following the production and application of several hundred thousand tonnes of this substance, the terrible consequences of its application became known. It emerged that the compound affects the genetic code of living organisms. The use of DDT is now banned throughout the world, but this does not solve the problem—the products from the decomposition of DDT possess the same qualities as the compound itself. Do you want another example? Some 20 years ago few people imagined that dioxin, one of the most powerful carcinogenic toxins known to mankind, is produced in the process of incinerating urban trash. The highest permissible concentration of this substance is one part per 1,000 quadrillions! There is only a handful of scientists in our country capable of detecting such minute concentrations.

[NOVOYE VREMYA] *Do you assume that the new toxic substance being tested at the Ustyurt Plateau test site is equally dangerous? Yet those who test new substances probably subject them initially to comprehensive analysis to determine both the short-term and the long-term consequences of their application?*

[Mirzayanov] Combat toxic substances which, incidentally, are also classed as physiologically active, are absorbed by dust particles and spread over distances of thousands of kilometers. The Central Asian test site can thus deliver its "gifts" not only to nearby villages but also to residents of major cities in both nearby and distant foreign parts.

People conducting chemical weapons tests are, of course, not so naive as not to guess their consequences. But they are not interested in this. There are, of course, no studies of substances as regards their long-term effect.

This kind of study of sarin and soman was conducted in the United States. But here is the question: Can we know all about these substances? Even medicaments, which undergo years-long thorough and comprehensive testing before use, may suddenly prove to be sources of danger.

How is it possible to calmly observe the testing of a new toxic substance with absolutely unknown qualities at an open-air test site?

Is this recklessness or a crime?

Ecology Ministry Seeks Disposal Site for Rail-Borne Toxics

93WN0145B Moscow ROSSIYSKIYE VESTI in Russian 18 Nov 92 p 4

[Article by Aleksandr Rybakov: "Dangerous Railcar"]

[Text] **Russians are disturbed by the rumors that a "tomb-car" has been traveling all around the country because no one will take the responsibility for it. Here is what we learned.**

The "tomb," which had been loaded with toxic production waste around 20 years ago, was unsealed near Nyandoma. Local authorities had reached an agreement with a cooperative on the disposal of the waste. Forty tonnes of pesticides and other toxic substances were sent to a toxic chemical treatment plant, but when the railcar reached its destination in Sergiyev Posad, the residents were angry and demanded the return of the dangerous freight. The chemicals were sent to Kirov Oblast and then back to Sergiyev Posad. Now the dangerous car is moving in the direction of Arkhangelsk again, and the head of the oblast administration has wired the Russian Emergency Management Committee, the Ministry of Ecology, and the Russian Federation president's Control Administration to request that the railcar be kept out of the oblast.

Now the car's adventures are coming to an end. We learned that the Ministry of Ecology has taken control of the car's itinerary and will be instituting safety measures along the route. The destruction of the pesticides on the test site of the Institute of Heavy and Organic Synthesis in Volsk in Saratov Oblast is being negotiated at this time.

Decree on Registration of Dangerous Chemical, Biological Substances

935D0122A Moscow ROSSIYSKAYA GAZETA in Russian 24 Nov 92 p 5

[Russian Federation Government Decree No. 869: "On State Registration of Potentially Dangerous Chemical and Biological Substances" signed by Ye. Gaydar on 12 November 1992 in Moscow]

[Text] For purposes of preventing the unfavorable effect of potentially dangerous chemical and biological substances on human health and the environment, the Russian Federation Government **hereby decrees:**

1. That state registration of chemical and biological substances which are potentially dangerous to human health and to the environment shall begin in the first quarter of 1993, and that potentially dangerous chemical and biological substances be listed according to a federal registration system which is uniform for the Russian Federation, including information on the nomenclature, production and application of these substances, on their intended purpose, and on their properties, biological effect and behavior in the environment.

The State Committee for Sanitary-Epidemiological Control shall be charged with the responsibility of conducting state registration of potentially dangerous chemical and biological substances.

The federal register of potentially dangerous chemical and biological substances shall be kept by the State Committee for Sanitary-Epidemiological Control and the Russian Federation Ministry for Protection of the Environment and Natural Resources.

2. That the proposed Statute on State Registration of Potentially Dangerous Chemical and Biological Substances shall be ratified.

3. For purposes of implementing state registration of potentially dangerous chemical and biological substances and increasing effectiveness in providing the national economy with necessary data on the basis of which the production and application of these substances are permitted, and for the purpose of keeping the federal register of potentially dangerous chemical and biological substances, the State Committee for Sanitary-Epidemiological Control, in conjunction with the Russian Federation Ministry for Protection of the Environment and Natural Resources, shall create an automated informational system in 1993-1994, equipped with current technical means, as well as the appropriate conditions for its application.

4. For the purpose of implementing state registration of potentially dangerous chemical and biological substances and keeping a federal register of potentially dangerous chemical and biological substances, a state institution shall be created within the system of the Russian Federation State Sanitary-Epidemiological Service—the Russian Register of Potentially Dangerous Chemical and Biological Substances, which will operate on principles of cost accounting and exercise the rights of a legal person.

5. To establish the fact that the Russian Register of Potentially Dangerous Chemical and Biological Substances is a national correspondent, having the right within the established procedures to implement the exchange of appropriate information and to conclude agreements on questions relating to its competency with the International and National Registers of Potentially Toxic Chemical Substances.

6. To establish that state registration of potentially dangerous chemical and biological substances and the provision of interested enterprises, organizations and institutions with information from the Federal Register of Potentially Dangerous Chemical and Biological Substances, in accordance with the established procedure, shall be performed for payment.

7. That the State Committee for Sanitary-Epidemiological Control and the Russian Federation Ministry for Protection of the Environment and Natural Resources shall, within a three-month period, develop in cooperation with interested ministries and departments and ratify instructions on the procedure for state registration of potentially dangerous chemical and biological substances, define the forms of accounting and register documentation, and establish the procedure and terms for its submission.

8. That the Ministries and departments of the Russian Federation, enterprises, organizations and institutions, regardless of their departmental affiliation and forms of ownership, and other legal and physical persons shall, in accordance with the established procedure, submit to the State Committee for Sanitary-Epidemiological Control and the Russian Federation Ministry for Protection of the Environment and Natural Resources and to their local agencies any information necessary: For performing state registration of potentially dangerous chemical and biological substances manufactured and used on the territory of the Russian Federation; for creating and maintaining an informational data base, as well as for developing proposals and recommendations regarding the harmless nature of the indicated substances in regard to the population and to the environment.

The State Committee for Sanitary-Epidemiological Control and the Russian Federation Ministry for Protection of the Environment and Natural Resources must ensure in the established order the protection of the informational data base on potentially dangerous chemical and biological substances, provided this does not pose a threat to human health and environmental safety.

[Signed] Ye. GAYDAR

Statute on Implementation of the Decree 'On State Registration of Potentially Dangerous Chemical and Biological Substances'

1. State registration of potentially dangerous chemical and biological substances (henceforth referred to as state registration) is introduced in the Russian Federation for the purpose of protecting human health and the environment against the harmful effect of these substances and possible unfavorable consequences of their application.

2. All potentially dangerous chemical and biological substances (henceforth referred to as substances) of natural and artificial origin produced on the territory of the Russian Federation and purchased abroad for use in the national economy and household application are subject to state registration.

The present statute does not extend to chemical and biological substances for plant protection, growth regulators for agricultural plants and forest plantings, and pharmaceutical preparations.

3. State registration is implemented by the Russian Register of Potentially Dangerous Chemical and Biological Substances, acting in accordance with the constituent documents.

4. Operations associated with state registration and informational provision of the federal register for potentially dangerous chemical and biological substances is performed for payment in accordance with the instructions regulating the procedure for implementing these operations.

5. State registration is performed on the basis of toxicological-hygienic and ecological-toxicological studies, hygienic regulations, and hygienic and ecological standards developed by the appropriately profiled institutions and organizations accredited for these purposes by the State Committee for Sanitary-Epidemiological Control (in regard to safety of the substances to human health) and by the

Russian Federation Ministry for Protection of the Environment and Natural Resources (in regard to the environmental safety of the substances), and also with consideration for measures of individual and collective protection of human health and the environment in production and application (utilization) of potentially dangerous chemical and biological substances.

6. The Russian Register on Potentially Dangerous Chemical and Biological Substances:

manages the federal register of potentially dangerous chemical and biological substances produced, imported and used on the territory of the Russian Federation; creates an informational system and data base on the toxic properties, biological action and environmental behavior of these substaances, on the hygienic and ecological standards, legal statutes, and safety measures in the production and application (utilization) of the substances, and on methods of treatment and immediate first aid in cases of acute poisonings;

provides information on potentially dangerous chemical and biological substances to agencies of state authority and administration; provides services in the established order to interested enterprises, institutions, organizations and citizens in regard to presentation of necessary data on registering substances;

implements international cooperation and exchange of information on the basis of agreements which have been concluded in the established order;

possesses the exclusive right of publication and official dissemination of informational materials and papers dealing with the production and application of potentially dangerous chemical and biological substances on the territory of the Russian Federation.

7. Enterprises and other economic subjects, regardless of their departmental affiliation and forms of ownership, as well as organizations and institutions located on the territory of the Russian Federation and citizens engaging in the development, production and application, export and import of potentially dangerous chemical and biological substances bear responsibility in accordance with Russian Federation legislation for failure to adhere to the established procedure of state registration of substances.

Moscow City Raises Tariffs for Transport of Radioactive Waste

93WN0148A Moscow NEZAVISIMAYA GAZETA in Russian 24 Nov 92 p 6

[Article by V. P.: "Cost of Radioactive 'Vehicle-Kilometer' Up"]

[Text] The Moscow government adopted a resolution increasing the rate for removal of radioactive wastes from enterprises and organizations using the services of Moscow's Radon NPO [Scientific-Production Association]. The Radon NPO is a budget-supported organization that engages in activities that until recently were classifie. It removes and salvages radioactive wastes, and provides for radioactive and ecological monitoring on Moscow territory. The "glowing garbage" is processed in Moscow Oblast's Zagorskiy Rayon. As of 15 November of this year the rate for trash removal is 10 rubles per vehicle-kilometer. The old rate—50 kopecks—had not changed since the early 1960s.

"However, even the new rate does not cover our expenses, since the cost of one vehicle-kilometer today is even over R50," said Radon NPO chief economist Natalya Biryukova. "Nonetheless, increasing the rate any further would be unsuitable, since many organizations will find our services beyond their means (hospitals, schools, VUZes [higher educational institutions]), and they will attempt to get rid of the radioactive wastes on their own. This could result in establishment of spontaneous radioactive dumps in the city."

Plan To Store Republics' Nuclear Waste in Russia

93P50023B Moscow KOMMERSANT-DAILY in Russian 24 Nov 92 p 8

[V.M. report: "The Supreme Soviet on the Return of Nuclear Wastes: Atomic Stations' Wastes Will Be Buried in Russia"]

[Text] **Yesterday the Russian Supreme Soviet Committee on Industry and Energy and the Committee on Questions of Ecology and the Rational Use of Natural Resources considered a draft presidential edict dealing with the problem of bringing back to Russia the spent fuel of foreign countries' atomic electric stations, including those of the former republics of the USSR.**

The government prepared the draft edict upon the representation of the Ministry of Atomic Energy and after agreement with the Ministry of Environmental Protection and with the State Committee for the Supervision of Nuclear and Radiation Safety [Gosatomnadzor]. The draft edict in fact contradicts the Law on Environmental Protection, adopted in February of this year, although the president's extraordinary powers permit this step. In the opinion of experts, refusal to accept the wastes of atomic electric stations could lead to unpredictable consequences. The majority of countries with such stations lack the technical capability to guarantee the storage of nuclear wastes. And in this sense the Law on Environmental Protection became "more Catholic than the Pope," permitting the construction of thermal electric stations only if they used ecologically clean fuel, which does not exist in nature. It is proposed that the presidential edict, if it is adopted, will stand next to the Law on State Policy on Dealing With Radioactive Wastes, now being prepared in parliament. New information on the legislative regulation of the storage of atomic wastes will appear in KOMMERSANT no later than 30 November.

Prague Journalists Track 'Red Mercury' Shipments From Russia

93WP0038A Moscow NEZAVISIMAYA GAZETA in Russian 25 Nov 92 p 1

[Article by Aleksandr Kuranov: "Just as Before, Nuclear Components Are Going Cheap in Russia: Prague Journalist Brings Test Tube Containing 'Red Mercury' Out of Russia"]

[Text] After several unsuccessful attempts by the police, army, and security organs of the CSFR [Czech and Slovak Federal Republic] to track the transshipment from Russia through Central Europe to the Middle East and Africa of the so-called "red mercury"—one of the components of nuclear weapons—this task was undertaken by several Czechoslovak journalists. The greatest success was achieved by Martin Mrinka, a reporter for the Prague newspaper PROSTOR, who demonstrated his achievement on a television news program Monday night; it was a test tube containing "red mercury" in its powder form.

The journalist had purchased samples of this item supposedly for a Czech firm for 560 dollars in Vladivostok. According to him, 1 kg of "red mercury" on the "black market" in Russia costs from 5,000 to 70,000 dollars, depending on its type and documentary certification. In the CSFR its price goes up to as much as 250,000 dollars, and in Great Britain—for example—according to information provided by the SUNDAY TIMES, half a kilo of "red mercury" sells for 1 million pounds sterling.

The chemical formula for this new "souvenir from Russia" is $Hg_2Sb_2O_7$. According to data provided by the British physicist Barnaby, as cited by the reporter from PROSTOR, this material is used for producing small nuclear charges in Iraq, Iran, Algeria, Israel, and Libya. Beran, an expert at the Institute for Nuclear Research Studies in the CSFR, has proposed using "red mercury" in infrared military lasers.

This item is offered on the "black market" in the following two variants: as a brownish-steel-colored powder and as a red liquid. According to Mrinka's information, the mercury is produced at the well-known Krasnoyarsk-25 Plant, which turns out the classic nuclear bombs. As a nonradioactive substance with a somewhat different formula, it is now being brought into Prague; it is also made in limited quantities at several scientific research institutes, particularly in Novosibirsk. In its liquid form mercury is offered for sale primarily in the Pacific maritime cities of Vladivostok, Petropavlovsk-Kamchatskiy, and Nakhodka, where it is possible to obtain it from sailors off of nuclear-powered submarines.

According to the data provided by Martin Mrinka, "red mercury" travels from Krasnoyarsk-25 and Novosibirsk along two principal routes: Yekaterinburg-Moscow-Prague (or Warsaw)-Vienna (or some German cities)—to destinations in the Middle East, Africa, or Latin America.

Anothr route is as follows: through Vadivostok to China—North Korea—the Persian Gulf—Ethiopia—South Africa.

In Vladivostok the Prague journalist found the tracks left by his fellow-countrymen, who had participated in a similar deal this past spring.

Yegorov Says Nuclear Waste Safer in Solidified Form

LD1712160292 Moscow ITAR-TASS World Service in Russian 1010 GMT 17 Dec 92

[By ITAR-TASS correspondent Veronika Romanenkova]

[Text] Moscow, 17 Dec—Nikolay Yegorov, deputy minister of atomic energy, believes that in order to ensure maximum safety all liquid radioactive waste should be solidified. At a news conference today, he reported that such units are already in operation at the Leningradskaya and Kalininskaya nuclear power stations; in 1993 they will be put into operation at the Balakovskaya nuclear power station, and by 1995 it is planned to install them at all Russian nuclear stations.

Nikolay Yegorov said this process will be carried out in several stages. First highly-active liquid waste will be "aggregated" and will be kept for 30-40 years above ground at nuclear power stations; then it will be buried in natural rock formations. However, at present Russia does not have a single such "burial ground." The Ministry of Atomic Energy and the Russian Academy of sciences are now jointly exploring suitable sites and elaborating optimal methods of burying waste.

In order to implement this program, the Russian Ministry for Atomic Energy will need about 180 billion rubles (at 1992 prices) for the period 1992-2005, and 170 billion rubles of this is needed for capital construction.

Experts Reconsider Original Plan To Lift Sunken Nuclear Submarine

LD0312173092 Moscow ITAR-TASS in English 1437 GMT 3 Dec 92

[By ITAR-TASS correspondent Lev Frolov]

[Text] St. Petersburg, December 3 (TASS)—Russian experts consider the possibility of the conservation of the sunk nuclear submarine Komsomolets as an alternative to its lifting. They do not preclude a fundamentally new approach to the destiny of the nuclear submarine that is now aground at the depth of 1,700 metres. The change of the initial plan aimed at lifting the submarine from the seabed with the use of a unique floating crane is connected with the results of the recent expedition to the Norwegian sea, to the site of the accident that occured two and a half years ago.

The analysis of underwater photography showed that the experts deal with a new situation. The nose of the submarine has considerably deteriorated. This required changes in the plan for the submarine's lifting worked out by researchers of the Central Design Office of Marine Equipment "Rubin" jointly with Dutch colleagues. It is now envisaged to use additional structures so that the hull did not disintegrate during the lifting operations. Another variant suggested is dismantling the submarine in the

water. Academician Igor Spasskiy, general designer of the "Rubin" design office, joked: "This will not be as easy as cutting a piece of cheese on the table".

The data of research stimulated the quest of non-standard technical solutions. The academician said that the metal will be corroded sooner or later, radiation will escape and will be spreading in the world ocean. There is no time to lose, and specialists of various countries are now casting about not only for different ways of lifting the submarines, but also for keeping it on the seabed with guarantees for ecological safety.

Academician Spasskiy said that the radiation background in the area of the submarine is now normal, which was confirmed by a representative international expedition. Nuclear charges of torpedoes do not pose danger. As to the leakage of radioactive components from the reactor, the slightest traces of radioactivity were noticed, but they do not affect the radiation background.

Navy Objects To Lifting Komsomolets

OW0812200892 Moscow INTERFAX in English 1927 GMT 8 Dec 92

[Following item transmitted via KYODO]

[Text] The leadership of the Russian Navy categorically objects to the lifting of the atomic submarine Komsomolets. "There are no guarantees that the consequences of this action will be harder for the ecology of this region than the burial of the submarine on the ocean bottom," Captain of the 1st rank Valeriy Bulatov, the deputy chief of the Department for radiological and chemical security of the Russian Navy's Main Staff, declared to Interfax on Tuesday.

The military experts are convinced that the washing out of the nuclear reactor and the leakage of the lethal wastes of the submarine to the ocean (the submarine sank in April, 1989 in the Norwegian sea) are possible not earlier than in 1995-1997. According to the experts, this process will not pose serious threat to the underwater fauna. The last military expedition which examined the region in May-June, 1991, made a conclusion that "in comparison with 1989 the radiation level has not changed and is close to the national environment."

A failure with the submarine's lifting, in particular, its break-up, will finish with "a simultaneous leakage of a large volume of the radioactive material and turning of this region in the zone of ecological disaster," said Bulatov. He noted that it is possible to lift only the fore-body of the submarine where the torpedo launchers with the nuclear ammunitions are located.

Northern Fleet To Stop Recharging Sub Nuclear Reactors

LD1312223492 Moscow Mayak Radio Network in Russian 2200 GMT 13 Dec 92

[Text] A program for improving the ecological situation has been outlined in Murmansk by decision of the oblast administration. Specifically, for the purposes of radiation safety, the Northern Fleet has been instructed to cease the charge exchange of reactors of nuclear powered submarines at the ship repair works in Murmansk, and to halt the discharge of liquid radioactive waste into the sea.

Commission Studies Radioactive Waste Dumping in Murmansk

LD0412190892 Moscow Teleradiokompaniya Ostankino Television First Program Network in Russian 1500 GMT 4 Dec 92

[From the "Novosti" newscast]

[Text] A commission spent almost a week inspecting the work of enterprises connected with dumping radioactive waste at sea and radiation safety on the Kola peninsula. Apart from acquainting themselves with the Murmansk marine shipping company's nuclear fleet, the commission members studied issues of how waste is dealt with in the Northern Fleet. Thousands of tonnes have now piled up. Some of this is thrown into the Barents and Kara seas near Novaya Zemlya. Due to the actions of the sea, the dumped material has been breaking down, presenting a real threat to the waters of the fishing industry and marine shipping. And some of it was shot at when it would not sink. And this has been going on for 30 years. As the commission members said, the Northern Fleet is continuing to dump.

In the Murmansk marine shipping company there were discussions about withdrawing the oldest vessel, the "Lepse", which stores waste, from use. They examined the prospects for completing the construction of temporary storage for processed nuclear fuel and plans for a storage facility on Novaya Zemlya. The materials gathered by the commission will make up a report for the Russian president.

And the final aim of the inspections is to discover which locations are hindering the raising of safety in dealing with radioactive waste and to plan a program of solutions for these overdue questions. [video shows a news conference in progress; ships, warships, and submarines in port; radiation levels being measured]

Supreme Soviet Deputies on Future of Novaya Zemlya Nuclear Testing

93WN0149A Moscow ZELENYY MIR in Russian No 35-36, Oct 92 (signed to press 1 Oct 92) pp 4-5

[Articles by V. Menshikov, deputy chairman of the Russian Federation Supreme Soviet Committee on Ecology and Sensible Use of Natural Resources, A. Veshnyakov, member of the Russian Federation Supreme Soviet, Yu. Dmitriyev, member of the Russian Federation Supreme Soviet Committee on Ecology and Sensible Use of Natural Resources, and Yu. Sergeyev, member of the Russian Federation Supreme Soviet Committee on Ecology and Sensible Use of Natural Resources: "A Nuclear Test Range on Novaya Zemlya—To Be or Not to Be?"]

