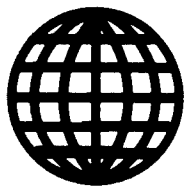


3 May 1993

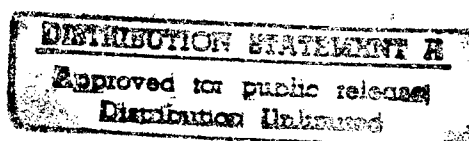


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JPRS Report

Environmental Issues

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Environmental Issues

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OPEC Chief Opines EC-U.S. Proposed Ecotax 'Unfair'

*BR1604150293 Rotterdam NRC HANDELSBLAD
in Dutch 10 Apr 93 p 17*

[Report on "telephone interview" with OPEC Secretary General Dr. Ahmed Subroto in Vienna by Theo Westerwoudt; date not given: "OPEC Leader Subroto: Ecotax Proposed By EC and Clinton Is Completely Unfair"]

The oil-producing countries have no intention of letting themselves be intimidated by new energy taxes in the West. This weekend they are meeting to discuss the possibility of rationing oil supplies to the West. "It is unfair. You already are earning more than your fair share from our product," claims OPEC Secretary General Subroto.

Rotterdam, 10 April—In recent weeks, the 12 OPEC member states and their independent competitors have been rather nervous about their income from oil exports. They have been so nervous that this weekend they are joining forces in the Omani capital Muscat. While the West is celebrating Easter, the ministers from 23 oil-producing countries, as well as Texas, Alaska, and the Canadian Province of Alberta, will meet to discuss the issue.

Despite firm decisions by OPEC in February to close the oil faucet slightly, the amount of oil on the market is steadily increasing. Consequently, the price has dropped to \$18.60 for a barrel of 159 liters. "That is like an invitation to Washington and Brussels to quickly introduce new energy taxes. With prices so low, consumers will hardly complain at all," says one market analyst.

The plans made by President Clinton and the European Community to create a new environmental tax on energy (dubbed "ecotax") is a second threat to the oil-producing countries because it would provide Western countries with a lot of extra income, while causing a clear slump in demand for oil, leaving the oil-producing countries to foot the bill. Six major oil-producing countries, united in the Gulf Cooperation Council (Saudi Arabia, Kuwait, Qatar, Bahrain, and Oman [and the United Arab Emirates]) have calculated that the ecotax alone will deprive them of \$15 billion per year. For the 12 OPEC countries, exports will supposedly drop 2 million barrels per day (from the current level of 24 million per day). That represents a loss of more than \$20.5 billion per year. Two weeks ago, the Gulf states vowed that they would secure their export interests by adopting countermeasures, such as lowering production (effectively imposing an oil ration on the West and making oil prices rise steeply) or imposing a ban on exports.

OPEC Secretary General Dr. Ahmed Subroto, speaking in a telephone interview given from his headquarters in Vienna, did not want to anticipate countermeasures that could be taken by the cartel. "We are still studying the problem. I am talking in terms of dialogue, not reprisal measures," he said. "We, at

OPEC, still want to convince the West that the tax measures that the Clinton administration and the European Community are now proposing are absolutely unfair to the oil-producing countries. These ecotaxes are unilateral and discriminate against only one source of energy, oil, because it is with oil that you, the Western countries, can earn the most money. However, the oil-producing countries would suffer a tremendous loss as a result, first due to the steep drop in exports, and second because the extra tax would make the products imported by the oil-producing countries from the West more expensive. That is most unfair."

The OPEC leader backs up his claims with figures: "Between 1980 and 1990, the taxes and duties on oil in Western Europe rose by 132 percent, while the actual price of imported oil dropped by 30 percent. In 1991, the average price paid by OECD countries for a barrel of imported oil was \$18.90, whereas total oil taxes in the West rose to \$69.20 per barrel. That year, total profits for OECD countries represented by the 12.9 million barrels of oil that they imported amounted to \$205.3 billion, whereas the OPEC countries took just \$86.4 billion. And now you want to tip the balance even further."

If it turns out that in the course of this year the dialogue fails and the West decides unilaterally to introduce the ecotax, Subroto intends to adopt concrete retaliatory measures: "We cannot accept what is unfair. We are currently looking into the various possibilities and formulating our viewpoint. However, it can reasonably and logically be expected that if you hurt us, then we will do something about it." The secretary general does not rule out the possibility of "some countries"—he means the Gulf states—reacting sooner than OPEC in implementing countermeasures.

Subroto defends the OPEC viewpoint with the typical unflappability and moderation of the Indonesian that he is. However, when talking about the new ecotaxes on energy consumption—the reduction of harmful emissions, especially carbon dioxide (CO₂), the main cause of the "greenhouse effect"—his tone becomes sharper. OPEC is in favor of dealing with the environmental problem, he says, but in quite a different manner.

"With respect to CO₂ emissions, some West European countries must begin by abandoning all the subsidies earmarked for the coal industry and for the use of nuclear energy. Those energy sources are far more harmful to the environment than oil. In fact, OECD studies show that the tax proposed by the European Commission will barely succeed in reducing CO₂ emissions," claims Subroto. His conclusion from the OECD studies is that a far higher tax would be required to achieve a substantial reduction in CO₂ emissions. "But that would cause far too much damage to the competitive position of Western Europe," maintains Dr. Subroto. "So the EC will not do it. Hence, we conclude that

the tax is not primarily intended to improve the environment, but rather to create more revenue for the EC member states so as to reduce government deficits. That is very clear."