[Text] **Secrecy and Wastefulness Are a Hindrance, by Menshikov**

The idea itself of parliamentary hearings came up after we saw the presidential edict to which access by the press was

denied. This is despite the fact that we are discussing the need for establishing an open society.

What sort of dangers—political, economic, ecological—could arise with more testing of nuclear weapons for Russia as a sovereign state, and for Russians? Will we not find ourselves in a new upward spiral of the nuclear arms race? These are questions that Russian deputies will have to answer, giving some thought to many problems—not at all simple ones at that.

The first and most important problem is Russia's security program from the standpoint of defense doctrine: Is nuclear testing itself necessary for the maintenance of Russia's security? A couple of years ago practically every one of our fellow citizens would have replied that it was doubtlessly needed, but the situation in the world has changed—a direct military threat no longer exists. Let's consider the second problem: Specifically for what reason are these tests conducted?

Some answer that samples of weapons have to be tested regularly from the standpoint of their reliability—like the way they test conventional shells selected regularly from lots transferred to gunners. Another position is that testing helps in the creation of weapons of a new generation. There is also a third position: Nuclear weapons create huge collectives of the best scientists, engineers, designers and workers. And almost each of these collectives has its own "small professional interest" in continuing to improve "everyone's offspring." This interest is often fed by the interests of livelihood, and even personal interests—especially in today's difficult times: Life is what it is.... Nuclear weapons are the livelihood of enormous collectives, and this is one argument you can't ignore.

In order to raise the problem to the level of state importance and adopt a state decision, we must act hand in hand with the parliaments of foreign countries that possess nuclear weapons, and that understand the full pernicious impact of their very existence. Why not have the United States declare a moratorium on such testing, so that Russian and American politicians would have some time to make unhurried, well-grounded political and legislative decisions? So that neither they nor we would have to worry about a rival coming from behind and overtaking us. This feeling of being overtaken is a sufficiently powerful motivation stimulating the arms race, one which we were unable to endure, but which even the Americans are finding increasingly more difficult to endure. Other countries are getting into the running as well.

Over 50 Russian deputies sent letters to U.S. congressmen whose positions on the problem of nuclear weapons are close to ours. Personal letters—let me emphasize—on the need for a moratorium. Stating that the situation that has evolved in the world provides all of us a unique chance: A minimum of three countries—Russia, the United States and France—could halt nuclear weapon testing and at the same time come up with an answer as to what political and technical efforts must be undertaken in order not to spiral the nuclear arms race any higher.

On 4 August the U.S. Senate voted to declare a moratorium on nuclear testing as of 1 October of this year for a period of 9 months. A month earlier this decision had been approved by the Congress. It is believed that the moratorium will be the first step toward complete cessation of nuclear testing on 1 October 1996. The Senate authorized the U.S. president to conduct negotiations with other nuclear powers and to prepare a plan by which to arrive at a multilateral treaty prohibiting nuclear testing over the entire planet. A unique situation for achieving such a treaty has fallen into place. I personally feel that our parliamentarians made a contribution to this as well. But of course, we have a very serious fight ahead of us, including at the political level, against the proponents of continuing the nuclear testing.

Russian parliamentarians have an especially great need for a breather in the testing, inasmuch as we do not have any kind of normative legislative act that would regulate the procedure itself of such testing. What is permissible, and what is not? What releases would be permissible in view of necessity, and unavoidable, and what kind would not? How does this fit with ecological safety? What effect would there be upon the health of people?

I know from documents that many people have worked on these issues. Safety considerations have always been a priority with us. But we need to know precisely which norms and conditions should be rigidly documented by law.

Let's assume that a political decision has been made to conduct one or two tests. Then we would need a law on conducting nuclear tests regulating them from many aspects, so that we could reasonably monitor the entire process and all of the consequences of the testing, like they do in any law-abiding state, without having to force their way through a bureaucratic curtain of secrecy. You want information? You get it. It's time to determine the jurisdiction over the archipelago. Right now it's territory is under federal ownership, and this is a violation of the law.

Finally, the problem of openness of the "closed zone" of the archipelago, of the glasnost of its entire life, is a problem of today, tomorrow and the past. We need to precisely and objectively explain the effects explosions have had upon nature and upon the inhabitants of the archipelago and its contiguous territories.

I submit that the most negative consequences are not those of the activity of the test range itself, of the tests themselves, but rather those of the blatant technological violations committed at enterprises situated within this region, where technogenic excesses have been especially excessive. This territory essentially possesses a special status; it is a huge defense complex, in which no one had ever given any thought to how man is to live in such a place. It's time for us to analyze, without revising the strategic goals of the military-industrial complex through hindsight, precisely what has come of the numerous explosions in the environment of the archipelago and contiguous territories, where, to make things worse, a significant quantity of nuclear wastes are buried and where even nuclear reactors are buried. How will such interments affect nature and people?

We don't know who should answer for this, but we will analyze things and get down to the truth. But we don't even know whom to ask: Where, what and how much was buried, and how? Those who knew are no longer with us. It's not a question of who to flog. We need to get down to all of the details. This is a difficult thing to do, and it will take a great deal of time. In making the decision regarding the need for studying the ecological state of both the central test range and the territories contiguous with it, participants of the Sixth Congress of Russian Federation People's Deputies knew that they were giving specialists a task that would take more than just a year to accomplish. And so when in June, specialists from the Russian Ministry of Ecology tried to assure us, the deputies and members of the Supreme Ecological Council, here in the parliamentary Committee on Ecological Problems, that they would finish their work by as early as November, this could not but elicit bewilderment and valid displeasure. Just analysis of the documents we are already aware of is itself a laborious and time-consuming job, and access to many of the documents is difficult. And anyway, the ministry's state experts stalled right at the very beginning.

We will try to bring the best experts into this work. Especially from among those specialists who lived and worked in these regions, and scientists from institutes located in our European North. They will carry out the state expert examination competently and in minimum time together with specialists from the Ministry of Ecology. Then on the basis of the expert conclusions we will conduct parliamentary hearings and recommend priority decisions to the Supreme Soviet both on the fate of the central test range itself and on the fate of the entire nuclear testing system. Our committee is working together with a number of other committees and commissions of the Supreme Soviet—we will have to solve not only ecological but also military, political, economic and social problems.

When in late June we asked associates of the Russian Ministry of Ecology to report the progress of this state expert examination to the committee, we learned that a state ecological expert examination committee was only just being formed as a subdivision of the ministry. Once again people responsible for fulfilling instructions of the parliament are taking too long to get started, and are not making any serious effort. What had the ministry done by the end of June? The only thing it had done was to send letters to various entities asking them to provide the necessary information. To be more precise, the letters requesting the information had just been written on the day that this problem was to be discussed in the committee, but they tell us that this is some sort of accomplishment. Three months were wasted, and now time has been irreversibly lost in view of the weather conditions of the North. It will now be extremely difficult to conduct any sort of on-site inspection. The experts would not be able to make much of an analysis based on the documents that have emerged in their overwhelming majority from the inner sanctum of the military department. This is precisely what worries us: Everyone knows how "objectively and eagerly" this department reveals its secrets.

We wanted to organize a trip by people's deputies, scientists and journalists to Novaya Zemlya in order to study a number of questions on the spot, and then announce the results. We went with our request to the Ministry of Defense—that's the way it's done here—and we never received a reply. Consequently if the military department is able to ignore a committee of the Supreme Soviet so easily, it would not be difficult to imagine how reluctant it will be to cooperate with "foreign" experts! Unless the leadership of the Russian Ministry of Ecology makes an effort of heroic proportions, state ecological expert examination of the problem of a test range on Novaya Zemlya will fail.

This is something we cannot allow to happen—the parliamentary hearings must be conducted on the basis of materials from an objective expert examination, carried out not in the interests of certain departments that continue to be almost entirely uncontrolled, but in the interests of preserving the health of Nature and Man within it, regardless of who he might be, a military man or not, a physicist, a nuclear power engineer or a reindeer herder.

Are We Making It Look Like Nothing Has Happened?, by A. Veshnyakov

The world community is aware of the edict signed on 28 October 1991 by Russian Federation President B. N. Yeltsin, in which he proclaimed a year-long moratorium on nuclear testing, announced the closing of the test range on Novaya Zemlya and instructed the corresponding services to reequip the test range and use the material, technical and scientific potential it has accumulated for peaceful purposes. I know that the edict just about put the military into a tailspin, but it did bring millions of activists and increasingly larger numbers of "greening" inhabitants of Northern Europe over to the side of Russia, to the side of its president. But it wasn't 4 months before the Russian president signed another edict—stamped "not for publication"—of which members of the Russian Federation Supreme Soviet learned only 10 days after its signing. This edict, dated 28 February 1992, took the absolutely opposite side of the previous one. It declared the need for continuing "tunneling operations" at the Novaya Zemlya test range, which is now called the Russian Central Test Range. The land on which the test range is situated was transferred to Federal ownership. The president instructed the government to support the activity of the test range and to ensure its readiness for two to four tests a year, should the moratorium be lifted. The president's edict was coordinated neither with the Russian Supreme Soviet nor with government organs of Arkhangelsk Oblast, in which the test range is located.

There were no bounds to my amazement or that of many other members of the Supreme Soviet and my compatriots in the oblast! This edict created anxiety among tens and hundreds of millions of people in Russia, in all the world, because first of all it fundamentally changed the situation, and second, this vitally important decision, upon which the fate of not only a relatively small territory but also of all Russia, and to some degree of the entire world, depends, was adopted in secret, by a small circle of highly placed persons. What this leads to is well known—there are more than enough examples.

What can we do but plug our ears, close our eyes and say to ourselves: "The president has a better picture, the president knows better, the president published the edict, and we must obey it..."? Do we create the appearance here in parliament and throughout all of Russia that nothing has happened? Do we keep on working like nothing ever happened? No, neither I nor you have such a right. No one in Russia who still has his common sense and memory does.

Uniting efforts with representatives of the public and of several state structures on the scale of all of Russia and Arkhangelsk Oblast, we, the Russian people's deputies, decided here in the Supreme Soviet to influence the course of events.

We considered two courses of action. The first was a rather forceful confrontation with the president, going as far as appealing his edict in Constitutional Court. The essence of the second is to try to minimize the possible negative consequences of implementing this edict, or to block the possibility itself of its implementation by adoption of additional normative acts, and other documents. That is, one way or another, to achieve a real moratorium on nuclear testing not for a year and not for two, but as they say, "over the next few years"—and not only in the Russian Federation, but also in other states. And of course, to create a situation where decisions of such vital importance to the country would no longer be made by the president without the consent of the Supreme Soviet.

In our opinion the second course is more promising, it is the one we selected, and it is clear today that the choice was correct.

An inquiry was made of the president regarding his edict at the Sixth Congress of Russian Federation People's Deputies. The president was asked to repeal it insofar as it conflicts with Russian legislation.

When I signed this inquiry, I must say that I had no certainty that we would receive a clear and constructive reply. And my suspicions were confirmed. The reply to the deputy inquiry was given not by the president but by Minister of Atomic Power Engineering Viktor Nikiforovich Mikhaylov. By the way, there was nothing in this reply regarding our inquiry.

We worked in parallel in another direction: Problems of the northern territories were to be discussed at the Congress. The fate of the Novaya Zemlya test range has a direct relationship to these problems. We proposed introducing the following wording into the draft resolution of the Congress (as I roughly remember): to instruct the government to conduct an ecological expert examination of the Novaya Zemlya archipelago and territories contiguous with it during 1992, and only after that, with regard for the results of this expert examination, to submit proposals to the Supreme Soviet before the end of the year on the suitability of the continued existence the nuclear test range on Novaya Zemlya. The Congress adopted this wording, and you will find it in the resolution on socioeconomic development of the North. Thus we laid the legal basis beneath the mechanism for adoption of a final decision on the matter: whether the test range is to be or not to be. This decision will be made not by a small circle of persons at the summit of executive power in our state, but by the Supreme Soviet of the Russian Federation. I feel that in this way we have ensured the country against the probability of a voluntaristic decision on a problem of such seriousness as resumption of nuclear testing on Novaya Zemlya.

Later on, when the Supreme Soviet was discussing the Law on Defense, we came across the following wording in its draft: The president sanctions nuclear testing. All of the corresponding rights and powers were given to the president in this draft law. Feeling this wording to be inappropriate, we offered another, which passed in the second reading: Sanctioning nuclear testing is a right of the president, and it will continue to be his to exercise, but as with other special tests (chemical for example), these tests may be conducted only within the framework and under the conditions of programs approved by the Supreme Soviet of the Russian Federation.... Such is the legal basis we were able to lay for deciding the fate of the Novaya Zemlya nuclear test range, and I have no reason for doubting that it will work.

With what result? That's another question. In order that no false starts occur, in order that this legal basis could be reinforced and widened, we need to ensure its high scientific authority and extensive propaganda support.

While it is unfortunate that the State Ecological Expert Examination Committee took so impermissibly long to get started, it finally did begin its examination of the materials available on problems of the ecological state and use of Novaya Zemlya and contiguous territories. By the beginning of October the government and the Supreme Soviet should receive the first expert conclusions on these materials. Also, unfortunately once again, it is evident that the experts have missed the most productive time for carrying out research directly on the territory of Novaya Zemlya. When they told us in the Committee on Ecological Problems that "letters of request had already been drafted" in the departments, half of the summer had already passed.... An integrated expedition began working in July under the guidance of P. V. Boyarskiy on Novaya Zemlya and contiguous territories, but not at the test range. The results will be considered by the State Ecological Expert Examination Committee. As far as I know, coastal waters of the archipelago will be studied, or are already being studied, by a Russian-Norwegian expedition.

It is no longer a secret to anyone that nuclear reactors are resting in the coastal waters of Novaya Zemlya. Including off of the icebreaker "Lenin." There is information that nuclear and chemical projectiles are buried there. As for what their condition is, and what their influence upon the natural environment might be, we do not have sufficiently complete and dependable information. The most important thing is to obtain this information in the immediate future, so that we could weigh it and determine the fate of the region. This ecological part of the problem of Novaya

Zemlya is beginning to get at least some attention, but there is another, no less important one: Are nuclear tests needed at all?

There are two points of view. The commonly accepted one is this: As long as nuclear weapons exist, nuclear tests must be carried out as well. But there is another opinion—some scientists, including nuclear physicists, feel that the problems of improving and determining the condition of stored nuclear weapons could be studied and solved without nuclear testing—several sufficiently precise models exist. Which of these points of view is correct? The answer should be sought and found jointly by the Supreme Soviet and government structures. Committees of the Supreme Soviet on problems of defense and security and on the problems of ecology and sensible use of natural resources have already conducted hearings in which nuclear scientists presented and substantiated their points of views on this problem. Experts participating in the hearings concluded that the discussion must be continued, that a series of such hearings would be indispensable. We agreed to continue this work.

One other part of the Novaya Zemlya problem is the favorable military-political situation, which has provided us with a unique chance for imposing a moratorium on nuclear tests not only in Russia and in France, which has come over to its side, but also in the United States. We, the members of the Russian Supreme Soviet are attentively watching the processes occurring in the U.S. Congress, where an interesting situation is now evolving. The overwhelming majority of the House of Representatives favors a moratorium on nuclear testing, and for practical purposes it has already decided to adopt an initiative regarding this in the next year. But in the Senate the situation is more complex: This spring, only a third of the 100 senators favored such a decision. We appealed to those senators who doubted the need for a moratorium—there were around 50 signatures affixed to the documents. We gave the justifications for our position, explained our view of the problem, and asked them to support introduction of a moratorium on nuclear testing in the United States. Such a moratorium is necessary, we feel, primarily in order to create a breathing spell in the nuclear race, which has now gone on for several decades. Let's stop, take a look around, and evaluate what has happened in the United States and on our Novaya Zemlya. And then we could decide what to do next (jointly perhaps) in order to keep industrial and military structures interested in the tests from dragging our state and our people into another stage of a mindless nuclear race, which may ultimately result in more than a thousand Chernobyl disasters.

There is information that our appeal received a positive response. Over half of the U.S. senators already feel it necessary to respond to the Russian moratorium with a moratorium on nuclear testing in the United States. There is information that in the beginning of August[1], at the time of adoption of the U.S. budget for 1993, a positive decision will be adopted by the Senate. Then we will fight with tripled effort for a nonnuclear future for the test range on Novaya Zemlya. And if the U.S. Senate refuses to support imposition of a moratorium on nuclear testing in the United States, the hands of primarily those military people here and in the United States who are arguing for nuclear testing will be untied. Then, I fear, there will be no stopping them in the immediate future. And by 1996, when the term of the Nuclear Arms Nonproliferation Treaty expires, another 15 countries that are ready to produce and test nuclear weapons will not be bound by any international legal and moral constraints. There are not five but 20 states in the world that are producing nuclear weapons. A terrifying thing....

And finally, let's recall the package of social guarantees to the population residing in our region and working at nuclear facilities. Special measures must be taken to restore their health, to provide compensation for the risk of being near the facility, for doses of radiation already received, and for those that are yet to be received.

The Supreme Soviet of the Russian Federation must study all of these problems and materials from all aspects of these problems—and document its conclusions in the corresponding legal acts, which will clearly prescribe to all of our government and nongovernment structures the particular course of behavior to be followed in a given situation. I am not about to guarantee that the Supreme Soviet of the Russian Federation will decide today to prohibit nuclear testing—we are not on this planet alone. But I do guarantee that the faster we in Russia and they in the United States and in all the world come to this decision, the safer the world we share will be.

Let's wait until the middle of autumn.

Still the Terra Incognita, by Yu. Dmitriyev

We were furnished with interesting and, it seems to me, conscientiously gathered and processed, fully objective material from a survey of the area. Aerial surveys taken from a helicopter showed that this territory contains traces of uranium, thorium, potassium-40 and cesium-137. While there are no areas of continuous radioactive contamination, spots of contamination do exist. The condition of the territory does not elicit any apprehensions.

But the question that arises is this: How large was the territory that was investigated, and could the state of affairs throughout the entire archipelago be judged on the basis of conditions within this territory? What we learned was that the object of this helicopter survey was an insignificant part of the territory of the archipelago, rather far away from the test range.

Can a conclusion of any seriousness be made on this basis? By the laws of logic, no. And by the laws of life, no. Because we have no idea of the places where the tests were conducted, or of the places where radioactive wastes and reactors are buried. We know practically nothing about the radiation situation on the archipelago. This is a kind of terra incognita, an unknown land. It must be discovered in the direct sense of the term—it has been closed, after all, as an object of special state importance and secrecy.

A representative of the department familiar with all of this was supposed to have attended this meeting of our committee. But it seems as if no one invited him. Because it turns out that this department had not participated in this most remote helicopter survey of the territory. How can I base my opinion on the conclusions of an expert examination in which the principal character did not participate? The conclusion that I reached with what I believe to be fully valid grounds is this: The work that had been done up to the end of June cannot in any way be thought of as serious. Experts of the Russian Ministry of Ecology must forcefully demand that the military department precisely point out all of the locations where explosions had occurred.

We want to know the truth not out of curiosity and not even out of satisfying a generally natural sense of justice. We must go on to a correct and weighted conclusion on the question as to whether the nuclear test range on the Novaya Zemlya archipelago is to be or not to be.

The work is dragging on slowly, the clock is ticking, and in three months experts of the Ministry of Ecology have not come to understand how serious the work assigned to them is to the country.

Go There, I Don't Know Where...., by Yu. Sergeyev

The question we discussed in late June in our committee had a somewhat strange name: "Progress of state ecological expert examination of the Novaya Zemlya archipelago...." At first I pondered its regrettably imprecise wording, but it became clear in the course of the discussion that this was precisely the assignment that specialists of the Russian Ministry of Ecology and organs of the State Ecological Expert Committee received.

And anyway, is it really possible to conduct an ecological expert examination of an entire archipelago? This isn't something that can be covered, after all, by a single project, a single report.

As it turns out, what is important is not a terminological error. What was done was by far more complex. Or stupider? Or perhaps, shrewder? Having failed to state exactly what the object of expert examination should be, what will we hear from the experts? In what precisely are we interested? And the experts, not knowing exactly what questions they must find answers for, will begin to seek general answers to general questions.

The discussion proceeded with great difficulty and nervousness. Some deputies felt that in addition to subjecting documents to expert examination, the group of ministry experts should conduct field research, and make its conclusions only on the basis of the cumulative data. Others believed that it would be enough to subject documents on the Novaya Zemlya archipelago to expert examination. Still others wanted to limit themselves to analysis of materials only on the nuclear test range. It was precisely the ambiguity of the assignment that generated such a diversity of opinions, and consequently the first thing that our committee did after hearing out the experts was to define the goal and clearly pose the task. Now the experts know exactly what we want to know.

I believe that our committee needs to finally learn the true state of affairs at the test range, on the archipelago and on territories contiguous with it. Until research on territory contiguous with the nuclear test range is conducted, no answer can be given to the principal question—the suitability of the existence itself of a nuclear test range on Novaya Zemlya. Research on the health of the population of these territories is especially needed. This is why I suggested to members of the expert group from the Ministry of Ecology to determine primarily the correctness and sufficiency of the materials that will be submitted to them for expert examination. The possibility that the documents submitted for expert examination are insubstantial must be excluded.

But as it turned out, the expert group from the Russian Ministry of Ecology was not prepared to embark upon this big, difficult job. In late June it still did not have the documents it needed. In the three preceding months, so little was done out of the volume of work that had to be completed that both the deputies and members of the Supreme Ecological Council and representatives of the region and public organizations attending the committee meeting were justifiably angered. We were told that letters requesting the needed documents and materials had been drafted (and had not even been sent!). And that's all?!

Even if the requests are satisfied quickly, we have still missed our chance to properly verify the information we have received on the spot: The Arctic summer and the Arctic navigation season are short. And if we consider that the information must come from departments interested in the very existence of the test range, in conducting nuclear tests and in concealing the truth about the consequences of tests conducted in earlier years, we can predict that the response to the requests will be slow, that the replies to very specific questions will be indefinite, to put it mildly, and that the objectivity of the conclusions of the expert group will most probably be doubtful. And it is on the basis of the conclusions of this group, after all, that our committee will have to develop proposals for the Supreme Soviet upon which much in the fate of the country and all the people depends. It was precisely for this reason that I asked the experts from the Ministry of Ecology to realize their enormous responsibility for the work of state importance assigned to them.

Footnote

1. This article was written in mid-July of this year.

Norwegians Report 'Major Geological Changes' at Novaya Zemlya

PM1612111192 Moscow Teleradiokompaniya Ostankino Television First Program Network in Russian 2100 GMT 14 Nov 92

[From the "Novosti" newscast]

[Text] [211808] [Announcer over view of Novaya Zemlya] Scientists at the Norwegian Foreign Policy Institute have established that major geological changes have occurred in the Novaya Zemlya archipelago during the postwar years. A comparison of aerial photographs taken by a German spy-plane during the war and recent photographs taken from space has shown that four craters and a large lake have formed on the island during these years, and several major landslides have also occurred. According to the scientists, the reason for these changes is connected with nuclear tests which were carried out in the Novaya Zemlya archipelago. [Video shows views of Novaya Zemlya]

Legislators See 'Favorable' Ecological Situation on Novaya Zemlya

93WN0178A Moscow ROSSIYSKIYE VESTI in Russian 9 Dec 92 p 2

[Article by Lyubov Dunayeva: "Novaya Zemlya: Ecology and Security Interest"]

[Text] From 1955 to 1990, the Novaya Zemlya archipelago endured 87 nuclear explosions in the atmosphere, 42 underground, and 3 under water. A superbomb of 50 megatonnes, created by Andrey Sakharov, was also tested on Novaya Zemlya. Its test was timed for the opening of the 22nd CPSU Congress.

Will nuclear tests in the archipelago also continue in the future? Until 1993, thanks to the Ukase of the President of Russia "On the Cessation of Tests of Nuclear Weapons Until 1 July 1993," there will be no tests. The United States and France have also stopped nuclear tests. But realistically the tests can be discontinued only in 1996, since in 1995 the Treaty on the Non-Proliferation of Nuclear Weapons expires.

But for the time being... a group of deputies of the Supreme Soviet of Russia, who had been on an inspection tour of the archipelago, came to the conclusion that the ecological situation on Novaya Zemlya is a favorable one. And meanwhile a decree of the Presidium of the Supreme Soviet was adopted, in which, in particular, the necessity of continuing the ecological expert opinion on the archipelago in 1993 is discussed. However, the situation is complicated by the fact that in the Barents Sea and the Kara Sea surrounding the archipelago burials of radioactive waste materials were carried out, but precise data about by whom and in what places have not been made available either by the Ministry of Ecology and Natural Resources or by the Ministry of Defense. This, in particular, was the subject discussed by the participants of a conference of the Russian Fund of Peace and Ecological Safety for Novaya Zemlya at a meeting with Russian and foreign journalists. Thus, a direct participant of nuclear tests on Novaya Zemlya, Lev Feoktistov, a corresponding member of the Russian Academy of Sciences, a specialist in the sphere of the development and design of nuclear weapons, declared that the efforts spent on the conduct of the tests were not justified. And the scientist does not see a single concrete reason for such tests to be continued also in the future.

This is also the opinion held by the former head of the Novaya Zemlya nuclear testing range, the former deputy chairman of the State Commission for Tests in Novaya Zemlya, Lt-Gen Gavriil Kudryavtsev. But he is against unilateral disarmament and the unilateral moratorium. From his point of view as a military specialist, it is necessary to use the testing range on Novaya Zemlya for selective tests of nuclear ammunitions, of which for the time being there are more than enough. Gavriil Kudryavtsev gave his due to those who at the price of improbable efforts prepared these tests and who considered this as their life's cause. But for the time being, only one thing is indisputable: The moratorium has been extended, and it will be in effect, but only time and reason will put an end to the nuclear anarchy in the world.

Report Charts Environmental Damage From Novaya Zemlya Tests

PM1712141692 Oslo AFTENPOSTEN in Norwegian 11 Dec 92 p 3

[Ole Mathismoen report: "Novaya Zemlya Has Been Transformed"—article is accompanied by a photograph detailing craters, detonation sites, lake, and landslip mentioned in text]

[Text] Satellite photographs show that just south of the straits which divide Novaya Zemlya in two there has at some point in time been a gigantic landslip involving over 30 million cubic meters of rock. The landslip is more than two kilometers long and one kilometer wide, and was probably caused by tremors from one or more of the over 30 underground nuclear tests carried out in the area. It is probably the largest landslip in historical time, write researchers Johnny Skorve and John Kristen Skogan of the Norwegian Foreign Policy Institute [NUPI] who have published the satellite material in a report.

It has long been known that underground nuclear tests—in the Soviet Union, the United States, and elsewhere—have caused landslips and craters at ground level. Leaks from at least 100 Russian tests have been registered in the United States. In Norway Bellona [Norwegian environmental group] has previously published reports that as recently as 2 August 1987 Swedish monitoring stations recorded leaks of radioactive gases after a small nuclear test in the northern test area.

The two NUPI researchers have located three large craters caused by small nuclear tests, a number of smaller landslips, and also a landslip which is without parallel in historical time. The largest landslip known hitherto took place in Madison Canyon in the United States in 1959 after an earthquake.

The two researchers have compared satellite photographs with old Russian maps from 1937 and aerial photographs taken by German spy planes during the war. They have

located at least three craters with diameters of up to 25 meters, a number of landslips into the Matochkin Straits, and the major landslip which happened around 10 kilometers to the south in the Shumilikha Valley. The valley begins at the straits and runs south on the more southerly of the two islands which form Novaya Zemlya. On the northern side of the landslip a lake which is almost 2 kilometers long and which is not to be found on old Russian maps has been formed.

None of the 31 underground nuclear tests is this region took place precisely where the landslip occurred, so there is nothing to suggest that the landslip is due to a test which went wrong and detonated more or less in the open air. It is most likely that the landslip is due to tremors from three large nuclear tests a little to the east which all took place in the seventies.

The NUPI researchers have not investigated whether the landslips and the craters have caused any radioactive pollution.

In the past AFTENPOSTEN has reported that in the seventies the United States measured leaks from at least 100 of the 400 underground nuclear tests the Soviet Union had carried out. When this became public knowledge during a Senate hearing in 1986, it was said that the reason was that the Russians did not carry out their nuclear tests deep enough. The NUPI researchers have only investigated the northern test area. It has long been known that in a nuclear test in the northern test area on 2 August 1987 fissures in the ground occurred and radioactive gases leaked out. These were later registered in Sweden.

Last fall Western journalists visited the southern test area where they were shown craters from nuclear tests which went wrong. For example, the earth collapsed over three bombs which were detonated simultaneously in the southern testing area in October 1973. The testing area was later closed because of radioactive leaks.

Further on Greenpeace Activities in Far East

93WN0144A Moscow ROSSIYSKAYA GAZETA in Russian 24 Nov 92 p 8

[Article by UTRO ROSSIYI correspondent Fedor Ustyugov and ROSSIYSKAYA GAZETA correspondent Nikolay Belyy: "The Bay Is Light—The Deeds Are Dark"]

[Text] Primorye is not Novaya Zemlya. Here Greenpeace was able to get by without any arrests. Although the "greens" did have reason to worry...

This time everything appeared almost noble: The authorities gave their permission, even though the memories which Greenpeace associates with Primorye are not the best. Two years ago the yacht "Vega," one of the vessels in the "greens'" flotilla, veered into the USSR coastal waters, causing panic among the military and civilian authorities. At that time the MFA [Ministry of Foreign Affairs] and the KGB were able to undermine even the legal presence of Greenpeace in Nakhodka, and drove the presumptuous yacht out into neutral waters. It sailed off into a storm, without reserves of food or fresh water. The stern order to "leave the USSR immediately" was not open to discussion. Bidding farewell, Feif Doherty, the Australian coordinator of Greenpeace, promised: "We will surely return!".

And they did return. Now the flagship of the Greenpeace flotilla, the "Rainbow Warrior," has arrived in Primorye. For 10 days the vessel was docked in Zolotoy Rog [Golden Horn] Bay, receiving visitors from Vladivostok. Later its route passed through Nakhodka, Svetlaya [light] Bay, and the port of Vanino... The interest of the "greens" concerned the nuclear submarines of the Pacific Fleet which had been decommissioned, their utilization, and the proposed burial of radioactive waste near Vladivostok, near the island of Askold. Then again, they also dropped anchor between Vladivostok and Nakhodka—perhaps for their main stay. The "Rainbow" knew where it was going—to Chazhma Bay, where in 1985 there had been an accident aboard a nuclear submarine. Very few people, even in the kray itself, know about this Primorye version of Chernobyl. At that time, during the upswing of corporative glasnost, the very fact of this accident in the Far Eastern bay was concealed from us and from the world community, as was its scope (the number of victims, the degree of contamination of the land and the offshore waters).

A year ago, ROSSIYSKAYA GAZETA informed its readers about this, but to this day the matter has not been fully clarified. As before, it seems, someone needs for it never to have happened. When in the course of repairing the submarine they carelessly tore the lid off of the reactor with a floating crane, a southwest wind was blowing, taking disaster and the poisonous cloud away from the settlement. Part of the repair workers died, while the others received varying doses of radiation. Were the civilians also exposed? Today high-ranking members of the fleet with whom we have had occasion to talk assure us that they were not, that everything is normal in the bay, and that they foresee no problems.

In the villages of Tikhookeanskiy and Dunay (not far from the ill-fated bay) there were other meetings, again with members of the fleet. The argument which they presented was simply disarming: The smelt caught in the bay still tastes good with beer, and the Primorskiy gourmet notices no change in it.

Well, we will wait for the conclusions of Greenpeace. In Chazhma the crew of the vessel belonging to this international ecological organization, risking the danger, mildly speaking, of once again being misunderstood by our authorities, studied the radioactive situation and the status of the surrounding environment. Evidently we will soon learn something about the consequences of this little-known catastrophe for Russia.

Greenpeace is also concerned by fishing in the Far East. It is believed that the fishing methods used by the Russian companies in the Pacific Ocean pose a serious threat to the fauna. Greenpeace is posing the question of a prohibition on the resale of fishing quotas in the Russian economic zone to other countries. It is demanding that fish and marine products be included in the list of strategic raw material resources whose export may be limited. It also

proposes establishing singular international control over fishing in the northern part of the Pacific Ocean and in the Sea of Okhotsk.

After Nakhodka, the "Rainbow" set a course for the North Sea to the bay of Svetlaya. This is where the Russian-Korean joint venture "Svetlaya" is based. The enterprise cuts down up to 300,000 cubic meters of forest annually and intends to bring this volume up to a million cubic meters. It is reaching out toward the upper reaches of the Bikin River, where the Udege people, who are few in number, live. A serious threat hangs over one of the most vulnerable regions of the Russian Far East.

"The forests not only here, but also in Siberia and other regions of the Far East are today on the brink of extinction," believes our friend Feif Doherty. "One of the main reasons is the unsystematic nature of timber cutting operations and the violation of forest management by Korean firms, South as well as North Korean. The co-founder of the joint venture "Svetlaya," the Korean firm "Heynde," long ago "showed its true colors" in cutting down the tropical forests. And now—Primorye.

We might add that the Primorskiy Kray Soviet and the authorities of a number of rayons, as well as the Udege people themselves, have stood up in defense of the plundered forests. Yet the kray court collegium, in reviewing the complaint filed by the kray's governor, V. Kuznetsov, found the decisions of the kray soviet aimed at limiting the activity of the joint venture "Svetlaya" to be unlawful. The barbarism in the north of Primorye continues, and no one knows what limits it will reach. Greenpeace intends to seriously oppose such a course of events. How can we comprehend this? Why is it that they, who are far removed from this problem, are more concerned about it than we, whose house it is shaking apart?

New 'Baykal Ecological Parliament' Meets in Irkutsk

93WN0144B Moscow LESNAYA GAZETA in Russian 27 Oct 92 p 3

[Article by V. Kalinkin, LESNAYA GAZETA correspondent in Irkutsk Oblast: "One More Parliament"]

[Text] The first meeting of the Baykal Ecological Parliament was held in Irkutsk. This interregional organization has united people's deputies of all levels working in Buryatia, Irkutsk and Chita Oblasts. The idea of its creation has been up in the air for a long time, evoked arguments, and now finally its proponents have been victorious—all of them got together in one hall. The main goal pursued by the new forum's members is to coordinate actions and unite efforts.

Judging by the announcements made by a number of deputies, the decisions of the ecological parliament will bear a recommendational character and will go into effect only if they are supported by the representative powers of individual territories. In connection with this, we cannot overlook the fact that many public representatives are doomed to discuss the same problems twice—once in the parliament, and then again in the territorial soviets, and vice versa. For example, one of the first topics of discussion here will be the draft law on the Baykal. In any case, this same question will come up at the sessions of the oblast soviets, and then again at the Russian Federation Supreme Soviet. It will also not be overlooked in the rayons directly adjoining the lake.

Scientists Produce 'Detailed Ecological Map' of Russian Far East

93WN0148C Moscow ZELENYY MIR in Russian No 35-36, Oct 92 (signed to press 1 Oct 92) p 2

[Unattributed report: "A Detailed Ecological Map"]

[Text] **Scientists of the Khabarovsk Institute of Water and Ecological Problems have drawn up a detailed ecological map of the Far Eastern region.**

This is presently the sole project of this scale in Russia. Recommendations were also developed on reducing ecological stress arising from adjustments in economic activity.

Supreme Court Asked To Revoke Firm's License for Logging in Siberia

SK2611122292 Seoul YONHAP in English 0950 GMT 26 Nov 92

[Text] Moscow, Nov. 25 (YONHAP)—The Russian prosecution had asked the Supreme Court of Russia to revoke the logging license given to a joint Hyundai-Russia Lumber Co., Svetlaya, on the ground that logging by Svetlaya in Siberia is bound to cause a serious environmental problem, it was reported here Wednesday.

The newspaper MOSCOW TIMES said that the local assembly and prosecution of Siberia's maritime province filed an administration lawsuit with a local court against Svetlaya last August.

After the court rejected the suit, the local prosecution took the case to the highest court.

Svetlaya, set up in 1990 with a capital of 60 million U.S. dollars, was to begin logging in an area around the Bikin River this year but is faced with fierce opposition from environment-conscious local residents.

Last October, Greenpeace joined the forces against the logging. Environmentalists argue that logging by Svetlaya would threaten the habitat of Siberian tigers damaging the ground of livelihood of local hunters.

Oil Consortium Presents Sakhalin Shelf Conservation Plan

934A0338C Moscow KOMMERSANT DAILY in Russian 19 Nov 92 p 3

[Article by KOMMERSANT DAILY's Business Department: "The Technical and Economic Feasibility Study Is Almost Ready: MMM Consortium Ecologists Are in Moscow"]

[Text] **On 20 November, there will depart from Moscow a group of specialists on matters of ecology and the safety of conducting operations for the production of oil and gas from**

the international consortium, MMMS. MMMS representatives met with specialists from the Russian Ministry for Environmental Protection and other departments involved with environmental protection matters, as well as with members of the parliamentary committee for the use of natural resources. In the course of the meetings, there was discussion of the ecological aspects of the technical and economic feasibility study currently being prepared by the consortium for the exploitation of two oil and gas fields of the Sakhalin Shelf.

KOMMERSANT: In conformity with the Agreement on the Preparation of the TEO [Technical and Economic Feasibility Study] for the Exploitation of the Piltun-Astokhskiy and Lunskiy Field, signed on 30 March, 1992, between the MMM Consortium (the consortium participants at that time were the firms of McDermott International and Marathon Oil, both of the USA, and Mitsui & Co. of Japan) and the Ministry of Fuel and Power Engineering, the technical and economic feasibility study is supposed to be prepared and submitted to the Russian Government by 31 December. The conditions of the agreement make provision for the preparation of multivariant calculations for the exploitation of the gas condensate field (Lunskiy) and the oil and gas field (Piltun-Astokhskiy). The consortium includes McDermott, a world leader in the construction of maritime oil and gas production platforms and their installation at sea, Marathon, a large oil and gas production company with significant experience in the production of oil and gas under climatic conditions comparable with those of Sakhalin (Cook Inlet, Alaska, and the North Sea), Mitsui, one of the world's largest companies in the field of oil and gas marketing and the financing of projects for their production and processing, and Royal Dutch Shell, a leader in worldwide oil and gas production.

As is known to KOMMERSANT, the consortium intends to use in this project technologies which have already proven themselves to be good during the production of oil and gas under severe climatic conditions. At the same time, emphasis is being placed on technological means for the prevention of pollution, in contrast to the practice accepted in Russia up to now of preparing for the elimination of emergency situations which have already occurred. (In 1991, the Marathon firm was recognized by the administration of the State of Alaska as "the most ecologically safe" participant in operations on the peninsula's shelf.)

In the course of the presentation of the project in the Ministry for Environmental Protection, several details were reported of the technical and economic feasibility study in its ecological part, on conditions of confidentiality. According to KOMMERSANT's information, the consortium's specialists at this moment have completed 80-90 percent of the work on the preparation of the study. The technical and economic feasibility study will be submitted for state examination, based on the results of which the government will soon thereafter make a decision.

The consortium secured the rights to draw up the technical and economic feasibility study with great difficulties. In April of 1991, the consortium received oral assertions from the chairman of the Cabinet of Ministers, Valentin Pavlov, that the consortium needed to get started on implementing the project. Nevertheless, soon afterwards, a competition was announced for technical and economic proposals for the right to draw up the study, which MMM also won. However, in place of an official declaration of a winner, the Sakhalin administration proposed to the firms which participated in the competition the preparation of a parallel project for capital investments in the Sakhalin economy and infrastructure. The results of this new competition were tallied by the local authorities and MMM's proposals were again acknowledged as the best. In December of 1991, a governmental commission was established for a final review of the matter (it was headed up by Viktor Danilov-Danilyan) and, on 27 January, 1992, the commission declared MMM the winner of the competition.

But the story did not end with this. At the insistence of the Sakhalin administration, a parliamentary commission for tallying the results of the competition was established and is continuing to work. KOMMERSANT intends to return to this theme next on 22 December.

Court Refuses To Hear Ecologists' Case Against Oil Consortium

93WN0145A Moscow IZVESTIYA in Russian
25 Nov 92 Morning Edition p 2

[Article by Aleksey Portanskiy: "The Complaint Against the Government Has Been Dismissed, and the Road to the Oil Has Been Cleared"]

[Text] **As IZVESTIYA reported yesterday, a complaint lodged by the Social Ecology Union against the Government of Russia was to be heard in the Superior Arbitration Court of the Russian Federation on 24 November for the rescission of the government order extending privileges to the Polyarnoye Siyaniye joint venture in the exploitation of a group of oil deposits in the north of Arkhangelsk Oblast. The petition was given a hearing.**

Here is a review of the details of the case. The well-known American Conoco company, which formed the Polyarnoye Siyaniye joint venture with the Arkhangelskgeologiya state enterprise, began exploiting oil deposits in the Nenetsk Autonomous Okrug near the Barents Sea. Technical and economic feasibility studies were used as the basis for setting a five-percent resource-use fee, and the joint venture was to be exempt from export duties until its expenses had been recouped.

Privileges are common in business, and when the Government of the Russian Federation extended these privileges, it was acting within the confines of its jurisdiction, but the Social Ecology Union, a public organization, felt that the government's decision was contrary to law.

At the beginning of the hearing the spokesmen for the union were asked to substantiate their right to take legal action against the government. They said that their organization represented the public interest (or at least the interests of part of the public), and that the public is the owner of underground resources. When the owner's interests were affected by the government decision, the union decided to take the case to court.

This explanation did not satisfy the judges completely, and this was apparent in the many questions they asked the plaintiff. As far as the public interest was concerned, a

direct representative of the public was present in the court—Anatoliy Aleksandrovich Sandyga, permanent representative of the Nenetsk Autonomous Okrug to the Government of the Russian Federation. He told the court that a session of the Soviet of People's Deputies of the Nenetsk Autonomous Okrug on 14 April had decided to request the Government of the Russian Federation to extend these privileges to the Conoco firm, and that a telegram to this effect had been sent to Ye. Gaydar.

After the required procedural conference, the court announced its decision: "In view of the fact that legislative enactments of the Russian Federation do not grant the Social Ecology Union the right to file complaints in the Arbitration Court in defense of the interests of the state and society, this dispute cannot be settled in the Arbitration Court."