On 23 April, the EC environment ministers will discuss the European Commission's proposal to introduce a CO₂ tax of \$3 per barrel of imported oil as from 1 January 1994. That duty would have to be raised annually to reach a level of \$10 by the year 2000. On the basis of the present level, this would cause the oil price to rise by more than 50 percent.

The secretary general has no confidence whatsoever in the European Commission's intention to channel back the proceeds of the ecotax to the taxpayer in some other form. In this way, a regulative tax is expected to be created, leading to lower energy consumption. However, Subroto claims, "it will certainly not be a no-cost operation."

Subroto has nothing positive to say about the American Government's proposals, either. The Clinton plan will result in a price increase of \$3.50 per barrel, twice as much as for other fuels. "The main reason for our concern and protest is that these plans will result in the impoverishment of the Third World and the oil-producing countries," asserts the secretary general. In addition, he claims that they will also endanger the investments necessary to maintain and extend the production capacity of the oil-producing countries. "You need a maximally stable market to attract the necessary capital, as well as a clear indication of how demand will develop. The greatest rise in demand for energy, especially oil, will occur not in the West, but in the developing countries. Instead of driving up the price, you should be creating conditions enabling those countries to improve their standard of living."

Dr. Subroto recalled the proposal that he put forward together with the Omani environment minister at last year's world environmental conference in Rio de Janeiro; namely, to introduce a "worldwide, nondiscriminatory" energy tax (equally affecting all energy sources) to be collected by a UN organization. The proceeds could be paid into a UN fund administered by the United Nations itself, and paid out in all countries, including the Third World. "That would be a positive solution," claims Subroto, "that would help developing countries to keep their environment clean by using modern technology and serve to promote the clean use of energy throughout the world." Subroto sees no problems whatsoever with the application of the system if the demand for oil in the Western consumer countries starts to falter. "That would merely mean that we could all profit longer from the available reserves, while not placing the oil-producing nations and the Third World at a disadvantage at the same time."

OPEC: Oil-Producing States Warn West on Energy Tax

LD1404204693 Tehran Voice of the Islamic Republic of Iran in English 1930 GMT 14 Apr 93

[Unattributed commentary]

[Excerpt] The oil ministers of 25 OPEC and non-OPEC member states, at the conclusion of their joint session in the Omani capital of Muscat, yesterday warned that in the event of the enforcement of the Western states' decision to levy Energy Tax the international oil market will be destabilized. [passage omitted]

The main excuse brought by the Western states in justification of these decisions relates to the environmental observations, whereas these countries have not considered any tax for the coal whose consumption is far more polluting than oil for the environment. Moreover many scientists and experts believe that any improvement in the global environmental conditions will hinge on the improvement of the methods of consuming energy rather than a reduction in it. Further a major part of the community in the Third World is basically exposed to the threat of poverty and lack of development.

In this way it appears that main goal of the West in levying the Energy Tax goes beyond the environmental justification to the imposition of low oil prices on the oil producing states and acquisition of high prices for the ultimate users of oil so as to be able to transfer a major part of the incomes of the oil producing states to the exchequers of the Western governments.

It is indisputable that as a result of the enforcement of this plan those oil exporting states will rely most on income from oil exports will suffer maximum economic losses especially on the short term basis. But in the long run such pressures may compel the oil producing states to develop their petrochemical industries and to have less reliance on crude oil incomes.

Of course in such a situation the Western states too, both on short term basis, will sustain losses. The reason is that with the rise in the price of oil used by the Western industries and the cost of their products too will be hiked and at the same time, on account of a fall in the income of the oil producing states, the market of Western products will come across further stagnation.

In addition there will emerge one definite result on account of creation of economic constraints for the oil producing states in the form of a halt in their investments for the development of their production of their oil production levels. This issue, in view of growing demand for energy all over the world, is rated as a great danger for the global economy in future.

**Mexican, Canadian, US NAFTA Texts on
Environment, Labor To Be Combined**

*PA1804001493 Mexico City XHTV Television Network
in Spanish 0200 GMT 17 Apr 93*

[Report by Lourdes Esquivel Llantara]

[Text] Dr. Jaime Serra Puche, commerce and industrial development secretary, has inaugurated in Mexico City the Regional Advisory Councils for the North American Free Trade Agreement [NAFTA]. He said the NAFTA negotiations are moving along on schedule.

Serra Puche said Mexico, United States, and Canada will combine their parallel NAFTA agreements into a single text.

[Begin Serra Puche recording] The three countries will hold a technical meeting in the first week of May to combine the three proposals, the Mexican, Canadian, and U.S. texts regarding environmental and labor matters, into a single document. [end recording]

In a message delivered to participants at the first national meeting of the Regional Advisory Councils for NAFTA, he said another meeting of the negotiation chiefs will be held, probably in Canada, during the week of 10 May. The elimination of the so-called (Corchetes) will begin there, and the consolidated text of the parallel agreements will also be edited.

[Begin Serra Puche recording] We are working toward the consolidation of a text and the achievement of specific results in the next few weeks. [end recording]

He said the processes for the ratification of the treaties and the negotiation of parallel agreements are moving according to schedule so NAFTA may be implemented by 1 January 1994. Serra Puche said Mexico believes the parallel agreements must be compatible with the text of the treaty. The agreements should not lead to barriers against the trade of goods and services and should respect Mexican, U.S., and Canadian sovereignty.

Mr. Serra proposed that on 16 April the Advisory Council for NAFTA should be turned into an advisory council for the negotiation of all international treaties signed by Mexico.

Afforestation Campaign Results in Less Dusty Beijing

*OW1204091393 Beijing XINHUA in English
0727 GMT 12 Apr 93*

[Text] Beijing, April 12 (XINHUA)—Beijing, the Chinese capital, now suffers less dusty winds than it did less than a decade ago, thanks to a large-scale afforestation campaign.

On April 9, a gale-force wind from Mongolia hit the city, creating huge losses. But the residents noted that the gale, which could not be prevented, carried not much dust.

Officials said that more than 1,100 ha of mountains were afforested in the past decade. The green coverage in Beijing city is now 28.2 percent, up 11.6 percent compared with a decade ago.

More trees and flowers are being planted in the courtyards of government compounds and along major roads totalling about 2,000 km. There are also green spots and small gardens around the 60 newly-established residential areas.

In addition, Beijing has planted more than 1,400 ha of forests along its outer areas and satellite towns. Forest belts of about 1,000 ha were also growing outside the city.

Officials from the Beijing Forestry Bureau said that afforestation over the past decade has reduced the amount of sand and other dust in the wind by 39 percent, compared with ten years ago.

Forests on the upper reaches of the river flowing into the Miyuan reservoir, from which most Beijing residents get their drinking water, have also cut the silt in the river by 60 percent compared with 15 years ago.

Nonpolluting Farm Chemicals Factory Operational

*OW1204112093 Beijing XINHUA in English
0952 GMT 12 Apr 93*

[Text] Xian, April 12 (XINHUA)—A non-polluting farm chemicals manufacturer, the first of its kind on the Chinese mainland, recently went into operation in Yangling county, an agricultural scientific research base in northwest China's Shaanxi Province.

Currently, scientists all over the world are studying many kinds of chemicals for agricultural use that will not pollute the environment.

Over the past few years, Zhang Xingduo, a professor at the Northwest Agriculture University, has made noted achievements in this field, and in October 1992, the school began to build the factory with a yearly output capacity of 300 tons of chemicals mainly used for killing pests infesting vegetables and fruits.

According to official sources, the second phase construction of the factory has been inaugurated and will be completed with an annual production of 3,000 tons of chemicals in four series and 18 varieties.

Nature Reserve Network To Be Established Nationwide

*OW1304091893 Beijing XINHUA in English
0855 GMT 13 Apr 93*

[Text] Beijing, April 13 (XINHUA)—China will set up a national network of biosphere reserves in the near future, according to an official from the National Committee of China for Man and the Biosphere (MAB).

Thirty-three biosphere reserves in the country which have joined or have asked to join the international network of biosphere reserves will become the first members of the national network, said Zhao Xianying, secretary-general of the National Committee of China MAB, here today.

According to Zhao, this network is aimed at promoting the cooperation and exchange between China's nature reserves and their foreign counterparts. Meanwhile, it will import foreign technologies, funds and management expertise so as to improve China's nature reserves.

Many nature reserves in China are still in poor conditions and lack sound management, said Zhao. China's MAB program will attach more importance to the construction, development and improvement of biosphere reserves, she said.

China now has 708 nature reserves, of which nine have been approved by UNESCO for membership in the international network of biosphere reserves.

Government Signs Environmental Cooperation Pact With Canada

*OW1704034693 Beijing XINHUA in English
0329 GMT 17 Apr 93*

[Text] Ottawa, April 16 (XINHUA)—China and Canada signed today a memorandum of understanding aimed at promoting cooperation in the area of environmental policy, programs and technology.

The document was signed in Montreal by the visiting Chinese administrator of the National Environmental Protection Agency Qu Geping and Canadian Environment Minister Jean Charest.

The memorandum is for an initial period of five years and is designed to develop contacts and cooperation between the various levels of government, research centers, universities, the private sector and other parties.

It provides for exchanges of personnel and scientific and technical information as well as technology transfers, symposiums and seminars. It also calls for the two countries to develop a two-year work program to address mutual environmental concerns.

The memorandum of understanding sets out new priority sectors of cooperation, including the development and implementation of environmental protection laws, regulation and policies, the global environmental issues such as climate change, air pollution, stratospheric ozone, the pollution controls and the environmental impact assessment procedures and experience.

As a first initiative under the agreement, Environment Canada and the State Science and Technology Commission of China will conduct a joint study on greenhouse gas emissions and the development of an emissions control strategy for Beijing.

Government To Speed Up Afforestation Along Yangtze River

*HK1704051093 Beijing CHINA DAILY in English
17 Apr 93 p 1*

[Report by staff reporter Wang Yonghong: "Shelterbelt Programme on Yangtze Accelerates"]

[Text] The government is to speed up afforestation along the Yangtze River to help accelerate the region's economic development.