This could have been the end of this report, but the account would not be complete without a brief statement A. Sandyga had prepared for your correspondent:

"If Conoco's interests are jeopardized, I think the okrug will remain in its previous state. For us this project not only represents a new source of revenue, but also means the construction of housing, schools, and hotels and—what is exceptionally important—the creation of jobs at a time when many petroleum engineers, drillers, and other specialists are unemployed. The state cannot afford to cover our needs at this time. The proceeds from the sale of oil could save us. Besides this, in the broader context, Conoco represents only the first step, and other potential investors will be watching to see what happens."

WESTERN REGION

Belarus: International Experts Offer Energy-Saving Ideas

PM1012160192 Moscow IZVESTIYA in Russian 8 Dec 92 Morning Edition p 2

[Nikolay Matukovskiy report: "The Rich Teach People How to Economize"]

[Text] Minsk—Belarus has just 9 percent of the fuel and energy resources that it needs for normal life and produces only 80 percent of the energy that it consumes. The rest has to be bought. "You are utter wastrels and spendthrifts," experts from OPET [not further identified], an international organization engaged in the creation and distribution of energy-saving and environmentally-friendly technologies, said in Minsk. "You do not even make economical use of what you have under your feet."

Capitalists do not waste their words: No sooner is something said than it is done. These experts have helped to develop 40 scientifically proven projects for saving fuel and energy resources. For example, they offered the Minsk No. 4 Thermal Electric Power Station their remedy for making optimum use of fuel, they offered a worsted combine new and more economical ways of equipping its workshops, and so on. In a number of apartments on Prospekt Lyubimova they installed some very basic equipment produced by the French firm Rilayr [as transliterated]: This equipment traps around 40 percent of the heat normally escaping from a building. If the experiment bears out the guarantees and estimates of the Western specialists it will be possible to talk about modernizing heat supply to cities. Near Minsk a conservatory has been built according to a French design which makes it possible to reduce heat loss fivefold.

Ukraine: Government Urged To Meet Montreal Protocol Requirements

93WN0146A Kiev GOLOS UKRAINY in Russian 17 Nov 92 p 4

[Article by Ukraine Greenpeace: "We Are All Under...the Ozone"]

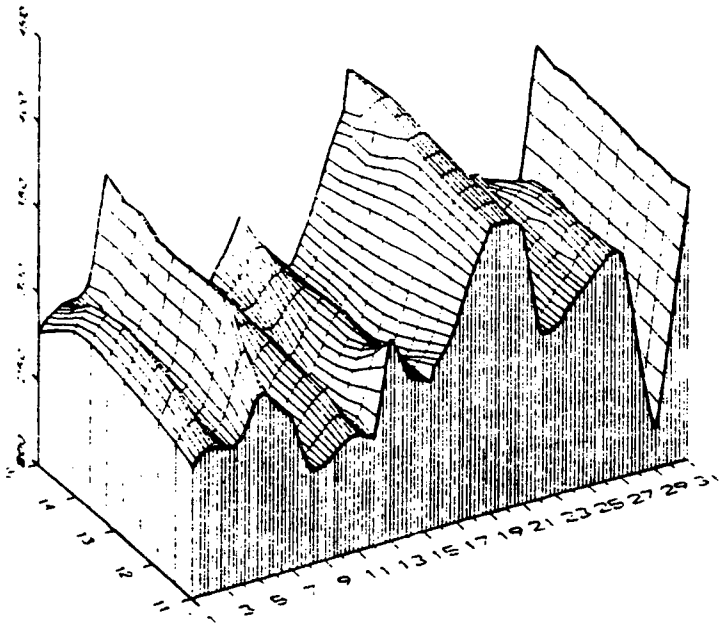
[Text] Seven years ago a hole was discovered in the ozone layer over Antarctica. Since that time scientists have been constantly checking on the planet's ozone shield. According to predictions of the UN economic program, a loss of 10 percent of the ozone would cause the incidence of cancer to increase by one-fourth, which would amount to 300,000 patients. Moreover, more than 1.5 million people could develop cataracts. And the consequences of a reduction of immune protection because of increased ultraviolet radiation could be extremely varied. On the global scale the destruction of the ozone layer also produces the threat of the greenhouse effect...

The ozone layer is being destroyed because of increased chlorine content in the upper layers of the atmosphere, which is mainly linked to the widespread use of chlorofluorocarbons—artificial compounds discovered in 1928.

The Vienna Convention for protection of the ozonosphere was adopted in 1985 on the initiative of the UN. It was augmented in 1987 with the Montreal Protocol, to which amendments were adopted in London in 1987. These documents earmark curtailing the production and use of ozone-destroying substances by the year 2000. But research conducted this year under the UN program showed the need to revise this date. A number of countries think it should be 1996. Moreover, it is necessary to expand the list of ozone-destroying substances. A decision concerning this will be adopted on 25 November in Copenhagen after a conference of representatives of countries participating in the Montreal Protocol.

Ukraine does not produce ozone-destroying substances and it consumes only 7,000 tonnes of them per year (the volume of their production in the CIS is more than 100,000 tonnes.) But the problem of the ozone hole is not crucial for remote Antarctica alone. And it is not surprising that in 1988 Ukraine ratified the Montreal Protocol. But up to this point there has been no government decision to meeting the requirements of the protocol; not only is there no program for protection of the ozone layer but we are not even working on developing one. Yet the current situation requires immediate measures for fulfilling the international commitments it has taken on.

Change in Concentration of Ozone Over Kiev During Daylight Hours in January 1992



The problem of ozone holes is crucial not just for Antarctica. On the diagram of the Scientific Research Hydrometeorological Institute of the State Committee for Hydrometeorology of Ukraine, which examined the concentration of the ozone layer over Kiev, one can see a sharp reduction on 29 January of this year. This case, which is not the only one, the scientists simply regard as the formation of an ozone hole. As for its dimensions, it could be observed both in Moscow and in St. Petersburg...

Further use of ozone-destroying substances could lead to disaster. And the conference on Copenhagen is our last chance to avoid that. The position of the Ukrainian representative from the Ministry of Environmental Protection should take this into account.

Ukraine: Ecological Group Protests Reactivation of Chernobyl

WS1612133192 Kiev KHRESHCHATYK in Ukrainian 25 Nov 92 p 1,5

[Article by E. Korbetskyy, cochairman of the Zelenyy Svit (Green World) ecological association, and V. Tymonin, association's press secretary: "Is Ukraine's Fate Nailed to the Atom for Good?"]

[Text] Recently, the Ukrainian Ecological Association, Zelenyy Svit, issued a declaration on the reactivation of the reactors at the Chernobyl nuclear electric power station [AES]. The association expresses its protest against this act and considers it a crime. Nuclear specialists from East Europe and the former Soviet Union have serious plans. Our partners—"greens" from the European Parliament—have informed us that a plan exists to deploy 42 nuclear reactors in East Europe, including Ukraine. The French Framatom and the German Siemens are interested in this. Do not forget that we are talking about nuclear power, which leaves no illusion of security. Zelenyy Svit suggests that we recall the facts connected with the Chernobyl AES.

1. During five years alone, two large disasters occurred at the Chernobyl AES: the global catastrophe of reactor No. 4 in 1986, and an explosion with a fire in reactor No. 2 in 1991. This is enough to show that the power plant must not be operated. The accident at reactor No. 2 developed almost according to the same plan as that of reactor No. 4, and could have led to a new global disaster. Fortunately, the reactor was turned off in time. But, as the Zelenyy Svit specialists and observers report, no conclusions were reached and no measures taken to prevent a similar accident in the future. Moreover, the plant's manager M. Umanets was not punished and shortly thereafter was appointed the manager-general of the newly created concern, the "Ukratomenergoprom". As we know, impunity leads to irresponsibility. Today this concern does not have to report to anyone, and this is very dangerous.

2. According to the data provided by the specialists, in 1982 there was an accident in reactor No. 1 at the Chernobyl AES, as a result of which a heat exchanger with a nuclear assemblage [zborka] caught fire. During the restoration, it was broken and thrown into a specially constructed mine under the reactor, and around it a so-called "sarcophagus" was left. In addition, in the center of the reactor there is a faulty sector which makes for the uneven distribution of the neutrons and may lead to their "splash". The operation of such a reactor should be categorically banned.

3. As we know, the Chernobyl AES is being operated on shifts. Specialists come for two weeks and then have two weeks off. Specialists say that in two weeks, it is difficult for the personnel to get used to tough working conditions

and provide the normal operation of the reactors. Increased radiation, especially at the No. 3 reactor, located near the damaged reactor No. 4, is also an obstacle. There are almost no experienced personnel left at the Chernobyl AES, so shift workers come from different places, even the Crimea. It is impossible to go on like this.

4. The economic advantage of running the reactors is rather doubtful. The reactors often stop and the of the station [as published] bear no responsibility for this. All the expenses are incurred by the consumers who have to pay the constantly growing fees. Due to this, the power plant's personnel are not interested in the equipment's reliability and the acceleration of the repairs. Power plant managers and the manager-general earn a wage of 60,000 rubles and more. All this at the Ukrainian people's expense.

5. The reactivation of the reactors at the Chernobyl AES causes great political damage to Ukraine. After the third reactor was reactivated, a wave of protest was stirred up in Europe and the expressions of concern were published in the press. It was underlined that the declaration made by President L. Kravchuk and later confirmed by Minister Y. Shcherbak about the power plant's final shut-down was received as irresponsible by the world community.

6. Manager-general of the "Ukratomenergoprom" M. Umanets has officially declared that the Chernobyl AES cannot be shut down now, because it would be necessary to build a special boiler house for the maintenance of the temperature regime at the power plant. This statement is beneath any criticism, because at the AES, there is a launching boiler house 50,000 kW strong which is sufficient to maintain the temperature. Independent specialists consider that the Chernobyl AES can be shut down without any obstacles, the fuel can be removed, and leakage, which now reaches 5,000 curies a day, stopped.

The Ukrainian ecological association of Zelenyy Svit is addressing the president, the legislature, and the Ukrainian Government with the demand to halt the operation of the Chernobyl AES! We are warning everyone: every day of delay brings the third and final disaster closer!

Ukraine: Radioactive Timber Shipped From Chernobyl Zone to Donbass

93WN0148B Moscow IZVESTIYA in Russian 28 Nov 92 p 3

[Article by IZVESTIYA reporter Nikolay Lisovenko, and Vasiliy Trach, chief state physician, Donetsk Oblast: "'Parcels' From the Chernobyl Zone"]

[Text] **Criminals stole 11 major radioactive isotope sources emitting californium and cesium-137 from the Nikitovskiy Mercury Works (Gorlovka).**

Two radioactive isotope instruments were also stolen in the same time period from the Dokuchayevsk Dolomite Flux Works. But even that's not all. Conducting a plant inspection of the radiation level on the territory of a timber storage yard belonging to the Proletarskiy Repair and Construction Administration, Yuriy Shchetikin, a physician of the Donetsk City Public Health Station, discovered a pile of logs next to which the pointer on his radiometer began dancing on the scale far from normal readings: 20,000 times higher than the natural gamma background!

Radiologists believe that the timber had come from the area of the Chernobyl disaster. It was sent to the Donetsk Basin from Vilcha Station, Kiev Oblast; the "gift" for the Donbass was prepared by the Polesskiy Mekhkhozzak.

The Ukrainian government established long ago that both industrial and, all the more so, food shipments from a large number of the republic's oblasts in the Chernobyl vicinity must undergo mandatory radiological monitoring at the time of their dispatch and receipt. The Polesskiy wood did not of course undergo such monitoring. Moreover it was not accompanied by the appropriate certificate.

Public health physician Yu. Shchetikin discovered only 28 logs in an inspection of the storage yard. The rest of the wood from the two Polesskiy rail cars that arrived on 11 November had already been processed and made into boards, frames, doors and other carpentry articles for new and repaired housing. It can already be found in apartments, and people are receiving their doses of radiation from it. All of this is now subject to immediate confiscation, including the shavings that had been moved to a neighboring sovkhoz to be used as litter in livestock buildings.

Criminal proceedings were instituted. However, there is more to discuss here than just crime and punishment.

Although it is more than a thousand kilometers from Chernobyl, atomic woes reached the Donbass long ago. Almost 30,000 persons possessing the official certificates of disaster control workers live here: Everyone knows, after all, that miners dug a tunnel beneath the reactor. Traces of the track of the death cloud that rose above the damaged fourth power block can still be seen here along the ridge top. Moreover public health physicians have long been recording abnormally high natural radiation in rock emerging to the surface near the town of Adamovka, Slavyanskiy Rayon, and in the black sands of the Mariupol coast of the Sea of Azov; so-called "uranium tar" has also been found.

The level of industrial radiation is high as well. There was a time when metallurgical plants in Donetsk received iron ore containing uranium inclusions, which were left behind in our slag dumps by the settlement of Donskoy, which is now commonly referred to as "Zirconium."

Radiation levels are generally elevated here, but the procedure used by the Ministry of Health to rate them is unjustifiably flexible. For example 12-20 microroentgens per hour is treated as the norm, as is 30 microroentgens in new residential buildings, and 50 microroentgens in Khrushchev-type reinforced concrete dwellings. Of course, this is nonsense. We need to switch to the European standard, and end this game of hide-and-seek with ourselves.

The problems of radiation should doubtlessly be solved from a single state-subordinated center. Here in the Donetsk Basin we have, for example, the "Safety and Industry" intersector scientific-technical laboratory. It is a cost-accounting ozr, to be more accurate, a commercial organization.

In the meantime the public health service is presently dealing with all of the health concerns of the population without compensation. In emergency situations, civil defense, the city soviets, oblast administrations and the government—in short, all of the rest of the essentially very small entities—respond to emergency situations. Hence the confusion regarding enforcement, storage, monitoring, liability and other aspects of the radiation problem.

In the meantime representatives of the radiation service must possess rights which, for example, commissions established to respond to emergency situations possess. What are they to do, after all, with this contaminated wood? Burn it? Bury it? But where? In Donetsk Oblast, as in most other regions of the former USSR, no one gave any thought to selecting a special place or to building a dependable storage site for radioactive waste.

It was said in the Donbass during the Chernobyl accident that establishing such structures as quickly as possible was absolutely necessary. But beyond the talk, nothing came of this. A pity....

Ukraine: Supervisors Find Safety Rules Violated at Nuclear Plant

AU1012162892 Kiev HOLOS UKRAYINY in Ukrainian 3 Dec 92 p 4

[Commentary by Oleksiy Breus: "Our Patience Has Been Exhausted"]

[Text] Recently, the board of Ukraine's State Committee for Atomic Supervision, having analyzed violations in the operation of the Southern Ukrainian Atomic Electric Power Plant, arrived at the conclusion that the leadership of the plant is mainly concerned with the production of energy and not with safety. Lately, the quantity of violations of safety rules has increased considerably, the demands of the State Committee for Atomic Supervision are frequently ignored, and violations are hushed up.

The board rated the activity of the administration of the atomic electric power with regard to ensuring operational safety of the power units as unsatisfactory and appealed to the government with a request to consider the question of dismissing Volodymyr Fuks, general director of the Southern Ukrainian Atomic Electric Power Plant, from this post.

Yuliy Ioffe, vice premier for questions of the fuel and energy complex, authorized Mykhaylo Umanets, chairman of the State Committee for the Utilization of Atomic Energy immediately to correct the shortcomings that were revealed by the State Committee for Atomic Supervision and submit proposals regarding the leadership of the atomic plant.

CAUCASUS/CENTRAL ASIA

Azerbaijan: Ecologist on Health Protection Measures

93US0161A Baku BAKINSKIY RABOCHIY in Russian 20 Oct 92 p 3

[Interview with Professor Idris Seidov, president of the Ekologiya Association, deputy director of the Epidemiology and Occupational Diseases Scientific Research Institute and doctor of medical sciences, by BAKINSKIY RABOCHIY correspondent I. Orudzheva: "Breathe. But Not Too Deeply!"; date and place not given]

[Text] **The health of the people depends to a large extent on social and economic factors, in which an important role is played by the environment. In the large cities, including even Baku, the level of the overall morbidity of the populace living in the regions directly adjacent to an oil refining complex's sanitary protection zone is 25 percent lower than that of people who are 10-12 kilometers from the source of industrial discharges. Here people turn more frequently to medical assistance in connection with cardiovascular illnesses, allergy-related illnesses and skin diseases, as well as angina, acute laryngitis, bronchial asthma and pneumonia. Among children up to 14 years of age, being encountered more and more are pneumonia, iron-deficiency anemia and various allergy-related illnesses, including also bronchial asthma. At the scientific and practical conference held recently by the Republic Ekologiya [Ecology] Association [assotsiatsiya], it was noted that the public's health should become the basic criterion during the solving of ecological problems. This is precisely what was talked about in the BAKINSKIY RABOCHIY correspondent's conversation with the president of the Ekologiya Association, deputy director of the Epidemiology and Occupational Diseases Scientific Research Institute and doctor of medical sciences, Professor I. Seidov.**

[Orudzheva] *Idris Bey, please tell about the association's basic tasks in the field of health care.*

[Seidov] Our association was established several months ago. It includes the Epidemiology, Hygiene and Occupational Diseases Scientific Research Institute, the Agroekologiya [agricultural ecology] Science Center, a specialized scientific production geochemical expedition on heavy metals in soils, plants and waters, the Azerbaijan Society of Hygienists and Medical Doctors, the Ministry of Land Reclamation and Water Resources, the Selen [selenium] Pilot-Production Plant of the republic's Academy of Sciences and the Republic Clinical Hospital imeni Academician Mir-Kasimov. The association's field of activities is quite broad.

One of its basic tasks in the area of environmental restoration and improvement of the public's health is the development of an integrated program which will make it possible to reduce to a minimum the level of harmful discharges into the atmosphere, to provide the public with good-quality drinking water and to cleanse the city of

industrial and domestic wastes which have accumulated in excessively large amounts throughout the entire area of the Apsheronskiy Peninsula.

As is well known, because of the low quality of the drinking water, the people of Baku have been forced to use boiled water for everyday needs. And this, in turn, precludes the possibility of taking in vitally important biotic elements. Instead of taking steps without delay to provide the public with good-quality drinking water, the leadership, in due course, recommended the use of filters when using water. If such an approach to ecological problems is also used subsequently to solve them in like fashion, then, in the near future, the inhabitants of our city, in order to protect themselves from atmospheric pollutants, evidently will have to stock up on... gas masks.

The recent conference once again emphasized the need for a close interconnection between science and practice. And it also indicated that an awful lot of scientific developments could be used to limit environmental pollution, to clean sites of toxic substances and to recycle industrial waste. Unfortunately, it has been established that there is no appropriate connection between science and practice and this is why ecological measures are being carried out not on the proper scientific basis.

As was shown in our conference's resolution, it is necessary to solve ecological problems using scientifically based methods by means of the development of widescale integrated programs, taking into account the economic, social and ecological factors and their interrelationship with the public's health, and with the active participation of all interested departments of the republic. As far as the scientific potential goes, I would note that, just over the last 4 years, for example, in the Epidemiology, Hygiene and Occupational Diseases Institute, 11 doctoral and 20 candidate dissertations were defended, a large number of which were devoted to the republic's marginal pathology.

[Orudzheva] *What work is already being carried out in this plan?*

[Seidov] We developed a program for compiling an ecological atlas which makes it possible to evaluate the ecological situation and to develop measures for protecting the environment and the public's health and to make scientifically based predictions. Some developments realized in the institute are already being introduced into practice today. Thus, for example, there is the preparation, Netrogen, which makes it possible to obtain an increase in the harvest of agricultural crops. For some reason, up to the present time, it has not been used in the republic, despite the fact that it had been recommended by academicians and leading specialists. At the present time, this preparation—an ecologically neutral one—is being used by us on plantings of leguminous crops.

[Orudzheva] *Tell me, professor, in your opinion, what is the significance of preventive medicine in a situation of ecological trouble?*

[Seidov] The very concept of "preventive medicine" reflects the system of state, social, hygienic and medical measures aimed at ensuring a high level of health for the public and preventing illnesses. This is why the level of preventive medicine in any country reflects the nature of the social, economic, scientific, technical and political conditions of a society's life.

To guard the public from the adverse impact of the environment is easier than to treat them. And, knowing the cause of a disease, it is possible, by means of preventive measures carried out on a timely basis, not to allow its incursion into the body. Even I.P. Pavlov asserted that "just by knowing all the causes of illnesses, present-day medicine would be converted into the medicine of the future, i.e., into hygiene in the broad sense of the word."

[Orudzheva] *Is the timely carrying out of preventive measures, especially anti-epidemic ones, really possible?*

[Seidov] Of course. But here everything depends on a well-organized system for supplying the republic with bacterial preparations. And, since the necessary preparations—vaccines, serums and diagnostic preparations—are imported into the republic, the probability of a disruption in the carrying out of anti-epidemic measures increases. I think that, in order to have efficient and reliable work on protecting the public's health, it is high time for the organization and resumption in the republic of the production of the necessary vaccines, serums, diagnostic preparations and bacterial preparations.

Incidentally, in the production of biological preparations, our republic has some first-place accomplishments. For the first time, in the former Union, in Azerbaijan, based on the work of the Epidemiology and Hygiene Institute, produced, studied and introduced into practice was a diphtheria anatoxin, thanks to which there was a sharp decrease in the incidence rate of diphtheria. In due course, the production of bacterial and serum preparations was in full swing, to the extent that it not only satisfied our republic's demand, but also made it possible to export them to the neighboring republics.

Here, in my opinion, it is also appropriate to talk about gamma globulin. For many years, over the course of 30 years, Azerbaijan produced this preparation, providing it to the children (gamma globulin increases the body's resistance, including to environmental factors). And suddenly, gamma globulin production was abruptly halted by the Central Moscow Institute under the pretext that it supposedly did not meet state standards, even though the production methods remained the same over the course of many years and the preparation's quality did not change.

The rapid growth of AIDS in Russia (for 6 months of 1992, in comparison with a similar period of last year, the level of the AIDS incidence rate involving mortality increased by a factor of two) is causing great alarm during the use of biological preparations prepared from the blood of a person outside the republic. Especially gamma globulin, the demand for which is growing from year to year and amounts to around 500,000 doses, which come from Russia and from other republics where the AIDS illness has been noted. This proves once again the need for the

immediate organization of the production of gamma globulin in our republic. I consider this to be the primary task. All the more so since biological preparations produced from local raw material have a greater biological activeness and may not cause side effects in the local populace.

In conclusion, I want to emphasize once again that the solving of ecological problems and the matters of preventive medicine requires the integration of science and practice.

Azerbaijan: Ecology Chief on Caspian Sea Conference

93US0161B Baku BAKINSKIY RABOCHIY in Russian 23 Oct 92 p 2

[Interview with Arif Mansurov, chairman of the Azerbaijan State Committee for Ecology, by AZERINFORM correspondent Kh. Imanov: "Teheran: At the Center of Attention—the Problems of the Caspian Sea"; date and place not given]

[Text] **A conference took place in Teheran on founding the Organization for Cooperation of the Caspian Countries (OSPS [OCCC]), in which a delegation from the Azerbaijan Republic also participated. Upon its return from Iran, the AZERINFORM correspondent had an interview with the delegation leader, the chairman of the republic's State Committee for Ecology, Arif Mansurov.**

[Imanov] *Arif Bey, we all remember well last year's first international conference on the problems of the Caspian Sea, which had a large international response. Can the meeting in Teheran be considered a continuation of it or is the founding of the OCCC a seizure of the initiative by the Iranian side?*

[Mansurov] The very idea of the organization of an interstate institute for solving the problems of the Caspian Sea came from us and was approved by all the Baku conference participants. The materials and positions of the OCCC, prepared by the Iranian side, have many things in common with the documents drawn up by the State Committee for Ecology and, therefore, the Teheran meeting may safely be considered the successive development of the Baku conference's idea. At the same time, you are correct in saying that Iran took the initiative and I see nothing offensive in this. The main thing here is that the matter succeed.

[Imanov] *Now, strictly about the conference. Who participated in it and what were its basic goals?*

[Mansurov] First of all, I would like to dwell briefly on what great importance the Iranian leadership attaches to ecology and environmental protection on the whole and to the problems of the Caspian Sea in particular. Suffice it to say that the chairman of the State Committee for Ecology, Mr. Hadi Manafi, is a vice president of the Islamic Republic of Iran [IRI], while the conference was opened by the IRI Minister of Foreign Affairs, Mr. Velayati. What speaks about Iran's exceptional interest in the Caspian problems is the fact that our southern neighbor's initiative is being based on solid financial support of the established organization. Iran expressed its readiness to finance the first 3 years of the OCCC's activities so that specific practical work would begin without vacillation and scrounging for funds. In my opinion, such an interest in the problems of the Caspian Sea also has a hidden political agenda. But more about this a bit later. I would note only that, after the disintegration of the USSR, much in this region changed. With the establishment here of independent sovereign states, it is very important to clarify the matter of the further use of the sea in the interests of the countries bordering it, at the same time, naturally, paying proper attention to the preservation of the environment.

The delegations which participated in the Teheran conference were from the five countries which border on the Caspian Sea—the IRI, Azerbaijan, the Russian Federation [RF], Kazakhstan and Turkmenistan.

[Imanov] *What kind of authority did the delegations have?*

[Mansurov] The highest. The Azerbaijan delegation, for example, left for Teheran on the instructions of President Abulfaz Elchibey. Moreover, the founding of the OCCC was agreed upon in the joint protocol of the empowered representatives of the Caspian states, which was signed in February of this year. In other words, all the work on the preparation for and the conducting of the conference had been carried out at the state level.

[Imanov] *And so, even the adoption of decisions should have been of the nature of state accords?*

[Mansurov] Yes, this is so. However, some delegations attempted to torpedo this to one extent or another. I have in mind the representatives of Russia and the Kazakhstani envoys who sided with them. They came to the conference obviously unprepared for a positive solution of the problem. The leader of the RF delegation, the deputy minister of ecology and the use of natural resources, Mr. O. Kolbasov, in his first speech, gave us to understand that he had not been authorized to accept any specific document in the course of the present meeting. There began a latent questioning of the adopted decisions.

[Imanov] *What is the reason for such a position, in your opinion?*

[Mansurov] It is all very simple. Indeed, to date, the exploitation of the Caspian Sea is still being conducted on the basis of the former USSR's laws and standard acts. What kind of laws and acts these were, we know full well: everything was done exclusively in the interests of the "center." For Russia, which has declared itself the legal successor of the Union, apparently, it would be disadvantageous to change anything fundamentally in the system established over the decades for using the Caspian resources. Hence, the desire to delay as long as possible the adoption of new decisions. For example, the term "lake" used in previous international agreements did not suit the Russian delegation this time. Indeed, in this instance, it will be necessary to recognize the status of the international lake with all the consequences ensuing therefrom. It will be necessary to determine the water boundaries and the water areas of the sea, which are under the jurisdiction of the Caspian states and so on.

[Imanov] *To what extent was there success in overcoming this kind of resistance?*

[Mansurov] After the first speeches, when the positions of the parties had become clear, we proposed declaring a break for unofficial consultations and attempting to find compromise solutions. The Azerbaijan delegation prepared several such versions, but even here, the Russians attempted to divert the discussion into the riverbed of general prolonged and nonspecific discussions. However, the Azerbaijan delegation's resolute speech, which received the support of the majority of the participants, cut short the attempt to lead the conference astray and forced Russia's delegation to concur with the need to establish a special committee for preparing the legal basis for accepting the status and legal regime of the Caspian Sea.

[Imanov] *What other committees was it decided should be organized?*

[Mansurov] A committee for studying the causes of and for monitoring the fluctuations in the water level of the Caspian Sea, a committee for environmental protection, a committee for resource preservation, a committee for navigation and the use of ports and a committee for scientific research. I would note once again that, at the explicit demand of our delegation, the committee for the legal status was included in this list first and it is the OCCC's basic committee.

[Imanov] *Arif Bey, you mentioned a number of proposals made by the Azerbaijan delegation. What are these proposals and how did the conference participants regard them?*

[Mansurov] It must be said that, as the entire course of the conference showed, our delegation arrived in Teheran the most prepared. Having received the day before the text of the convention, we made a number of comments and proposals about it. A large part of these comments pertained to editing of the points and provisions of the convention, but four proposals were of a fundamental nature. The first was to supplement the organization's structure with a new body—a Caspian Council headed up by the ministers of foreign affairs and the leaders of the state committees for ecology. The second was that the Caspian Council be convened three months prior to a conference at the highest level and that it coordinate and approve the agenda and the texts of submitted materials. The third was to use the principle of consensus (the right to veto) when voting. And, finally, the fourth was to set up a secretariat which would be headed up by a general secretary and four deputies, one from each state, except for the state represented by the general secretary.

All four proposals were reflected in the adopted communique.

[Imanov] *How would you characterize the conference results?*

[Mansurov] On the whole, positively. Its results showed that, of the five Caspian states, completely prepared to cooperate were Iran, Azerbaijan and Turkmenistan, whose positions were similar in many respects. Russia is showing veiled resistance, striving to maintain and uphold its primacy in the use and protection of Caspian resources. Kazakhstan, not having a clear-cut position of its own, is heeding the opinion of the Russians. Such is the division of forces at the present time.

Under these complicated conditions, it is necessary to have a refined and flexible policy aimed at consolidating the efforts of all the Caspian countries. Also needed is a common policy for Azerbaijan in this matter which is most important for our state. Unfortunately, it is unusual for the various departments and state organs of Azerbaijan to act in a concerted manner. What may serve as an example is the Agreement on the Use of the Caspian Sea's Biological Resources, which was signed by representatives of the republic's Gosekonomplan [State Committee for Economic Planning]. And this is despite the unfavorable criticism of the republic's State Committee for Ecology and the Ministry of Foreign Affairs, who pointed out the intolerability of this totally unjustified step.

It is difficult for me to cover within the limits of a newspaper interview all the matters associated with our delegation's stay in Iran and its participation in the conference. The program was extraordinarily full. Meetings with IRI President Hashemi-Rafsanjani and other political and public figures of Iran, trips to Mashhad and Tabriz for the purpose of establishing bilateral ties with the IRI Committee for Ecology and Environmental Protection and many other measures produced abundant food for thought. All this is still waiting to be comprehended and given a correct assessment. But even now I can say that the foundation for the close and mutually advantageous cooperation of the Caspian states, which was laid down at the First Baku International Conference on the Problems of the Caspian Sea, has proven to be solid. The surface has been scratched and this gives hope that our hoary Caspian Sea, in spite of the not always expedient and just clash of man and nature, will be preserved and protected for future generations. And this is the most important thing for us.

[Imanov] *Thank you for the interview.*

Armenia: Energy Shortages Hit Republic's Economy, Domestic Sector

PM0412161592 Moscow PRAVDA in Russian 4 Dec 92 p 2

[Armen Khanbabyan report: "Nuclear Electric Power Station Will Have To Be Opened Regardless"]

[Text] Yerevan—The first international congress of Armenian power workers has ended in Yerevan. In addition to local experts, scientists and practical workers from the Armenian diaspora also participated. The issues of supplying the republic with energy sources in conditions of an energy crisis and the blockade of the transport infrastructure were discussed at the forum. Experts concluded that Armenia's energy policy must be based on the potential of its own resources. In order to do this, a program to search for alternative sources is being elaborated. In particular, prospecting for mineral wealth will be broadened and consolidated.

Heated discussions unfolded around the problem of the Armenian AES [nuclear electric power station], which was closed after the 1988 earthquake. The general view is that Armenia cannot manage without nuclear power, and that the AES should be started up again. This will require 18 months and $25 million. At the moment, central heating plants are using the small quantity of gas coming into the republic through Georgia, which is why the domestic sector is experiencing a chronic shortage of natural gas.

Meanwhile, the fuel and energy crisis in Armenia has reached a climax. Today, it is intensified by the fact that Georgia is abstaining from selling even minimal quantities of petroleum products to Yerevan. As a result, despite the onset of heavy frosts, residential homes are without heating. Electricity supplies are severed for 12 hours in every 24, there is no gas in the vast majority of apartments, and municipal transport has virtually stopped running. Because of the severe shortage of gasoline—the price of one liter has exceeded 500 rubles—problems have arisen concerning deliveries of bread to the stores. People are often deprived of the possibility of purchasing even the 250-gram "blockade ration," as it is called here.

In the meantime, as PRAVDA reported yesterday, schoolchildren and students in the republic have abandoned their studies, and a section of the Scientific Research Institute and some plants have closed pending better times.

Kazakhstan: Ecology Union Chairman Calls for 'Greens' Party

93WN0131B Alma-Ata BIRLESU in Russian
No 38, 2-9 Oct 92 p 3

[Interview with Mels Yeleusizov, chairman of the Ecological Union of Associations and Enterprises, candidate for deputy to the Supreme Soviet of the Republic of Kazakhstan, by Konstantin Gayvoronskiy, correspondent for the BIRLESU weekly; place and date not given: "The Suicides Do Not Realize That They Are Suicides"]

[Text] [Yeleusizov] Take your pen and write: The most dreadful state in the world is the Republic of Kazakhstan.

[Gayvoronskiy] *In what sense, Mels Khamsayevich?"*

[Yeleusizov] In the sense of ecology. There is no chance to save the Aral. Balkhash is on the verge of dying. Eastern Kazakhstan is the equivalent of Chernobyl. Add to this the Semipalatinsk test range. And Ostrov Vozrozhdeniya in the Aral, where bacteriological weapons were tested? And Ekibastuz? The pipes of the thermal electric stations emit silicide compounds and radioactive elements, and they are being found on the territory of Mongolia.

[Gayvoronskiy] *I read somewhere that in an inspection from outer space a permanent haze was found over Alma-Ata..*

[Yeleusizov] That is old information. I talked with Tokhtar Aubankirov, the first Kazakh cosmonaut, and he claims that it is impossible to see Alma-Ata from outer space anymore.

[Gayvoronskiy] *The haze has become more dense?*

[Yeleusizov] Yes. I will say more: There is no ecologically clean zone in Kazakhstan at the present time.

[Gayvoronskiy] *The Soviet authorities, whatever else they did, really succeeded in this in the 70 years of planned management of the economy.*

[Yeleusizov] Under conditions of a market (but it will be abnormal here), the republic will suffer even more, for we will be trading primarily in raw materials. Its output will increase. Damage to the ecology will increase. For the sake of profits, thousands of small enterprises will not spare mother nature.

[Gayvoronskiy] *I sense your sincere concern. Did you try to bring it to the attention of the government?*

[Yeleusizov] I tried. We have established a Ministry of Ecology and Biological Resources, a special committee in the Supreme Soviet, and prevention procuracies. But understand, the problem is that all of them are defending the interests of the state and not of nature. Their activity is miserable. And it cannot be otherwise, because the officials who hold offices in the ministry, in the committee, and in the ecology section of the president's apparat are thinking poorly, like 20-30 years ago.

[Gayvoronskiy] *Can you cite an example?*

[Yeleusizov] Well, for example, a fight is being waged against offenders. Or small enterprises are fined. The fines remain unclaimed because of imperfect legislation.

[Gayvoronskiy] *I remember, about 20 years ago, while working on the material "Industrial Haze," I encountered an amazing fact: Managers of enterprises could be fined for the sum of....20 rubles [R] for ecological offenses.*

[Yeleusizov] All of this is sad and ridiculous.

[Gayvoronskiy] *To find new approaches to the resolution of problems, you therefore established the Ecological Union of Associations and Enterprises of Kazakhstan?*

[Yeleusizov] It is abbreviated "Tabigat." The objective is not to punish and control enterprises, but to help. By means of establishing temporary creative collectives that will analyze and give an objective description and recommendations for the assimilation of new technology. Producers should see us as helpers. But this is not all....

A total approach to the problem is necessary. It is necessary to change the consciousness of the people, to hammer the simple idea into their heads that they are all suicides, that in behalf of the lives of their children they have to change their attitude toward nature. That is why I am calling for the creation of a Greens party, which will unite the efforts of concerns, corporations, commercial services, and the Academy of Sciences, all the way to the Ministry of Ecology and Biological Resources, which is not dear to my heart.

Only a political organization is able to send its own representatives to the Supreme Soviet, to create a lobby that will develop and adopt clear legislative acts, after which it will ensure their implementation.

[Gayvoronskiy] *Does this mean, Mels Khamzayevich, that ecological problems are solvable only through political means?*

[Yeleusizov] Given our inertia—only in that way.

[Gayvoronskiy] *I see that something is alarming you. You are tense....*

[Yeleusizov] I am afraid of not succeeding. The party must be created now—or even better, yesterday. I am afraid of a dictatorship. Look at what is happening: We were not plundered as much in the course of 70 years as we have been fleeced for the last two years. This is being done intentionally! People are being incited to take to the streets. It is necessary to someone that the crowd demand a firm hand. And so then, as if yielding to the will of the masses, those who are the most enterprising—as under collectivization—will be handed over to the crowd, but in turn the nomenklatura will take POWER. The question of the Greens Party will be removed.

I do not share the president's policy, if for no other reason than that nothing worthwhile is being done for the people. Many villagers would like to take land, but it is not being given to them, except for a thin layer that is close to the nomenklatura (for example, chief specialists of sovkhozes). Privatization is not moving. Property is being taken, but it is not being privatized. Appointed by the chiefs of administration, the former communist leaders are doing everything to impede the movement to a market, to help the "impoverished" to become lifeless and to remain on their knees eternally in fear, and to forget that the human brain is supposed to think....

It has been clear for a long time that the nomenklatura is incapable of ruling, especially under conditions of democracy, or we will call it this: the usual thaw. Take at least the problem of Sor-Bulak. Incidentally, in August of this year, the procuracy of the republic, to my amazement, instituted criminal proceedings on the breakthrough of the settlement basin Zhaman-Kum and violations in the construction of the dam. As is well known, a canal is being dug now to Ili in order to discharge Alma-Ata sewage into its channel, thereby ruining the river and Lake Balkhash. Can the soul really be tranquil?

[Gayvoronskiy] *Mels Khamzayevich, what have you achieved in your struggle that is real?*

[Yeleusizov] At one time, I was expelled from the CPSU, for speaking against the Minvodkhoz [Ministry of Water Management], and I was discharged twice from the Kazgiprovodkhoz Institute, where I worked as the deputy director. But this is only incidental. I am pleased that the Ecological Union of Associations and Enterprises has held up its head. But, I repeat, we need a Greens Party. We are being hindered. By whom, you ask. I will answer: by suicides. The same people who cannot understand that you have to breathe clean air, drink pure water, and, most of all, to live, and not only to function.

[Gayvoronskiy] *I learned from our conversation that you are running for deputy to the Supreme Soviet. Where?*

[Yeleusizov] In Medeuskiy Electoral District No. 20 of Frunzenskiy Rayon of Alma-Ata. The elections are scheduled for 3 October. Unfortunately, our voters, who previously became accustomed at elections to acquiring items in short supply and a royal meal, do not willingly go to similar events today. ALL RIGHT, VOTE AGAINST ME, but come.

Kazakhstan: Infant Mortality Attributed to Chinese Nuclear Tests

93US0218B Moscow RABOCHAYA TRIBUNA in Russian 8 Dec 92 p 1

[Report by Yuriy Kirinitsiyanov, correspondent: "Where Does the Radioactive Wind Come From? From China"]

[Text] After every nuclear test at the Lop Nor lakebed infant mortality in Alma-Ata and Alma-Ata Oblast doubles.

That was the conculsion arrived at by the nuclear physicist I. Chastnikov, who is well-known in the Republic of Kazakhstan. Over the course of a long period of time he was employed as the director of the republic-level Institute of Nuclear Physics, and he knows about our neighbors not just from hearsay. These and other previously classified secret data came to light at the conference of the Lop Nor Branch of the anti-nuclear movement known as "Nevada-Semipalatinsk," which is headed up by the renowned poet and public figure, Olzhas Suleymanov. As the crow flies, it is 700 kilometers from Kazakhstan's capital to the lethal testing grounds.

"We hope that—having recognized the Republic of Kazakhstan—the Chinese leadership will take an intelligent and reasonable stance," the conference participants declared. It will be interesting to see whether Lop Nor will be a subject of further negotiations at the time of Nazarbayev's visit to Beijing—an event which is expected to take place in 1993. For the time being, the Kazakhstan authorities are remaining silent on this matter.

Kazakhstan: Low Life Expectancy Linked to Proximity to Aral Sea

PM1812161992 Moscow IZVESTIYA in Russian 18 Dec 92 Morning Edition p 2

[Report by Oleg Stefashin: "You Do Not Live Long Near The 'Dead' Sea"]

[Text] Karaganda—Over the past three years the life expectancy of people in Beyneuskiy Rayon, Mangistau Oblast, has fallen by seven years.

It is now only 55 years and is virtually the lowest in Kazakhstan. According to the experts, the main reason for the high mortality in the rayon, where 74 percent of newborn children are sick or sickly, is its proximity to the dying Aral Sea, which is continuing to have a dangerous effect on people's health. Despite the steps that are being taken in the republic, the problem of the "dead" sea remains unresolved. A Beyneuskiy Rayon Soviet session appealed to the government to declare the rayon an ecological disaster area and to accelerate the implementation of the program to save the Aral.

BALTIC STATES

Baltic Energy Summit Discusses New Reactor for Ignalina

93UN0375F Tallinn THE BALTIC INDEPENDENT in English 13-19 Nov 92 p 6

[Article by Andrzej Jeziorski and Lya Oll: "Energy Ministers Plan New Reactor at Ignalina"]

[Text] Baltic energy officials are discussing plans to build a third reactor at the much-criticised Ignalina nuclear power station in Lithuania.

The announcement comes three weeks after one of the Chernobyl-style RBMK reactors at the site, which generates over half of Lithuania's electricity, had to be shut down following a leak of radioactive gas. Lithuanian officials have said in the past that the power station will be closed down on environmental grounds.

The plans were discussed at an energy summit attended by representatives from the three Baltic States and Belarus, held in Klaipeda, Lithuania, in the first week of November. Following the meeting, Estonian Deputy Energy Minister Arvi Hamburg defended the plan, saying that the Baltic region must consider the future, when Estonia's oil shale deposits may be depicted, making thermal power uneconomical.

Lithuanian Deputy Energy Minister Saulius Kutas added: "I think that in Lithuania we must use nuclear energy. These questions are under discussion, and will be more clear when we put forward our energy strategy in July or August." Mr Kutas said that any new reactor would not be of the discredited RBMK design.

Jan Nistad, head of the Swedish nuclear inspectorate's (SKI) co-operative programme with Lithuania, said that the construction of a new generating unit on the site is a strategy to avoid a potentially-disastrous "brain drain" of the mostly-Russian scientists and technicians who work at Ignalina.