"The ongoing Shelterbelt Construction Programme along the Yangtze River has played an important role in the ecological improvement of the region and will play a much more significant part in the upcoming economic surge along this longest waterway in China," said Liu Menglong, director of the Yangtze Shelterbelt Construction Office under the Ministry of Forestry.

The central government has mapped out an ambitious programme to quicken economic progress along the 6,300-kilometre Yangtze River—China's golden water artery linking its nine provinces abundant in natural resources and with a high potential for economic development.

The construction of the Three Gorges Dam in Hubei Province and of the Pudong New Area in Shanghai—located at the outlet of the river—has sparked an economic boom along the river. The government hopes this will spur all-round economic development nationwide.

China began the massive afforestation programme along the middle and upper reaches of the Yangtze River in 1989 to boost the region's infrastructure and ecology.

Up to 20 million hectares have been planted and existing forests have been protected along the river. The time span of the project will stretch from between 30 to 40 years.

"The central government's decision to accelerate economic progress along the Yangtze has prompted us to speed up our afforestation drive," the official said. He later departed for a 20-day on-the-spot tour of Shelterbelt construction in Hunan and Sichuan provinces.

Last year, 800,000 hectares of trees were planted along the river and met State standards, 86 percent more than the target, according to Liu.

Up to 933,330 hectares of trees are to be planted this year.

"It has greatly improved the region's ecology, which has deteriorated over the past century, seriously hindering social and economic progress in the region," he said.

The protracted over-exploitation of land, plants and other natural resources in past centuries has caused widespread soil erosion, disrupted the local government and has resulted in the loss of lives and property.

Soil erosion is more severe in the upper and middle reaches of the river, where more than 90 percent of the land has been eroded. Some areas have become rocky and sandy, Liu said.

Some people have warned that the Yangtze could become the second Yellow River—renowned in the world for soil erosion.

But the four-year shelterbelt construction drive has proved the trend can be reversed if the on-going afforestation bid is maintained, Liu said.

Since 1989, some 450 million yuan (\$75 million) has been poured into the Shelterbelt Construction Programme, in addition to investment in materials and labour.

As a result, some 3.06 million hectares of planted trees met State standards, with an 85 percent-plus survival rate—compared to only 50 percent 10 years ago.

By the year 2000, when the first phase of the Shelterbelt Construction Programme is completed, regional forest coverage will be increased from 19.9 percent to 40 percent.

JAPAN

Research Team Proves Marine Pollutant May Harm Fetuses

OW1204121693 Tokyo KYODO in English 1156 GMT 12 Apr 93

[Text] Tokyo, April 12 KYODO—A university research team said Monday [12 April] it has proved for the first time that an organic compound used in the fishing industry can endanger a fetus.

Triphenyl tin (TPT), used to keep fishing nets clean and in paint on boat hulls, is already known as a source of marine pollution but this is the first time scientists have shown the danger can extend to unborn mammals.

The team said its experiments showed the compound passed through the placentas of pregnant rats to accumulate in high concentrations in the fetuses like methyl mercury, the compound blamed for the Minamata Disease.

The team led by Prof. Shogo Shima of Fujita Health University in Toyoake, near Nagoya, made the finding after a series of experiments on laboratory rats.

The team fed rats one and two milligram doses of TPT over 10 days. Two days after the final dose, they measured concentrations of the compound in each fetus as well as in the mothers' placentas and blood.

Concentrations of between 0.01 and 0.02 parts per million (PPM) in the placentas and fetuses of rats not fed the compound compared with 0.05 PPM in rats given a one milligram dose and 0.11 PPM in those fed the two milligram doses.

The placenta normally serves to stop harmful substances entering the fetus but the team found TPT is able to pass through this barrier.

The Minamata Disease, the symptoms of which include numbness of the extremities, loss of hearing and mental disorders, was contracted from contaminated fish and affected thousands of residents in Minamata, Kumamoto Prefecture, southern Japan, between 1953 and the early 1970s.

Researchers at Kumamoto University traced the source of the disease to high concentrations of methyl mercury in fish after the substance had been fed into the ocean from a nearby chemical plant.

Doctors also found congenital Minamata Disease in newborn infants, indicating the methyl mercury passed through their mothers' placentas.

TPT and tributyrin, which gives resins their flexibility, have been widely used in agricultural chemicals and on boat hulls.

But since they are known to accumulate in high concentrations in seafood and can threaten humans via the food chain, their use is now subject to self-regulation.

The substances are toxic enough to irritate the skin, cause a decrease in white blood cells, reduce the body's immune system and harm reproductive ability.

The research team said although the TPT administered to the rats exceeded levels found in the environment or considered safe for humans, it was able to prove that it is partially transferred to the fetus.

It said the finding indicates a need to focus on the toxicity of TPT and its concentration and capacity to remain in the environment.

Environmental Chief To Attend June UN Environmental Meeting

OW1304085793 Tokyo KYODO in English 0818 GMT 13 Apr 93

[Text] Tokyo, April 13 KYODO—Japan's environment chief Taikan Hayashi plans to attend a U.N. ministerial meeting on the environment to be held June 14 to 25 in New York, the environment agency said Tuesday.

The meeting of the Sustainable Development Commission will aim to underpin, supervise, and accommodate the implementation of Agenda 21, an action program adopted at the 1992 Earth Summit in Rio de Janeiro designed to promote sustainable development of the planet.