Mr. Nistad said that mounting pressure to shut down RBMK reactors means that these experts may feel that they have no future in Lithuania. "If they leave, you have a reactor which is not the safest in the world, operated by inadequately-trained people—that would be a horrific situation," said Mr Nistad.

Other projects discussed at the summit included the construction of a gas pipeline across the Gulf of Finland, carrying natural gas from Norway to all three Baltic States. Another gas pipeline could bring gas from Russian deposits on the coast of the Barents Sea. Mr Hamburg said that there is an unused 50 billion cubic metre gas tank in Latvia now, and this volume could fulfil Estonia's requirements for 45 years.

Baltic geologists met in Siauliai, Lithuania, on November 10 to discuss oil drilling. Lithuania has announced plans to begin drilling oil fields in the southwest, bordering Kaliningrad, while Estonia is still considering drilling for oil believed to be under the sea between the islands of Hiiumaa and Saaremaa.

REGIONAL AFFAIRS

Russian, Norwegian Ministers Play Down Arctic Nuclear Dangers

PM0412182092 Oslo AFTENPOSTEN in Norwegian 3 Dec 92 p 3

[Ole Mathismoen report: "Calm Sought About Nuclear Waste"]

[Text] Out of fears for their fish exports Norway and Russia have a common goal: calm about the nuclear dumping in the northern regions.

The authorities in both countries have disliked the recent interest in the nuclear submarine which sank in the Norwegian Sea in 1989, and in the rumors and revelations about the dumping of nuclear waste. After three days of talks on environmental problems Environment Minister Thorbjorn Berntsen and Russian Deputy Environment Minister Aleksey F. Poryadin called a press conference yesterday. Both declared repeatedly that all the measurements that have been taken and which are still being taken point to the same conclusion: There is no radioactive pollution which can harm either people or fish.

Thorbjorn Berntsen said that he is still amazed by the large headlines in the media about what is happening and what has happened in the northern regions: "Currently every opportunity is being exploited to create a mood of crisis. I repeat: There is no danger. Speculation only creates uncertainty," the Norwegian environment minister said.

His Russian counterpart announced that a plan has now been drawn up laying down how nuclear waste is to be treated, transported, and stored in Russia in the future. The plan is waiting for approval by the government. Immediately after New Year the Yablokov commission, led by President Yeltsin's environmental adviser, Aleksey Yablokov, will make public a report on all nuclear dumping at sea. Poryadin himself is a member of the commission, and he stated that "the navy no longer dumps radioactive waste in the sea." When he was confronted with Yablokov's own statement to the effect that "the navy is the navy and no civilian authority has control over what it does," he replied: "The official information we have says that dumping is not taking place."

Poryadin was asked whether this difference in view could be due to the navy's practice of diluting waste water so that it remains within the permitted radiation levels. He replied: "I am sure that we will receive an answer to that type of suspicion."

Poryadin dismissed the suggestion that there are plans to destroy chemical weapons in nuclear explosions when the moratorium on nuclear testing expires. But immediately afterward he admitted that he has minimal knowledge about the cooperation in this respect between the part-state-owned company, CHETEK, and the Russian Atomic Energy Ministry. "I can only reassure you that nuclear disarmament is taking place under strict international controls."

In the past few days the Norwegian-Russian Environmental Commission has agreed to organize a new expedition to measure radioactivity in the Barents Sea and the Kara Sea. But Poryadin was unable to guarantee that it will be possible to carry out tests at the exact spots where dumping has taken place—something that was not permitted last summer. The Russians said that the modernization of the nickel plants on the Kola Peninsula had been put out to international tender. Work is expected to start in the first half of 1994. It was also agreed that Norway and Russia will work very closely to produce identical regulations, which will be the strictest possible, before possible future oil and gas production starts in the northern regions. And Deputy Environment Minister Poryadin stated again and again: "The Russia's new environmental legislation gives us the power to check on all objects on Russian soil, including military objects."

Poryadin did not say whether such an arrangement pleases the Russian military.

UK Blamed for Radioactive Residues Off Norwegian Coast

LD0312232692 Helsinki Suomen Yleisradio Network in Finnish 1530 GMT 3 Dec 92

[Text] According to a Russian researcher the highest radioactive levels in the northern sea areas are just off Nordkapp on the Norwegian coast. Western research has also indicated that radioactive substances have travelled from Britain to the Norwegian coast. The newest Russian research was presented at a seminar in Rovaniemi today. Ilkka Ulkuniemi reports:

[Passage omitted] The greatest stir at the seminar was caused by Anatoliy Vinogradov, a researcher from the marine biology department of the Kola Academy of Science in Russia. He aimed at revoking the general assumption that radioactive waste in the northern sea areas would only be from Russian sources. According to him the newest research of the Kola research center implies that the highest radioactive levels in the northern sea areas are off Nordkapp on the northern Norwegian coast and not in the Barents Sea off Novaya Zemlya. [passage ommitted]

According to Vinogradov the highest concentrations of caesium-137 were unexpectedly found off the Norwegian coast and not near Novaya Zemlya or the Kara Sea. According to the research, the residues have travelled with sea currents from the Sellafield nuclear fuel reprocessing plant in England. The Finnish Radiation Protection Center confirms that many western researches have shown that radio active residues travel from Sellafield to the Norwegian coast. The researches have studied the concentrations in bladder-wrack seaweed, because it is a similar indicator to moss and lichen in ground research. The studies searched the concentrations of isotope technetium-99. Thus it has been possible to indicate the source of the emissions as the nuclear fuel reprocessing plant.

FINLAND

Russian Nuclear Units Seen Danger for Lapland

Experts Inspect Kola Plants

93WN0062A Helsinki HELSINGIN SANOMAT in Finnish 28 Sep 92 p C 1

[Article by Riitta Vainio: "Lapland To Get Emergency Water Supply System Because of Risk From Kola Nuclear Power Plants"]

[Text] Water supply officials say that Finnish Lapland must have an emergency water supply costing hundreds of millions of markkas constructed because of the accident risk at the Kola Nuclear Power Plant.

"In Lapland we must prepare for otherwise unnecessary crisis arrangements," says Kaj Barlund, director of the government water and environmental agency. Were a nuclear accident to occur in Kola, it would contaminate the presently usable water reserves in Lapland. Lapland's water and environment district has indeed started planning alternate water supply arrangements. These arrangements include the pumping of ground water from deeper than normal.

As far as is known no other part of the country has begun comparable planning for alternate water reserve sources.

The old, poorly maintained Kola reactor does not have an adequate emergency cooling system and the protective reactor shell does not meet Western or Russian requirements.

The international atomic energy agency, IAEA, has called for an overhaul of the plant.

The oldest units of this Kola Peninsula plant, located on the shores of Lake Imandra, some 100 kilometers from the Finnish border, began operating in 1973 and 1974. The fourth and newest unit was completed in 1984. The two older units have comparably insufficient safety systems. Neither have they had overhauls.

Each of the units is of the Soviet water pressure type and has a capacity of 440 megawatts. The worst accident possible is the meltdown of the core.

Preparations are under way for the beginning of construction on a new 1000-megawatt nuclear plant about 10 kilometers from this present one.

Kaj Barlund, director of the government's water and environmental agency, Kari Kinnunen, chief of the water and environmental agency's Lapland district, and Erkki Tirri, project manager of Imatra Power Company, visited the Kola power plant last Thursday. According to director Barlund the trip was made because of the inconclusive information available in Finland about the condition and history of the plant.

During the visit the head engineer of the plant, Yuri Kolomtsev, said that safety improvements recommended by the international nuclear energy agency, IAEA, had already been performed at the plant. According to him financing and motivated workers were found for doing the repairs.

Exactly what had been done at the plant was not clarified during the conversation. According to the Imatra Power Company representative no significant accomplishments had been made but the nature of the changes had been merely organizational ones that required no money.

Imatra Power is currently planning an overhaul of the plant, for which job the Ministry of Trade and Industry has granted 3.2 million markkas this year.

According to Western estimates the necessary repairs will cost in the neighborhood of 400 million markkas.

Cause of Most Recent Leak Is Still Unclear

During the last few years the plant has experienced many disruptions. As far as is known the most recent one occurred a couple of weeks ago when a leak erupted in the primary circuit.

The managing engineer of the plant, Petr Danilov, explained this disruption using a scale model. The Finnish expert who was there, Erkki Tirri, said that his understanding of the leak is still partially unclear.

Kolomtsev and Danilov gave assurances that they were prepared to continue to improve their plant's safety. They expressed regret about the accident at the Chernobyl power plant. According to them the Kola power plant does not, however, have major problems. They disputed Finnish reports about the radioactivity of the condensed steam.

The radiation doses that plant staff are exposed to are within acceptable limits and none suffer from illnesses, says engineer Danilov. According to him a couple of workers do have radiation injuries, one of them in his eyes, but the injuries are from Chernobyl, where this person worked after the reactor accident.

Director Barlund emphasized that the representatives from Russia and countries bordering it should try to reach the same level in their discussions on safety concerns of nuclear power plants. The participants must know the meaning of each statement. Barlund said also that the financial help from the West could only be a start in the overhaul. He underscored that, in principle, the polluter must pay.

Project manager Erkki Tirri was on his third visit to the plant. According to Tirri, the level of the discussions has improved noticably recently. Concrete matters are already being discussed during meetings of experts.

Lapland Radiation Measured

93WN0062B Helsinki HELSINGIN SANOMAT in Finnish 28 Sep 92 p C 1

[Unattributed article: "Monitoring of Kola Radiation Beginning"]

[Text] The STUK (Radiation Safety Center) is participating in the planning on how radioactivity in the Kola Peninsula will be monitored.

Until now the only monitoring relating to the Kola that has been done in Finland has been of some lichen samples. Their radioactivity has sometimes been lower than radioactivity levels measured in Finland prior to the Chernobyl accident.

Radiation levels in Lapland are monitored by the Weather Bureau and the STUK. Reindeer, lichen, fish, and consumer goods are all monitored for radioactivity. By using these samples it is possible to track how radioactive nuclides are naturally transferred in the environment, how they are accumulating in the food chain of northern Finland, and how badly humans are being exposed to radiation.

The Effects of Chernobyl Can Still Be Detected

The relatively sparsely vegetated environment of northern Finland is conducive to the concentrating of radioactive cesium in the food chain. In April of 1986 Lapland received a lesser precipitation of cesium 137 from Chernobyl, which is located over 1000 kilometers from Finland, than did southern Finland, but, due to northern environmental conditions, greater concentrations are found in edible things. This concentration is also of longer duration and can still be detected.

The Chernobyl accident increased radioactivity levels in lichen, fish, reindeer, and consumable goods. The most notable increase in cesium-137 levels occurred in Suomussalmi in Oulu Province.

Current northern Finnish cesium-137 concentrations in becquerels per kilogram are as follows: reindeer, 450; pork, under 10; perch, under 200; mushrooms, 100-150; wild game meats, 20-150; and in root crops and vegetables, less than one.

Environment Official Comments

93WN0062C Helsinki HELSINGIN SANOMAT in Finnish 29 Sep 92 p 5

[Interview with Esa Kleemola, Kymi water and environment district chief, by Riitta Vainio; place and date not given: "How Our Eastern Border Is Being Prepared Against the Contamination Threat"]

[Text] Water supply planning in Lapland includes the possibility that available water supplies may become unpotable if a serious nuclear accident were to occur at the Kola power plant located some 100 kilometers from the Finnish border.

The Sosnovyi Bori power plant, near St. Petersburg, likewise is about 100 kilometers away from the Finnish border. According to several reports a serious accident at Sosnovyi Bori would spread radioactive contamination throughout southern Finland as well as across a big portion of central Finland. The ground, the forests, and the waters would be contaminated.

[Vainio] *How has your water supply agency prepared for the risk of an accident?*

[Kleemola] The plan for obtaining water supplies during a crisis was drafted in 1988 and its recommendations have been distributed to the rural communities. In Kotka, Anjalankoski, and Vehkalahti it has been carried further and they have set up a shared groundwater pipe. Only 10 percent of it is actual groundwater. The rest is other water processed to be the equivalent of groundwater. In the event of water contamination this processing would not be possible.

[Vainio] *How many people do you have adequate groundwater supplies for?*

[Kleemola] That would depend on how much water would be distributed, but it would not cover normal consumption. Drinking water and other essential uses would be prioritized.

[Vainio] *How would industrial water needs be provided for?*

[Kleemola] Industry relies completely on surface water and it is unthinkable that groundwater supplies would suffice. This is a difficult question; we have concentrated on assuring that the water needs of people will be met.

[Vainio] *Is the danger real in your opinion?*

[Kleemola] Ever since Chernobyl it has been and some progress has been made. We have made action plans based on the presumption that something undesirable would happen and then have hoped that nothing would happen.

[Vainio] *What has been the attitude of the rural communities in this regard?*

[Kleemola] We presented the communities with our report on our understanding. Actual preparations are up to them. How seriously it has been taken varies from one community to another. Kuusankoski, for example, depends entirely on the Kymi River and they have taken it into consideration.

[Vainio] *Is the groundwater in peril of contamination?*

[Kleemola] If we lose our groundwater this would not be a good place to live. This would require so much nuclear waste accumulation that living here would in itself be hazardous. I doubt that anyone has given that sufficient thought but we are basing our plans on the assumption that groundwater reserves should be pretty well protected.

Ministry Group Urges Tighter Effluent Rules

93WN0076A Helsinki HELSINGIN SANOMAT in Finnish 1 Oct 92 p 10

[Unattributed report: "Strict Limits Proposed for Releases Into Sewage Systems"]

[Text] It is felt that standards governing the types of wastewater being dumped into public sewage systems by industrial plants, laundries, and gas stations should be made stricter. A ministry of the environment committee is proposing strict limitations on harmful substances, such as metals and solutions containing petroleum products, in effluent.

The objective of the new regulations is to decrease the damage to the environment, sewage systems, and treatment plants and to increase the usability of wastewater sludge by agriculture.

Until now there have been no official regulations on amounts of effluent or damaging content therein. Even in contracts between communities and sewage system users there have seldom been definite guidelines.

"Most contracts have no limits whatsoever. Regarding the nature of the effluent the only statement is that it cannot cause any special problems for the sewage system or treatment plant operations," says Leena Saviranta, a director in the Helsinki water and environment district.

Industry Offers Dissenting Opinion

Several agreements and orders call for stricter requirements. These include the water resources protection plan for the years through 1995, the Baltic Sea conservation pact, and the guidelines for using treated wastewater sludge for agricultural purposes. The regulations of the EC also call for the adoption of up-to-date practices.

The guidelines proposed by the committee would be used when new contracts are agreed to after the start of next year. Old contracts should be updated to equally strict standards as soon as possible, by the end of 1994 at the very latest. The expedient review of all old contracts is a prerequisite of the adaptation of the EEA [European Economic Area] agreement.

The representative of the Central Association of Industries submitted a dissenting opinion into the proposal. In his opinion the regulations should not take effect until the end of the decade. Also the adaptation of the limits set by the regulations should be reviewed on a case-by-case basis.

Metallic Emissions To Be Restricted Further

In the committee's proposal harmful substance releases have very definite limits. Inorganic substances are classified as being harmful to the operations of the treatment plants, the utilization of the wastewater sludge, or the environment. Examples of such are: mercury, silver, cadmium, chromium, copper, lead, nickel, zinc, cyanide, tin, arsenic, and selenium.

Materials harmful to the sewage system networks would also be regulated by limits. Future contracts would specify upper and lower limits for pH values. The maximum temperature of effluent would be set at 40 degrees Celsius.

Substances that are harmful to sewage system networks include: sulfides, ammonia, sulfates, magnesium, and grease. Another item falling under regulations would be, for example, the petroleum based carbohydrates in effluent from automobile repair shops and service stations.

The limits set by the proposal are characterized as being especially stringent. The new regulations mean headaches, at the very least, for metals industry plants that work on metal product surfaces and plants in the leather industry that use a lot of metallic substances.

"Particularly small metals companies that utilize many different surface treatment methods may have difficulties in the initial treatment of their effluent so that it can be released into the public sewage systems," comments Saviranta.

The city of Helsinki has for years already specified limits in its sewage disposal contracts for, among other things, metal and petroleum-based carbohydrate content in sovents. Some of their limits have already been within the comparable values in the new proposal, but lead content, for example, will be cut in half.

"The new limits specify truly small amounts. In the case of metals, Finland is now considering such small contents that every little flake should now be removed. Every one of the metal surface working plants in the Helsinki region will have to reconsider their operations methods completely from start to finish," comments Yrjo Lundstrom from the Helsinki water and sewage commission.

Impact of Effluent Rules on Pulp Sector

93WN0076B Helsinki HELSINGIN SANOMAT in Finnish 1 Oct 92 p 5

[Article by Riitta Vainio: "Fee Proposed for Wastewater Releases From Forest Products Companies"]

[Text] The government's Agency of Water Resources and Environment is proposing that forest products factories would be charged a fee if their effluent exceeds limits set on wastewater. According to the agency some factories already now purify their effluent to the degree that no fees would be charged.

According to the proposal the fees would not be charged until beginning in 1997, provided the Eduskunta makes a decision on the matter sometime next year. Factories could use the intervening time to improve their wastewater purification methods and thus avoid dumping fees.

All Industry May Face Emission Fees

The final system of emission fees would affect all types of industry, sewage from communities, and fish farms. It was decided to first determine how dumping fees could be used to give direction to the forest products industry, says office manager Emilie Enckell-Sarkola, from the industrial division of the water resources and environmental agency.

According to Enckell-Sarkola bringing agriculture and dispersed habitation under the regulations would be difficult. Discharges originating in farm fields could be limited if the surcharge on harmful substances in fertilizers would be suffiently steep.

Objective Is To Make Treatment More Effective

Dumping fees would be applied to the chemical consumption of oxygen as well as for phosphorus and nitrogen discharges. The objective of the proposal submitted to the Ministry of the Environment, the Water Resources and Environment Agency emphasizes, is to make wastewater treatment by the forest products industry more efficient, and not to provide the government with a new source of revenue.

Calculations based on present effluent amounts and currency values show that in 1995, for example, the forest products industry would pay 800 million-1,000 million markkas to the state in dumping fees. To avoid these fees industry would have to construct 400 million-500 million markkas worth of treatment apparatus.

Dumping Fees Are Used in Germany

If the factories would do nothing to protect water resources and the environment the fees would amount to 80 markkas per ton of processed cellulose and about 35 markkas per ton of paper or cardboard. This additional cost would be about 4 percent of the selling price of cellulose and about 1 percent for paper or cardboard.

In Germany various dumping fees paid by industry and communities to the state amount to 15 billion markkas. If Finland were to use the same basis as Germany for charging fees, the total would come to 1.3 billion markkas.

Some Are Already Meeting Standard

According to the proposal from the water resources and environmental agency, the goal for sulfates-based pulp industry, is to limit the consumption of chemical oxygen to 30 kilograms per ton of bleached cellulose, 10 kilos per ton of unbleached cellulose, and five kilos per ton of paper or cardboard production.

The phosphorus limits would be: 45 grams per ton for bleached cellulose, 20 grams per ton for unbleached cellulose, and eight grams per ton for paper or cardboard production.

The limits per ton for nitrogen would be: 300 grams for bleached cellulose, 150 grams for unbleached cellulose, and 100 grams for paper or cardboard production.

According to a determination by the Water Resources and Environment Agency, the Aanekoski factories of Metsa-Serla and Veitsiluoto in Oulu already meet these standards. Among paper mills current emission levels would allow the Jamsankoski, Myllykoski, and Kaipola plants, among others, to avoid fees.

The proposal to establish dumping fees is based on an opinion, expressed three years ago by the Environment and Economy committee, that the water conservation fee should be modified so that it would give guidance on ways to protect the water resources. The committee that was named by the Ministry of the Environment began to consider specific economic means that could be used for this purpose, and the final task of determining the amounts of dumping fees was given to industrial division of the Water Resources and Environment Agency.

Water Resources and Environment Agency Wants To Be an Agency of Permanent Improvement

On its sixth birthday the Water Resources and Environment Agency gave the forest products industry a gift that the recipient will possibly never forget: The agency proposes that the industry must pay the state money for pollutants discharged into the environment if the amount of such pollutants exceeds a specified limit. Presently such discharges are perhaps reported by the media, there may be a mild punishment for breaking the conditions or the law, but the economic nuisance factor of doing so has been insignificant to the companies.

The agency is also proposing that, instead of being terminated, it become a specifically designated, permanent improvement promoting agency that would be responsible for the progress of protecting the environment in Finland.

Kaj Barlund, chief of the Water Resources and Environment Agency, disputes the claim that the change to an agency of permanent improvement is a loophole for avoiding the death sentence for all central agencies in Finland.

"In the Finnish situation this is a far-reaching and radical proposal, that would mean furthering the cause of environmental protection in government, without huge increases in expenditures," said Barlund.

The offer includes taking concrete steps to protect the environment, and do research and monitoring with the present manpower and financial resources of the Water Resources and Environment Agency. Energies would be redirected, for example, as follows: Flood protection, wetlands draining, and peat production improvement would be abandoned while energies would be applied to improving environmental protection measures. Coming up with improved ways to make a living would not be a part of the agency's work, says Barlund.

Work Center To Process Satellite Data for Environmental Projects

93WN0076C Helsinki HELSINGIN SANOMAT in Finnish 16 Oct 92 p 8

[Unattributed report: "Finns Want To Create Information System for Preventing Environmental Destruction"]

[Text] Some Finns are beginning to plan a project centering on a work station relying on satellites, that would be used for the prevention of damages caused by natural disasters. The project is part of the UN's ongoing decade of focusing on preventing natural disasters.