With Japan and 52 other states becoming members, the commission was established within the United Nations Economic and Social Council after the Earth Summit.

Participants will discuss the current situation regarding funding of environmental projects in member countries and technology transfers that facilitate environmental preservation, agency officials said.

They will also exchange views on U.N. mechanisms needed to develop environmental action plans in developing countries and bilateral environmental assistance programs, the officials said.

Also on the agenda will be the issue of emergency financial assistance to developing countries, they said.

Japan has already unveiled a plan to channel between 900 billion and 1 trillion yen in Official Development Assistance (ODA) to global environmental protection.

In advance of the June meeting, the U.N. Environment Program will hold its first governing council session since the Earth Summit and the first gathering to work out a pact to prevent global desertification, which developing countries are seeking, the officials said.

The outcome of the meetings may lead to a call for U.N. resolutions to promote efforts to reform the global environment facility, a funding mechanism for preservation of a variety of living things and prevention of global warming, they said.

US Navy Admits Finding Toxic Chemicals in Soil on Base

OW1704053993 Tokyo KYODO in English 0358 GMT 17 Apr 93

[Text] Yokohama, April 17 KYODO—The U.S. Navy has admitted it detected toxic PCB [polychlorinated biphenyl] and heavy metals in soil samples from Yokosuka Naval Base in 1988 and used some of the soil inside the base.

According to a statement released Friday [17 April] by the U.S. Navy, traces of PCB and heavy metals were found while digging up soil contaminated by oil. Some of the soil was reburied and covered with asphalt on the base, located in Kanagawa Prefecture, west of Tokyo.

However, some of the soil was used on a project in an area of the base called Tomariura Cove, the report said.

U.S. NEWS AND WORLD REPORT, a weekly U.S. magazine, reported last November that PCB and other materials have been causing soil pollution at the Yokosuka Base.

The Navy report stressed, however, that the amounts of PCB and heavy metals detected are within the range of acceptable Japanese environmental standards.

The base plans to excavate and reexamine soil samples from the area this year, according to the report.

In answering a question from the Japanese Foreign Ministry, the U.S. Navy has said there is no problem with the environment. It has also said that the U.S. NEWS AND WORLD REPORT article was inaccurate and created misunderstandings.

SOUTH KOREA

Scientists Develop Nonpolluting Fertilizer

SK1304103793 Seoul YONHAP in English 0845 GMT 13 Apr 93

[Text] Seoul, April 13 (YONHAP)—South Korean scientists claim they have discovered the world's first nonpolluting fertilizer that is effective for a year.

Prof. Cho Yong-sang and his chemistry team at the Korea Institute of Science and Technology (KIST) said Tuesday they have developed an environment-friendly, controlled-release fertilizer after two years of joint research with Namhae Chemicals Co.

Unlike current controlled-release fertilizers with lasting effect, Cho's fertilizer is coated with natural high polymers and so is earth-friendly and costs less.

Through a method of uniform coating with a 10 micron layer of polymers, mass production is possible and the price is 30 percent less than current controlled-release fertilizer.

Because chemical fertilizers are soluble in water, 50 percent of them are washed away and farmers have to spread them at least four times a year, Cho said.

To overcome this, scientists tried chemical compounding to slow the rate of dissolution and physical means such as coatings. They failed, however, because their complex manufacturing methods cost too much and the insoluble coatings caused pollution.

The hundreds patented coated materials in the world are all artificial high polymers, but the KIST team produced a natural high polymer and helped resolve a fundamental environmental problem, Cho said.

Including labor, Cho said, the cost of using traditional fertilizer is 17,000 won a danbo (216 U.S. dollars a hectare), but his product saves 5,000 won a danbo (63 dollars a hectare).

In tests by the rural development administration, the new fertilizer cut dissolving losses 20 to 40 percent and increased yield 2 to 4 percent, Cho said, adding he had applied for a patent on the technology in the United States and Japan as well as Korea.

Namhae chemicals says it will build a plant with a capacity of 10,000 tons of the fertilizer a year by 1994 and hopes to export some of the output.

MALAYSIA

Need for 'Holistic' Program on Toxic Waste Disposal

BK1304124793 Kuala Lumpur NEW SUNDAY TIMES in English 11 Apr 93 p 12

[Editorial: "A Persistent Toxic Nightmare"]

[Text] Flick through the pages of the media: five rivers in Penang have been identified as being polluted with pig waste and industrial effluent; the Nenas water treatment plant is facing problems in supplying enough water to more than 15,000 people while wells in Pekan are drying up allegedly due to rampant logging activities and the excessive extraction of groundwater by a company which runs what Malaysians can boast of as the world's biggest eel farm.

Yes, this has been a week of toxic nightmares where one's restless slumber is the only escape from the choking reality of the smog and pollution that has crept into and defiled every aspect of our lives.

The public will ask: So what else is new? The likes of Pak Pandir [male character in Malay folklore known for his foolishness] and Lebai Malang [male character in Malay folklore known for his indecisiveness that led to misfortune] will ask: We have put up with industrial trash before, so why the fuss now over more crap in our rivers, on our land, and in the air? Besides, their sons and daughters eke out a decent living in the factories that belch or excrete the effluent into the rivers. In the meantime, the poor and ignorant Ah Chong, who is a pig farmer, is having his nights filled with dreadful images of toxic waste leaking from the concrete walls of a toxic waste plant that shall turn all his pigs into a glowing picture of ill-health, or cause them to mutate into a different kind of creature.