The project was presented by the council of the Rescue Institution at its seminar in Helsinki.

The work center would process satellite data on floods, volcanic eruptions, and other natural disasters. It would utilize geographical information on the location of the disaster such as elevation differences, roads, and population centers as supplementary data for performing its task.

GERMANY

Recycling Legislation Reviewed

Goals, Implementation Outlined

93WS0005A Duesseldorf VDI NACHRICHTEN in German 4 Sep 92 pp 1, 8

[[Article by cf: "Scrapped Cars Being Recycled"]

[Text] For many the surprise came in the middle of the summer hiatus: A few days ago, Environment Minister Klaus Toepfer sent off the new Old Car Ordinance. As of the middle of next year, motor vehicle manufacturers will presumably have to take back old cars for disposal from the last owner at no cost. As a second goal, the ordinance stipulates that motor vehicles have to be designed so that they can easily be dismantled and their material recycled.

Almost all the major German automobile manufacturers are now using pilot facilities to test the possibilities of complete recycling. A number of technical questions have not yet been solved; reusing synthetics, glass and tires, for instance, is still creating difficulties. Even so, according to the result of a new industry report by the market research company AIK in Krefeld, it is possible to make a profit from a scrapped car which covers the costs of disposal without the recyclers having to charge a scrappage fee from the car owner.

The people in charge at the Kloeckner group in Duisburg believe that a nationwide return system for scrapped cars with subsequent reprocessing could be lucrative. The first pilot plant is scheduled to begin operation in Hamburg as early as next year.

Draft Bill To Recycle Old Cars

Beginning with the middle of next year the Ordinance on Avoiding, Reducing and Recycling Waste From Motor Vehicle Disposal, abbreviated as Old Car V, will take effect. This is approximately how long it will take until the draft bill presented by Federal Environment Minister Klaus Toepfer on 18 August has been approved by the cabinet and published in the Federal Gazette. Three months after this publication the ordinance will then take effect. Following are some excerpts from the draft:

Article 1. Waste Management Goals

Waste from the disposal of motor vehicles must be avoided and reduced through these measures:

1. Motor vehicles and their components, spare parts and replacement parts as well as accessories will be developed, designed and manufactured in such a way that they can achieve the longest possible useful life, be easily disassembled and, as far as is technically feasible, their components may be reused or their material recycled;

2. In manufacturing motor vehicles, individual components, replacement and spare parts, as well as accessories, materials will be used which facilitate reuse of the material, have standard characteristics and in other ways enable environmental disposal;

3. After completed dismantling, recyclable components will, if possible, be reused in automobile construction or as replacement parts, and non-reusable components will primarily be recycled for their material, whereby the recycled materials obtained will—as far as is technically feasible—be used in automobile manufacture.

Article 2. Application Area

The regulations in this ordinance apply to anyone who professionally or on the basis of a business enterprise or public facility within the scope of the Waste Law

1. Manufactures or imports motor vehicles or replacement and spare parts, accessories and other components which serve to operate an already registered motor vehicle (producers);

2. Markets replacement and spare parts, accessories and other components which serve to operate an already registered motor vehicle, regardless of which marketing stage (marketers).

The regulations of this ordinance further apply to the owner of a motor vehicle (last owner).

Article 3. Definitions

1. Motor vehicles in the sense of this ordinance are passenger cars, mobile homes and campers, and commercial motor vehicles.

2. Old cars in the sense of this ordinance are motor vehicles, which have been irrevocably immobilized or after a period of one year following temporary immobilization have been declared irrevocably withdrawn from traffic.

3. An end user in the sense of this ordinance is anyone who does not further sell the replacement or spare parts, accessories and other components in the form sold to him.

Article 4. Obligation to Take Back

1. The manufacturer of motor vehicles is obligated to take back old cars from the last owner. This obligation is limited to old cars of his manufacture.

2. The return as stated under Item 1 must be assured by means of appropriate return systems. Return locations must be set up at least in the denser areas of the distribution network. If a corporation responsible for disposal has a region in which there is no sales outlet for the make of car in question, either a return location or a pickup system must be set up, through which the old cars can be fetched from the last owner.

3. The return as stated under Items 1 and 2 must basically take place free of charge for the last owner. Exceptions to the free return are, for example:

—stripped old cars, meaning old cars which have had parts necessary for operation removed;

—old cars, which are equipped or contaminated with parts, solid substances or liquids which for that reason influence recycling or disposal of the material;

—vehicles damaged in accidents, when disassembly is technically impossible;

—motor vehicles registered before this ordinance takes effect, if the disposal costs exceed the profit from the resulting materials and for which the manufacturer has published the model, year of manufacture and cost of disposal.

4. Sellers of replacement and spare parts, accessories and other components which serve to operate an already registered motor vehicle are required, when selling such a component, to take back a similar, used component from the end user to the sales outlets. If a used component is not available in connection with the purchase of a similar component, the seller is obligated to issue the purchaser a credit slip for the later return, free of charge, of a similar, used component and to accept such a component against the credit slip.

5. Manufacturers and sellers of replacement and spare parts, accessories and other components serving to operate an already registered motor vehicle are required to take back free of charge the components returned by the seller in accordance with Item 4. Article 4, Item 4, paragraph 2 applies correspondingly.

Article 5. Recycling Obligations

1. Manufacturer and seller are obligated to submit the old cars, replacement or spare parts, accessories and other components received back in accordance with Article 4, insofar as technically feasible, for reprocessing or primarily recycling of the material.

2. In order to assure extensive recycling, after taking back the old car from the last owner, all fuels and other parts which affect recycling of the material must be removed and transferred to separate, nonpolluting disposal. Reusable materials and components which can be recycled must, insofar as is technically feasible, be removed.

Article 6. Recycling Goals

Based on the recycling obligations under Article 5, reuse or recycling of the individual materials to at least the following extent must be attempted:

Material	Reprocessing and Recycling of Material in Percent by Weight	
	1996	2000
Steel	approx. 100	approx 100
Nonferrous metals	85	90
Synthetics	20	50
Tires	40	50
Misc.		
Elastomers	20	30
Glass	30	50

Article 7. Commissioning a Third Party

Manufacturer and seller may make use of a third party to meet the obligations determined in this ordinance.

Article 8. Accountability of Manufacturer and Seller

Manufacturer and seller must show proof of recycled materials and of other disposal of received materials.

Article 9. Obligations of the Last Owner

The last owner of an old car must after using it leave it with the manufacturer, a third party commissioned by the manufacturer or other recycling operation in such a way that environmentally harmless disposal is assured.

Article 10. Violations

A violation in the sense of Article 18, Item 1, No 11 of the Waste Disposal Law is committed by anyone who deliberately or negligently

1. In violation of Article 4, Item 1, does not take back old cars from the last owner,

2. In violation of Article 4, Item 2, does not assure that they are returned by means of an appropriate return system,

3. In violation of Article 4, Item 3, paragraph 1, does not take back the old cars without charge from the last owner,

4. In violation of Article 4, Item 4, does not take back replacement parts, spare parts and accessories without charge,

5. [omitted in original]

6. Does not cause the old cars returned in accordance with Article 4 either to be reused or have their material recycled,

7. Does not remove the fuels and other parts which affect recycling of the material and does not have them disposed of in a separate, nonpolluting process.

Proof of the last ownership for fulfillment of the obligations under Item 1 may be given by presenting a corresponding certificate to the motor vehicle registration office.

[Photo caption; photo not included] When the old car ordinance, as proposed by Federal Environment Minister Toepfer, takes effect, the scrap heap will no longer be the end of the line but the beginning of a chain of recycling.

Implications, Costs Discussed

93WS0005B Duesseldorf VDI NACHRICHTEN in German 4 Sep 92 p 7

[Article by Hartmut Kowsky-Kawelke: "The Second Life of a Car"]

[Text] The auto industry appears speechless, the scrap association is deliberating and even the ADAC [General German Automobile Club] must "first take a closer look at" the new draft bill from the Federal Environment Ministry. In August, in the middle of the summer hiatus, the federal environment minister sent down his new old car ordinance. The most controversial item in it is the issue of cost.

At present, according to the Federal Motor Vehicle Office in Flensburg, 36 million cars are driving on German roads. About 2.6 million vehicles are scrapped each year, says the

Federal Environment Ministry (BMU). But only 10 percent of the accumulating old cars, according to the BMU, have their old parts partially reused. Only for the metals steel and aluminum is there any significant reprocessing even today.

The BMU stipulates in the new ordinance "on the avoidance, reduction and recycling of waste from motor vehicle disposal" that the manufacturer must take back and largely reprocess the motor vehicles. Further, motor vehicles and motor vehicle parts must be so designed that they can easily be dismantled, reused as components or have their materials recycled. Also, the components and materials used in the manufacture of motor vehicles must be identified, in order to simplify type-pure disposal.

The old car ordinance stipulates that an old car will be recycled by the manufacturer or by disposal companies authorized by the producer. Several recycling projects by various auto makers have shown over the past year what that looks like in practice. First, the scrapped car must be drained; operating fluids, gasoline and brake fluid are removed and reserved. In a second step all the reusable parts are dismantled and separately kept.

The obligation to take back cars applies initially to the manufacturer and also contains the establishment of a nationwide return system. The return is to be free of charge for the last owner of the motor vehicle. However, this does not apply to already stripped vehicles and to accident-damaged vehicles, for which dismantling would be very expensive.

The new ordinance—analogous to the packaging ordinance—formulates parameters for the recycling rates for the various materials (see also page 8 [previous article]). According to the ratios mentioned, all the steel is to be reused as early as 1996. The ratio of synthetic parts will be 20 percent in 1996 and 50 percent in 2000. For tires the ratios are 40 percent in 1996 and 50 percent in 2000.

Along with the old car ordinance, in the future the Federal Environment Ministry will regulate the handling of so-called shredded light waste. At present about 450,000 tons of residue annually results from grinding up scrapped cars in the shredder, residue which in part is contaminated with pollutants and is usually deposited in dumps. Because of the high proportion of organic materials, in the future this light refuse will no longer be dumped but almost exclusively burned. The increasing proportion of plastics in the car—in 1979 not quite 3 percent synthetics was used in the passenger cars, in 1991 it was 13 percent—will also contribute to the further growth of shredded light refuse mountains in the future.

Although the affected trade associations showed themselves surprised by the old car ordinance, the environment minister's drive is not a lightning bolt from a clear sky: Klaus Toepfer announced as early as the fall of 1990 that the auto industry would be required to take back its product. Since then those involved have primarily been fighting about who would bear the cost. The auto industry has frequently stressed in the past: "Disposing of millions of vehicles cannot be done for free."

According to calculations by the ADAC auto club, disposal of a passenger car costs between 190 and 245 German marks [DM]. At BMW the pilot projects showed that a vehicle of this make costs about DM 200. VW and Opel, on the other hand, state amounts between DM 300 to DM 400. The disposers are able to offset the profit from the various useful materials against these costs.

At the International Auto Expo in September 1991, VW and Opel in a surprise move supplied a return guarantee for all vehicles of the Golf III and Astra models after the 1992 year of manufacture. Ford and Mercedes also declared themselves ready to take back the new models without charge.

At the time Toepfer reacted with violent criticism. He pointed out that solutions for the already registered passenger cars had to be found. A series of auto makers such as BMW afterwards extended their willingness to accept cars to include older model years.

Meanwhile, nearly all auto makers have begun to develop pilot projects and disposal concepts for taking back passenger cars. The Ford works in Cologne, for example, began operating a pilot plant to dismantle old vehicles in 1991. Ford's first "licensed car recycler in southern Germany," the Gross company in Koengen near Stuttgart, has now begun operating. "It is ecologically and economically sensible," stresses Ford CEO John Hardiman, "to utilize the know-how of the recycling industry in the vicinity of the customer."

Despite the long preparation time, the manufacturers are refraining from commenting on the old car ordinance. VW executive board member Ulrich Steger welcomes it that in the draft the return of already registered cars is not free for auto owners. To be sure, the ordinance allows for the possibility that the auto maker may be released from taking back for free all vehicles registered before the ordinance takes effect, if he proves that the recycling costs of the vehicle exceed the profits from the usable materials. "With that the environment minister once again waffles on the cost issue," in the opinion of Ulrich Leuning, head of the Auto Disassembly Section of the German Scrap Recycling and Disposal Association in Bonn.

At the Federal Environment Ministry the intent is to use this passage to touch off a competition between the auto makers: The producer who offers the car owner the cheapest disposal will receive access to the old car market faster. In fact, however, with this Toepfer distances himself from the focus of the old car ordinance, that the return of the car should be free for the last owner.

The last word has not yet been said. On 23 October, trade associations, institutions and interest groups will present their positions and bring up proposals for changes at a hearing on the draft ordinance. The schedule provides for the ordinance presumably to take effect in April 1993. Vehicles registered after that must be taken back free of charge by the auto makers. But the industry does not agree to that and has already announced its desire to talk with the environment minister in a small group.

Synthetic Materials, Glass

93WS0005C Duesseldorf VDI NACHRICHTEN in German 4 Sep 92 p 7

[Article by cf: "Scrapped Cars Are Worth Money"]

[Text] How quickly can the old car ordinance be put into practice? Many technical problems have not yet been solved. Even so, it is possible, according to a new study by the AIK consulting company in Krefeld, to make enough profit from a scrapped car to cover the disposal costs even without a scrappage charge. In the following AIK business manager Edgar Kohlhaas supplies an overview of the present recycling possibilities.

Almost all the major German auto makers are today testing in pilot plants the possibilities of total recycling. Common to the concepts is that the first step is to drain the vehicle, after which follows disassembly, and the last step is the shredder. It is important to find a concept for reuse which functions for various makes.

The auto industry has declared itself ready to assist the further development of the recycling industry which has become necessary through the old car ordinance. A structural analysis of this is being undertaken at present. Meanwhile, it has also been clarified that the raw material industries are willing to take back their products such as oils and operating fluids, synthetics, glass and tires.

Even with the most modern plants a scrapped car cannot be completely recycled, however. Shredders, scrap recyclers and dump operators have problems with rubber, glass, textiles, paints and toxic fluids. Residual shredded waste, which at about DM100 per ton could still be relatively cheaply dumped, always remains behind. But in the future the legislator wants to declare shredded waste as special waste, which allows disposal costs to climb to at least DM 600 per ton.

The new ordinance will change the range of materials in the car. The auto industry predicts that by the mid-1990s the proportion of synthetics in a mid-size car will be 18 percent, the proportion of steel and iron 63 percent and the aluminum share 6 percent. Substituting steel and iron for synthetics will slow down, contrary to earlier expectations. Longer-term prognoses up to the year 2000 foresee the proportion of steel and iron dropping to 60 percent, synthetics growing to 20 percent and aluminum to 10 percent.

The auto and steel industries agree that by the end of the 1990s the car will contain up to 15 percent aluminum. The chances for growth in the synthetics field vary. The polycarbonates, polyamides as well as polyethylene terephthalate are predicted to grow sharply, while the share of PVC in the car will drop. The auto makers are further planning a completely halogen-free vehicle, which would mean giving up PVC.

Recycling the individual materials and components has progressed at varying speed. Steel and aluminum pose no problem, since their recycling ratio is 100 to 98 percent—this covers 75 percent of a car. It becomes more problematic when recycling the remaining 25 percent shredded waste, which until now has resulted from scrapping. One-third of this shredded waste consists of mixed synthetics; collecting it in a manner that separates the types is the key to success.

More than 30 percent of the shredded synthetics is rubber. Until today it has not been possible economically to extract a secondary raw material from it. Glass represents about 15 percent of the shredded waste; the high demands on auto glass makes recycling difficult, if not impossible, here as well. For brake and cooling fluids a method was developed by the Association for Environmental Technology in Eppingen, with which glycol-containing operating fluids can be reprocessed. In recycling catalytic converters the industry is still awaiting an upswing.

Recycling synthetics is not yet satisfactory today, and the many varieties and material combinations complicate their reuse. Based on about 3 million new registrations a year in 1990, in the future about 300,000 tons of old synthetics will accumulate annually from cars in the old laender.

Despite all the technical difficulties and unclarified questions, the summary must be that a scrapped car is nevertheless worth money. The proportion of its steel and nonferrous metals alone yields about DM345 right now. If today's 5-percent aluminum share were to increase to 25 percent, the scrapped car would then be worth more than DM900—more than enough to cover the costs of disposal even without charging the much-discussed scrapping fee.

BMW Official Interviewed

93WS0005D Duesseldorf VDI NACHRICHTEN in German 4 Sep 92 p 9

[Interview with Klaus Vornberger, head of BMW's disassembly pilot plant, by CF [VDI NACHRICHTEN], date and place not given: "The Market Should Determine the Price for Auto Recycling"]

[Text] In order that the most economical and nonpolluting recycling and disposal may be assured, according to Klaus Vornberger, head of the disassembly pilot plant at BMW, the entire recycling chain should be controlled by the vehicle manufacturer. Thus, even the continued technological development of the vehicles could be monitored and controlled in the sense of creating genuine material cycles.

[VDI NACHRICHTEN] The new return ordinance provides for the auto industry to take back without charge those cars which are registered after the ordinance takes effect. What will happen to the 36 million cars which are already rolling on our streets?

[Vornberger] Our company is not the only one, but some other car makers have also for years to some extent been occupied—independent of the legislation—with environmentally safe recycling of old vehicles. The result is the comprehensive concept for the future return and recycling of old cars worked out in cooperation with the other German car makers, as well as partners involved in the supply and raw material industries. The most significant

points of this concept have now not only been accepted and adapted all over Europe, but in the United States and Japan as well.

[VDI NACHRICHTEN] The perpetrator principle is one of the core requirements of the German environmental policy. Why has not the German automobile industry focused on this for a long time?

[Vornberger] On the occasion of the presentation on 18 October 1991 of the first recycling operation designated by an auto maker and operating according to its guidelines, BMW announced that all models built by us will be taken back. This is done according to the basic market-economic mechanisms of free pricing between the last owner of the old car and the recycling operation. In the meantime, additional enterprises in Germany, as well as in Austria, Switzerland and the United States are being selected and designated. The building of a nationwide recycling network will be pursued.

[VDI NACHRICHTEN] The undersecretary of the Federal Environment Ministry recently complained that the auto industry could not possibly be allowed to wait to make recycling available until the year 2005. He demands solutions which take effect much sooner. Is this realistic?

[Vornberger] With the establishment of a nationwide recycling network and the recycling certificate we require, comprehensive recycling or disposal of old vehicles can already take place significantly sooner (about five years).

[VDI NACHRICHTEN] Right now 450,000 tons of shredded light waste is being deposited in dumps. Does the industry have any proposals ready for environmentally compatible reprocessing or recycling?

[Vornberger] In order for shredded residue not even to occur, it is our principal goal to close as many material cycles as possible before the shredding process by means of technically and economically optimal dismantling. Where this course does not appear sensible for financial reasons, a combined process of chemical recycling (such as pyrolysis) with energy utilization (thermal post-treatment), as is demonstrated by KWU's [Kraftwerk-Union] so-called low-temperature carbonization method, could be used. This could be used to provide maximum recycling of shredded residue material.

[VDI NACHRICHTEN] How do you evaluate the technical opportunities available right now for reusing individual materials from old cars?

[Vornberger] Not everything that is technically feasible is ecologically as well as economically sensible. The material ratios required ("to be attempted") within the framework of the recycling goals of the old car ordinance are to some extent impossible to achieve in the medium term, both as regards adherence to and checking and verification of them. This applies less to steel and nonferrous metals, but particularly to "other elastomers" and "old tires."

[VDI NACHRICHTEN] Are the automobiles now on the market at all recycling-friendly? Does the same apply to imported cars (Japan)?

[Vornberger] Some. For example, in its approach the current 3-series BMW has been developed and produced in environmentally compatible and recycling-friendly ways, which is primarily shown by a recycling ratio of more than 80 percent by weight (empty weight of the vehicle without special equipment). For future vehicles we attempt increasingly higher recycling ratios (overall vehicles). The "top of the flag pole," in our view, lies at 90 to 95 percent recycling of material for large-series vehicles.

[VDI NACHRICHTEN] How much will Toepfer's demands affect the design of future models?

[Vornberger] The goal of developing and producing qualitatively high-grade products in an environmentally compatible way is already being pursued by everybody! What has been added now is the achievement of a maximum degree of recyclability of the entire vehicle. To this end we are studying environmentally clean design/construction of current and future vehicle generations in the pilot dismantling plant we have operated since 1990.

[VDI NACHRICHTEN] Will there soon be an easily dismantled passenger car with modular construction?

[Vornberger] Easy disassembly design is an elementary component of vehicle design suitable for recycling.

[VDI NACHRICHTEN] Who will have to pay the costs of the "old car return ordinance"?

[Vornberger] We are still convinced that free pricing between the last owner and the recycling operation is the more sensible way to go.

It may be assumed that for future old vehicles German manufacturer will cover the recycling costs with profits from the materials and a residual value will be left over for the last owner.

[VDI NACHRICHTEN] What support does the car industry expect from the politicians/legislators in order to be able to put into effect the most promising recycling concept both ecologically and financally from today's aspect?

[Vornberger] Shortening the licensing procedures and providing help in processing the applications. The necessary acceptance by the population must be created for this reprocessing and its facilities.

Realistic material utilization ratios must be set.

Prices must be allowed to develop freely—even for new vehicles—at the interfaces between the last owner of the old car and the one who takes it back and all recyclers and reprocessors involved.

PRAVDA

The BMW, Ford, Mercedes-Benz, Opel, Porsche and VW companies have joined together in the Project Team Recycling of Old Vehicles of the Association of German Automobile Manufacturers (PRAVDA) in order jointly to develop concepts for recycling old cars.

Local Company Discusses Efforts

93WS0005E Duesseldorf VDI NACHRICHTEN in German 4 Sep 92 p 10

[Article by Rudolf Schulze: "Old Cars Become a Source of Useful Materials"]

[Text] The Duisburg group Kloeckner & Co. is entering the market with a concept that already corresponds with the old car ordinance presented by Federal Minister Klaus Toepfer. The first pilot plant for motor vehicle recycling will begin operation in Hamburg as early as next year.

In the future motor vehicle manufacturers will have to take back and dispose of cars from the last owner free of charge. This is required by the "Ordinance on Avoiding, Reducing and Recycling Waste from Motor Vehicle Disposal," abbreviated as Old Car V, presented by Federal Environment Minister Klaus Toepfer on 18 August 1992. With an annual accumulation in the FRG of about 2.6 million old cars that had to be disposed of already in 1991, this is not an easy logistics task.

This creates new business fields, which, although they are able to reach back to proven techniques in some fields, must produce pioneering services particularly in recycling synthetics.

"On the one hand we regard the old car as a source of raw and useful materials, but on the other hand a future supplier to the auto industry must also be capable of offering recycled products," is graduate engineer Karl-Heinz Doerenkamp's comment on the development. As early as 1990 he was delegated by the executive boards of the Kloeckner & Co. Trading Company and the Kloeckner Works to deal with recycling concepts within the group: "Kloeckner & Co. has been active for several decades in the secondary raw material extraction field. Today five modern shredder operations are processing the old car bodies delivered to them."

After an investment plan to be presented even this year, together with partners the group intends to have a nationwide network for auto recycling set up in 1996. "Then car owners can deliver their old car to about 150 return centers," as Thomas Kraemer describes the outlook. Previously Kraemer worked as a sales director for tire reprocessor Vergoelst; today he is responsible for automobile recycling at Kloeckner & Co.

But auto recycling costs a lot of money to start with. The owner will have to pay up to DM 300 for disposal of his vehicle if it was bought before the old car ordinance takes effect; later, the auto companies will assume these costs. "This amount can only serve as an approximate guide at this time," according to Kraemer, because in practice these costs can be offset against the salvage value of the cars—if the engine can be resold, for example.

Kloeckner & Co. is looking for a partnership with regional auto recyclers, for example as a return location. These old car return locations will not look like scrap heaps, but here is where services are to be rendered ranging from pickup, deregistration and loading to recycling the motor vehicle. Ideally, according to Kraemer's information, the people working in such a field will be experts who estimate the value of the car, decide which parts can be resold and which car is ready to be scrapped and directly recycled as a source of useful materials. After that these vehicles will "relatively quickly"—according to Kraemer—be shipped to the intermediate recycler. A network of about 80 to 100 of these intermediate recyclers will accept old vehicles in the FRG.

The intermediate recycler drains the vehicle, meaning he removes all fluids from the vehicle, dismantles tires, glass panes, seats and larger synthetic parts and sorts them, insofar as identifiable, into types. "When dismantling parts we can proceed according to the handbooks which were made available by the car makers. They also provide the addresses of companies which accept the resulting raw materials, if we cannot reprocess them in our own group," Kraemer describes the process.

Doerenkamp allocates DM10 to 12 million to the establishment of an intermediate recycler if built from scratch. This amount includes the investments for sealing the ground against seepage from fluids, storage spaces, disassembly halls and high rack storage.

In order for these investments to be profitable, when completed about 20,000 to 25,000 old cars will have to flow through such a factory per year. For the first pilot facility in Hamburg, to be built jointly with the Kiesow company, Doerenkamp calculates that in 1993 6,000 vehicles a year will be drained and disassembled there.

But the accumulating synthetics differ considerably in their composition. "Even ABS, depending on the manufacturer, is not identical to the ABS from another manufacturer," Kraemer analyzes. While type-pure synthetics can be sorted according to vehicle manufacturer and product type and delivered ground up for recycling to companies, ways must be found to recycle synthetic compounds and the subsequent synthetic residue from the shredder facilities.

The vehicles begin their last journey from the intermediate recycler to the shredder facility pressed flat. The result here, after the comminution, is sorted magnetically, by means of eddy currents or the sink-float process according to iron, nonferrous metal, aluminum or—in the future—synthetic waste. This reduces the amount of pure waste considerably.

The 30 to 50 percent by weight synthetics in the shredded waste results in a mixture with a caloric value similar to brown coal. But whether the stuff will also be burned is something only the future will tell. Doerenkamp believes that a way to recycle will open up here as well, because the parameters of old combustion facilities of 20 years ago cannot be compared to those in future thermal or power plants.

Another way to recycle has been found by the company's subsidiary Er-We-Pa in Erkrath, in cooperation with Kloeckner group subsidiaries and higher education researchers, for the mixed synthetic product that results. In

the extrusion process a "synthetic oil" is produced, which, for example, could be used in blast furnaces as a reducing agent, Doerenkamp hopes.

Doerenkamp mentions the following to prove that the entire recycling chain balances out: During shredder operation the costs of disposing of the shredded residue drop, since about 40 percent are removed as synthetics and transferred to the extrusion recycler. The latter again gets revenue from selling his end product, for example as a heavy oil replacement, to blast furnace operators. They, in turn, could be motivated to use the "synthetic oil" with a price that is lower than that of heavy oil.

Sources of income for old motor vehicle return locations and intermediate recyclers are the amounts they charge the car owner or car makers for the obligatory disposal as well as profits earned from selling parts or—later on—raw materials.

The concept will also be profitable for Kloeckner & Co. Not only can its subsidiaries sell their recycling technology, but they can make a closed recycling chain available to their own auto supply companies. But they must anticipate competition, both Doerenberg and Kraemer are realistic about that. Exclusive contracts with car makers regarding the return of cars have not been done before.

The entire concept of old car return locations would be greeted by the auto makers, one hears. What Kraemer does not mention but can be heard in the industry is: The car sales outlets do not want to destroy the noble impression of their establishments by the delivery and parking of scrapped cars.

The planned old car ordinance can become an economic program for those enterprises which at an early stage get involved in solving the problems of recycling.

Police Seize Caesium, Plutonium, Arrest 16 Suspects

AU0812164092 Paris AFP in English 1622 GMT 8 Dec 92

[Text] Munich, Germany, Dec 8 (AFP)—Bavarian and Austrian police have made 16 arrests and seized two caches of plutonium and caesium in the latest swoop on smugglers selling radioactive material from eastern Europe, police announced Tuesday.

After a "weeks-long undercover operation," detectives on both sides of the border seized a suspected gang that was demanding at least 21 million marks (13 million dollars) for the substances, which were highly dangerous but except for a tiny amount could not have been used to build a bomb.

The Bavarian criminal police said the suspected middleman, a 37- year-old local salesman, was seized at a local motorway restaurant last Thursday, where detective found 383 plutonium-irradiated items in a document case in his car boot (U.S. trunk), the police said.

At the same time they arrested nine suspected accomplices in Munich, including a Belgian private detective armed with two pistols who was suspected of having brought in the material from Vienna, they said.

On Friday, police staked out a Munich car park where they arrested two other men, a 49-year-old Pole and a 37-year-old German, who allegedly were offering caesium-137 for sale, they said.

Police found a 25-kilo (55-pound) lead container in their car which held caesium and was found to be giving off "substantial levels of radioactivity" despite the protective casing, the statement said.

The Pole was found to be contaminated by radioactivity and was given medical tests to see if his health had suffered, they said.

At the other end of the network, police in Vienna arrested a German, a Czechoslovak, a Hungarian and a Greek woman over the weekend, they said.

The plutonium came from somewhere in the former Soviet Union while the caesium came from the Ukraine, detectives believed.

The gang was seeking 18 million marks for the plutonium, which is not sold commercially, and "several million" for the Caesium, which had only a commercial value of 15,000 marks (9,400 dollars), a police spokesman said.

The plutonium was weapons grade, but in all, there was only "between one and one and a half grammes" of it, he said.

Plutonium is the most toxic substance known to Man. Inhalation of only 0.05g usually causes death within two months. Caesium is widely used in medical and laboratory devices.

It is the fifth known scandal this year involving Germany as a crossroads for trafficking in radioactive substances. In one case, Munich police seized 2.2 kilos (4.6 pounds) of highly radioactive uranium, and in another, seized a Briton suspected of trying to arrange a deal with Iraq.

IRELAND

Radiation Levels in Irish Sea Decrease

93WN0154A Dublin IRISH INDEPENDENT in English 15 Oct 92 p 16

[Article by Jerome Reilly]

[Text] Radiation levels in the Irish Sea from Sellafield have decreased significantly since the early 1980s, according to the chairman of the Radiological Protection Institute of Ireland.

The Institute, which took over the functions of the now defunct Nuclear Energy Board, continues to closely monitor radiation levels in the seas around Ireland.

But while it believes there is no significant health hazard from Sellafield, chairman, Dr Mary Upton said yesterday that the agency, nevertheless, regarded any release of radioactive as a problem.

"Accordingly, we are very unhappy with the situation," she said in a radio interview.

"We are opposed to the consequences of Sellafield insofar as there is an increase of radioactivity to the Irish people," Dr Upton, a lecturer at the Department of Industrial Microbiology at UCD, declared.

NORWAY

Nuclear Dumping in Barents Sea Continues

93WN0133A Oslo AFTENPOSTEN in Norwegian 9 Nov 92 p 13

[Article by Ole Mathismoen: "Russia's Nuclear Dumping Continues"]

[Text] This week the parties to the London Convention are meeting in the British capital. The Convention prohibits the depositing of radioactive materials in the sea, and the Russian dumping will be discussed. The environmental institution Bellona has been in touch with several official parties at Kola during the last year who have informed them about the history of the dumping there, about the present practice, and about the amount allegedly dumped.

Press spokesman Per Bothun at the Defense Supreme Command confirms that the dumping of radiologically polluted water still continues. Several times during the last years Norwegian surveillance planes have photographed heavily loaded ships on their way into the Barents Sea, and again on their way back, empty:

"During the last year the pieces have fallen into place since our hypotheses have been confirmed by sources at Kola. The military vessels pick up radiologically polluted water at the bases and at the submarine yard at Severodvinsk and from there carry it into the Barents Sea," Bothun says.

Since the Murmansk Shipping Company, which, among others, had employed the ship Serebryanka, has halted its civilian dumping traffic, the military vessel, Amur, and 4-5 military vessels of the Vala class have been doing the dumping of radioactive cooling water. Whether the military continues to dump containers filled with solid waste is quite unknown. This comes in addition to a long-standing practice of dumping solid waste in containers, reactors from ships and submarines, and on occasion entire condemned ships.

Secret

Much of the story behind the dumping incidents is still shrouded in secrecy. Even though the civilian dumping traffic has been partially mapped out, many important questions remain unanswered where the military activities are concerned. During many of the dumping trips which the civilian company carried out for the military, no information was given out pertaining to radioactivity or volume.

Thomas Nilsen from Bellona has visited Kola many times and talked to the Russians concerning the dumping. He doubts very much that the radioactivity of the liquid waste dumped by the military is as low as they maintain:

"The Russians traditionally do everything in the simplest and cheapest way. New information shows that they go far up north exactly because much of the waste is not so low in radioactivity at all. They have dumped 12,000 cubic meters with as much as 5,723 curies in the northern areas, while they have dumped as much as 53,000 cubic meters, but with only 1,000 curies all together, along the coast," according to Nilsen. They have also dumped many reactors and containers with highly radioactive waste from the nuclear power plant at the Kara Sea thus making the total amount of radioactive waste considerable.

Knut Gussgard from the National Nuclear Inspectorate is not worried about the possible effects on peoples' health as a result of increased radioactivity in the Barents Sea. He does not even worry about the pollution caused by dumped reactors, even though he thinks that this practice must be halted immediately.

"International rules and agreements must be adhered to. It is a nuisance that Russia is still doing this," Gussgard says.

He has received confidential information about some of the dumping: "The low-level radioactive water is not dangerous. The amounts we have been informed of that have been dumped in the Barents Sea and the containers with solid low radioactive waste in the Kara Sea contain only a few percentage points of the amount of radioactivity that the British discarded from Sellafield annually until 10 years ago," Gussgard says. He says it is not dangerous even should fish in the Barents Sea be twice as radioactive.

"The problem is rather how much fish Norway would be able to sell in such a situation," he says.

The information concerning the areas where the dumping took place, the time, and the amounts which resulted from the civilian activities comes directly from the leadership of the Murmansk Shipping Company. The Chief of Security, Andrei Solotkov, has submitted to Bellona documents proving in detail that the Soviet Union and later Russia have broken both the text and the intentions of the London Convention while they at the same time officially informed the International Atomic Energy Association that absolutely no waste had been dumped at any time.

Mix With Water

Whether the dumping of low-level radioactive wastewater is a breach of the convention depends on how radioactive the water is. Russia also has its own rules regarding this.

How the dumpers solve this problem was explained to Thomas Nilsen by Alexander Kiss, who is the leader of the Environmental Committee in Murmansk County.

"The specialty ship Amur, which continues to dump liquid waste, is an auxiliary craft for nuclear ships and submarines. On the Amur the radioactive water is mixed with seawater in special tanks before it is discarded into the sea. Kiss said that the ratio of dilution is one to 1 million. In this way they intend to avoid exceeding the rules, however, when one comes right down to it, it makes no difference whether one discards the waste directly into the sea or dilutes it first," Thomas Nilsen says.

Containers

Russia committed its proven and indisputable breaches of the London Convention after 1983 by dumping small containers of between 0.5 and 1 cubic meters outside the 12-mile zone in the eastern part of the Kara Sea on the east side of Novaya Semlya. The iron containers, intended to last 10 years, contained metal devices and equipment used in connection with the nuclear reactors and installations for the nuclear icebreakers at Atomflot, the Headquarters of Murmansk Shipping Company. All told 12,997 such containers have been dumped into the Kara Sea. How many the military have dumped is totally unknown. The breaches after 1983 are as follows:

- 1984: 266 containers with a total of 10,000 gigabecquerels. %1985: 213 containers with a total of 53,500 gigabecquerels. %1986: 200 containers with a total of 4,700 gigabecquerels. %1987: 1,300 cubic meters of radioactive waste with a total of 23,300 gigabecquerels. %1989: 513 cubic meters radioactive waste with a total of 4,100 gigabecquerels. %1990: 249 cubic meters radioactive waste with a total of 850 gigabecquerels.

During this same period several hundred containers have been dumped inside the 12-mile limit, which, according to the London Convention, is not illegal. Russia will maintain that the dumping done by the Murmansk Shipping Company for the Northern Fleet in 1989 and in 1990 did not constitute a breach either. Russia excluded military dumping when signing the convention. Other countries understand this as a breach of the intentions of the convention.

Last summer a joint Norwegian-Russian research expedition was arranged in the Barents Sea and in the Kara Sea. The research ship was not allowed to take samples inside the 12-mile limit, and therefore has been unable to take measurements close to where most of the dumping took place. The measurements in open sea, according to AFTENPOSTEN's sources, have shown radioactive levels only slightly above normal background levels. The reports from the expedition are not yet complete.

Secret Military Waste Dumping

There have been two main protagonists in the Russian dumping affair: the civilian Murmansk Shipping Company and the military Northern Fleet.

The Russian Northern Fleet employs the largest concentration of nuclear reactors in the world. Its headquarters are located in Severomorsk northeast of Murmansk. There are bases all along the entire coast of the Kola peninsula for all of the 116 nuclear submarines and the two nuclear cruisers. Most of the nuclear vessels have two reactors. This means that almost half of the total number of nuclear reactors onboard ships and submarines are located at the Kola peninsula. The plans to transfer new submarine forces to the Kola peninsula might further increase this number.

Little is publicly known as to how the military treat the considerable amounts of nuclear waste from this fleet. The only thing known is that radioactive wastewater still is being dumped in the ocean and that much of the highly radioactive waste is being transported to Chelyabinsk east of the Ural Mountains where plutonium and uranium is recovered. However, nobody knows how securely this material is stored during the years before the transfer takes place. It is estimated that between 10 and 30 of the retired nuclear submarines with reactors are lying at different docks at Kola. Two of them are located a stone's throw from residential areas in the city of Murmansk.

The civilian Murmansk Shipping Company today has seven nuclear icebreakers and one nuclear container ship in operation. The subsidiary Atomflot is responsible for maintenance and waste treatment.

This company was dumping its own low-level radioactive waste until the middle of the 1980's, and executed assignments for the Northern fleet until 1990. At Atomflot a separate treatment plant has now been constructed for low-level radioactive wastewater. At the dock there are four storage ships storing high-level radioactive waste from the icebreakers and solid waste from the purification plant for wastewater. Large amounts of waste are stored onboard the ships Imadra, Lotta, Volodarskiy, and Lepse while waiting for transport for reprocessing and permanent storage. They contain 1,446 used fuel rods, other high-level waste, large amounts of low-level radioactive waste like clothing, tools, etc. Lepse represents the largest problem. The ship is full to the brim of all types of waste; in addition the ship itself has been contaminated. Radioactivity has been measured in the water surrounding it.

Consideration has been given as to whether one should deposit the entire ship in a laguna at Novaya Semlya and simply brick it up in some kind of a sarcophagus.

Broken Agreements?

Like most other countries in the world, Russia has ratified the London Convention of 1983 which prohibits the dumping of nuclear waste outside the 12-mile zone. Russia has a long tradition of dumping both low and high-level radioactive waste, and is still doing so to some extent:

Containers

It is not known how many containers Russian civilian and military authorities have dumped in the Kara Sea. Such information is still top secret in the military. The number of containers that has been confirmed is 12,997.

Most of the containers have been dumped in bays and fjords on the west side of Novaya Semlya at depths of 20-50 meters. The known dumping was done by the service ships Serebryanka, Lepse, and Volodarskiy.

As late as 1984 ships doing the dumping used machine guns to shoot holes in the containers with solid low level radioactive waste to make them sink into the sea. The total weight of these known containers is 3,738 tonnes, and the total radioactivity is 2,272,060 gigabecquerels. At several dumping expeditions that the Murmansk Shipping Company carried out for the military the number of containers was not counted nor were the contents weighed. In addition to this there is also the military service ship.

The wreck of the ship Nikel is lying southwest of Novaya Semlya with its nuclear waste still onboard.

East of Novaya Semlya, outside the 12-mile zone, 1,450 containers with high-level radioactive waste from nuclear power plants have been dumped having a total of 170,000 curies. The time is unknown.

Liquid Waste

From 1960 to 1990 the Murmansk Shipping Company dumped liquid radioactive waste in five areas in the Barents Sea. The civilian company which owns and operates the nuclear icebreaking fleet dumped a total of 164,717 cubic meters of liquid waste with a radioactivity of approximately 490,796 gigabecquerels. One of the areas is located in the western part of the disputed grey zone.

The military vessel Amur and 4-6 ships in the Vala class continue to dump. It is unclear where they are dumping, but the ships are going far northwards. The ships in the Vala class are so-called radiological auxiliary vessels for the submarine portion of the Northern Fleet.

Sunken Nuclear Ships

Four known ships with nuclear waste onboard have been sunk in the Kara Sea. The barge N. Bauman was sunk in 1964 in Sivolky Bay at Novaya Semlya with 1,600 containers of low and medium-level radioactive waste onboard. The ship itself was also contaminated.

The military storage ship Leopard has been sunk at an unknown place.

The military research vessel Kit, which was stationed at St. Petersburg until 1990, dumped its waste in Lake Ladoskaye, and was later brought to Novaya Semlya, where it is still located on the surface. The ship is radioactively contaminated.

A barge belonging to the Murmansk Shipping Company was sunk in 1968 in Stepovo Bay at Novaya Semlya with 400 tonnes of radioactive waste onboard.

On 7 April 1989 there was a fire in the nuclear submarine Komsomolets outside of Finnmark. The boat remains 1,685 meters below the surface southwest of Bear Island with a nuclear reactor and two nuclear missiles onboard.

Nuclear Reactors

A total of 15 nuclear reactors with and without fuel have been dumped in the Kara Sea outside Novaya Semlya after having been exposed to mishaps and accidents. Of these, 12 are from submarines, three are from nuclear icebreakers.

In Abrosimov Bay there are five reactors with nuclear fuel and three without fuel which were dumped in 1965-66. These come from four submarines.

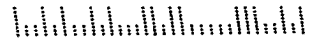
In Sivolky Bay there are three reactors from the nuclear icebreaker Lenin which had a mishap in 1967. The reactors and a container with nuclear fuel remain 50 meters below the surface.

In Stepovo Bay there is a wrecked submarine with two reactors with the fuel intact. It was dumped 50 meters below the surface in 1982.

In Techeniya Bay a wrecked reactor without fuel was dumped in 1988 at a depth of 50 meters.

In the Kara Sea there is a barge with a nuclear reactor from a submarine which was sunk in 1972 at a depth of 300 meters. Radioactivity: 170,000 curies.

In the eastern part of the Barents Sea two nuclear submarines were sunk in the 1960's after having had accidents, each with two reactors intact. At the same place reactors from still one more submarine were sunk.



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