True, we have never had it so good since the country was lifted from the recession of the mid-1980s and have successfully embarked on an accelerated industrialisation drive en route to developed nation status by the year 2020. Sadly, this momentum of growth, greater investment and increasing prosperity is attended by a messy sprawl of polluted land, rivers and a host of other environmental problems.

If that sounds unduly alarming, consider the fact that none of these environmental problems is new and they have certainly not gone unnoticed by the Government. Our environment's guardian angels from the Department of Environment (DOE) will no longer have to fulfill their tasks within a limited scope of law once the Environmental Law Revision Committee's proposed amendments to the Environmental Quality Act are implemented.

One proposal that should give no cause for objection is the move to empower the DOE's director-general to issue a prohibition order to persons responsible for the operation of the polluting source to stop doing so. The committee has rightfully proposed that victims of environmental damage can seek compensation from the culprits.

The proposal that construction of golf courses and conversion of forested hill land to other uses should be subjected to environmental impact assessment (EIA) is timely since such constructions have been known to cause some harm to the environment. The question is: How many construction projects will have taken place before the proposal takes effect? One is tempted to conclude that the splendid work by the committee illustrates how serious the government is in preserving the people's right to have a clean environment. But until and unless the proposals are immediately translated into reality, the public must endure and put up with the many poisons in the lifeblood of the country.

What is urgently needed is the drawing up of a national programme on toxic waste management. After many years of rapid industrialisation, we have yet to design a holistic approach to industrial waste management which would include ground rules for the treatment of waste-matter and the controlled dispersion of waste material into the biosphere.

The Government has approved the construction of a central toxic waste treatment plant in Bukit Nanas. What it must decide now is whether that in itself is adequate as an answer to the nation's need for a national programme on waste management.

CZECH REPUBLIC

No 'Serious' Breakdowns at Nuclear Facilities Reported

AU1904141593 Prague CTK in English 1138 GMT
15 Apr 93

[Text] Prague April 15 (CTK)—There were no serious breakdowns at nuclear facilities in the Czech Republic last year, said director of the State Institute for Nuclear Security (SUJB) Jan Stuller at a press conference here today.

Stuller said that four blocks at the Dukovany nuclear power plant in South Moravia were in operation last year and that construction of the Temelin plant in South Bohemia was continuing.

In 1992, inspectors from the Czechoslovak Atomic Energy Commission participated in discussions with the Dukovany commission to investigate 115 breakdowns. Only four of these were given a first degree rating according to the International Atomic Energy Agency rating system, which means they had slight safety significance. The rest had no influence on safety and were given a zero rating. None of these breakdowns had a serious impact on nuclear safety, Stuller said.

ARGENTINA

Unfulfilled Ecological Commitments at Yacyreta Denounced

*PY1404030793 Buenos Aires CLARIN in Spanish
13 Apr 93 pp 32-33*

[Article by Sergio Federovisky]

[Text] The unexpected suspension of the meeting that President Carlos Menem was to hold today with his Paraguayan counterpart Andres Rodriguez has prevented discussion of why the \$80 million international credit granted for environmental projects at the Yacyreta dam has not been invested, on the Argentine side, in the fauna reserves which have been projected, among other tasks.

According to what CLARIN was told by Marcelo Becaceci, expert from the International Union for the Preservation of Nature—the main conservationist organization in the world, headquartered in Switzerland and with branch offices in more than 50 countries—it is estimated that while 83 percent of the dam project has been completed, only 12 percent of the environmental protection projects have been carried out. But that is not all: So far, Argentina has not fulfilled the requirement of having proven reserves for the reinstatement of animals that live in the areas that will be flooded in four stages as of July.

Moreover, architect Cesar Menem, deputy chief of the Supplementary Works Department of the Yacyreta Binacional Agency [EBY], who is responsible for the environmental area of the Argentine side of the dam, has admitted that the \$80 million granted by the World Bank and the IDB [Inter-American Development Bank] for ecological projects and for people's resettlement has not yet yielded any concrete results. "But we are working, and we will meet all demands in due time," he said optimistically.

Becaceci was categorical: "It was officially stated in 1989 that 50 percent of the dam had been finished, and that there was nothing known about the existence of any study of its impact on wildlife. Today 90 percent of the project is finished, and the environmental situation is exactly the same, on the Argentine side at least." In the area of fauna, his specialty, he recalled the several working meetings held on the matter, during which several proposals were submitted but never carried out.

As evidence he cited what was done in the Paraguayan town of Ayolas in December 1988. At that time it was recommended that negotiations with government officials from Misiones and Corrientes begin there, in order to establish three or four reservations. Four and a half years later, as admitted by Cesar Menem himself, "negotiations are still being carried out."

Another similar working meeting was held a month ago, with the peculiarity that the Argentine mission was practically nonexistent. However, it was sufficient to verify that the environmental laboratory on the Argentine side, equipped with the most modern equipment, is closed, and that together with Menem only two people are working—which gives an idea, according to the expert, of how difficult it is for Argentina to meet the environmental plans.

It is not the same on the Paraguayan side, where thanks to World Bank credits there already exists a reserve of 30,000 hectares in Yabebyry. Argentina, however, has only the "Rincon Santa Maria" to offer: a cattle grazing field with no value whatsoever for fauna. This field has 10,320 hectares, out of which only 2,500 will remain from the area that will be flooded.

Meanwhile, negotiations for the establishment of a reserve on Apipe Grande Island (Corrientes) and another in Campo San Juan (Misiones) are interminable, with the aggravation that if these negotiations are successful it could be "dedicated" only in 1996, when the flooding of the dam area would have already been concluded.

Argentine officials argue that operations to rescue animals will be carried out, to then take them to other areas.

However, Becaceci said, "to carry out that task a year of studies is necessary to establish elemental things, such as the capacity to receive animals of the ecosystems where these animals will be taken."

In the different forums organized by EBY, Becaceci and other national and international experts proposed using the Ibera provincial reserve (separated from the Yacyreta zone only by route 12), to transfer there the animals that live in areas that will be flooded. This proposal, perfectly feasible from the ecological and zoological point of view, and which will also revitalize this reserve which has long been disregarded, does not seem to be economically attractive. For some who are more careful, "it is better to deal with the land close to the dam." Today that zone, with very little real estate value, is estimated at \$150 per hectare, and its value could increase should it be chosen as a reserve.

But the truth is that for the Argentines the set of Yacyreta environmental problems seems to be a nobody's land. As it was put by Mirna Alexandre, World Bank representative in Argentina, until the end of February "Yacyreta is a white elephant." However, it does not seem to be in danger of extinction.

HONDURAS

Forest Fires Endanger Capital's Water Supply

93WN0347A Tegucigalpa LA TRIBUNA in Spanish
26 Feb 93 p 27

[Text] The indiscriminate burning of forests near Tegucigalpa is endangering much of the city's supply of drinking water, the chief of the Fire Department of Honduras, Major Roberto Rodriguez Borjas, cautioned today.

According to the Fire Department official, so far this year there have been more than 100 fires in the forests near the metropolis, most of them deliberately set, with a lesser number caused by improper burning designed to prepare the land for subsequent planting.

Rodriguez asserted that the entire community has a responsibility to prevent and counter damage to the natural resources around Tegucigalpa; this is why the emergency committee against forest fires was set up.

The committee seeks to coordinate the efforts of the Armed Forces, the Honduran Corporation for Forest Development, Public Education, the Honduran Association of Environmental and Agricultural-Forestry Journalists, the Fire Department of Honduras, and the Chamber of Commerce and Industries of Tegucigalpa.

The fire official stated that "it is urgent to protect and preserve the forests bordering the capital and, if possible, to reforest them in order to maintain the current supply of drinking water from the highlands and underground streams."

PARAGUAY

Business Federation Cuts Ties With Argentina Over Pilcomayo

PY1604032993 Asuncion HOY in Spanish
15 Apr 93 p 10

[Text] The Production, Industry, and Commerce Federation, Feprinco, has broken its business relations with

Argentina. In last night's ordinary session, the organization's directors and members decided that they will no longer participate in missions to that country, and will not send invitations to Argentine business delegations.

With this decision, practically all the bilateral exchanges that have been consolidated or were about to be consolidated have now been frozen, until Argentina formally decides in writing to block the channel that diverts the Pilcomayo River's waters into its territory.

This was stressed by Arturo Jara Avelli, Feprinco's president, after a lengthy session of more than 3 hours.

Jara Avelli indicated that Feprinco unconditionally supports President Andres Rodriguez' decision to postpone the presidential summit with his colleague, Carlos Menem, which was to have taken place at the site of the Yacyreta hydroelectric dam on the Parana River, because of the Pilcomayo River situation.

He also said that his organization has taken appropriate steps to submit the problem to the international organizations that look after the continent's ecological security, indicating that there are reasons enough to make this petition.

In this respect he understands that all arguments will tilt the scales in Paraguay's favor, as it cannot be denied that Argentina has "unilaterally and perversely decided to construct a canal to divert the Pilcomayo River, in order to obtain exclusive benefits to a large area of its territory and to the direct detriment of Paraguay's interests."

"The livestock sector is not the only one affected. It will also provoke the forced migration of indigenous populations and the extinction of wild fauna in the Paraguayan sector. Argentina has not complied with the agreement," Jara Avelli stressed.

He also indicated that with this action the neighboring country has violated Paraguay's rights of sovereignty in arbitrarily cutting off a source of natural resources which has historically watered the banks of the two territories, from Bolivia to its outlet into the Paraguay River.

He ratified that as of now all dealings with Argentina at the business level have been indefinitely cut. As of now, everything will depend on the good will that the Argentine brothers have for Paraguay, Jara Avelli stated.

EGYPT

Experts To Measure Nuclear Radiation in Sinai*NC1604120593 Cairo MENA in Arabic
2254 GMT 15 Apr 93*

[Text] Cairo, 15 Apr (MENA)—The Egyptian Atomic Energy Authority has dispatched a group of experts with a mobile laboratory to collect samples and conduct radiation measurements in the Sinai Peninsula, particularly in the areas adjacent to the border with Israel. This was done following reports about radiation leakage from the Israeli nuclear reactor in the Negev desert.

Dr. Fawzi Hammad, chairman of the Authority, said that this group left for Sinai Thursday [15 April] morning. In a statement to AL-AHRAM to be published Friday, he added that the president of the Suez Canal University has agreed to join the scientific team, which includes four specialists at the Nuclear Safety Center, to conduct these measurements. He said that the group's task is expected to last two or three days. Electricity and Energy Minister Mahir Abazah has approved the project.

It is noteworthy that the Israeli Atomic Energy Committee has admitted that such radiation leakage from the Dimona reactor in the Negev has taken place, but added that no danger to the environment or public health has resulted from it.

IRAN

Brick Kilns Exhausting Hamadan's Water, Soil*93WN0335B Tehran ABRAR in Persian 25 Feb 93 p 9*

[Text] Hamadan-ABRAR correspondent. The mere existence of over 1,700 brick kilns throughout the province of Hamadan has had a negative impact on the environment.

Mr. Rasouli, deputy governor for political and state security said: The brick kilns are located in areas where, by nature the best type of soil conducive to farming could be found, therefore as a result of their use of an inordinate amount of soil and subterranean waters, the kilns in question change the farmable lands into big craters and thus gradually diminish and debilitate the economic and agricultural base of the said province.

Inadequate Facilities for Monitoring Hunting Practices in Preserves*93WN0335F Tehran ABRAR in Persian 27 Feb 93 p 5*

[Text] As a result of its peculiar geographical features such as its mountains and partially wooded areas, the province of Chahar Mahall va Bakhtiari is one of the hunting preserves of the country with the most potential.

Most of the gaming preserves of this region have favorable conditions for the breeding and habitat of wildlife.

So much so that a wide variety of rare animals and birds such as Caucasian partridges can be found in these regions.

From among the more important hunting preserves one can point out Tang-e Sayad, Sabz-Kuh, Kuhe Jahan-Bin, Zard-Kuh, Sahray-e Marjan, and Seyyed Baha-eddin, all of which enjoy a large variety of wildlife.

Also various types of wildlife such as ibexes, ewes, rams, swine, foxes, wolves, leopards, brown bears, and Caucasian partridges are found in these regions.

Likewise, one can name various types of birds, whether migratory or indigenous, which live on the lakes and swamps, such as geese, cranes, ducks, and herons.

However, the experts of the Environmental Protection Agency believe that about half of the important game reserves of the province have not yet been properly identified.

In order to acquaint ourselves with the various species of wildlife in Chahar Mahall va Bakhtiari, we will briefly investigate some of the protected regions in question.

Wildlife in Tang-e Sayad

The protected game reserve of Tang-e Sayad is located 20 km southeast of Shahre Kurd and covers an expanse of 27,000 hectares [ha] of land. It enjoys a mild summer season and very cold winter months.

As a result of the presence of numerous springs and an abundance of favorable vegetation, this region provides proper living conditions for wildlife, so much so that various types of animals and birds such as ibexes, goats, rams, ewes, leopards, wolves, and common Caucasian and yellow partridges can be found in this region.

Other types of wildlife such as crocodiles, tortoises, snakes, sables, badgers, hyenas, and migratory and preying birds also abound in the region.

In any case, in the viewpoint of the experts, Tang-e Sayad can be considered a true example of a very interesting region worth visiting. And any one who makes a first visit to this region will become a self-proclaimed preservationist as well.

Wildlife in Sabz-Kuh

The Sabz-Kuh region with an area of about 62,000 ha is located in the northern part of the town of Lordegan, which has rich vegetation and a wooded area suitable for wildlife.

The northern portion of this region begins on the eastern part at the village of Sar Pir Soltan Ebrahim and ends in the vicinity of Madan village in the west. This portion mainly consists of two favorable niches called Tange Zendan and Yaroisi, which are quite suitable as living grounds for goats, ibexes, wolves, swines, foxes, brown bears, partridges, and eagles.

The southern portion of this region begins at Pazan Pir in the east and ends in the vicinity of the two villages of Farsoon Joghnd and Armand in the west.

The major part of this region is mountainous and is covered with vegetation and uniform wooded areas.

This portion of Sabz-Kuh, as a result of inaccessibility, has maintained its original form and character and is considered one of the richest parts of Sabz-Kuh as far as vegetation and wooded areas are concerned. This region provides a good habitat for goats, ibexes, rams, ewes, brown bears, squirrels, swines, and various types of birds.

The reptiles of this region include the green viper, asp, and several other forms of snakes.

Mr. Seyfullah Riahi, director general of Environmental Protection Agency of Chahar Mahall va Bakhtiari, considers one of the main threatening factors for the wildlife of the region the irresponsible way of cutting down forest trees and pasturing practices that result in the loss of pasture lands and living habitats of the wildlife.

Furthermore he added: Until now about 3,000 hunting permits were been issued, and as a result of illegal and irresponsible practices of some hunters, a few species of wildlife have become extinct.

The director general of the Environmental Protection agency of Chahar Mahall va Bakhtiari, while noting the fact that it is the duty of every individual to protect the birds and animals, stated: As a result of a lack of adequate facilities there is no comprehensive information available with regard to the extent of hunting practices in the province and one can only surmise that the illegal and irresponsible gaming practices of some individuals cause some of the most threatening dangers to the wildlife in the region.

Offending Hunters Arrested in Yazd

93WN0335G Tehran ABRAR in Persian 28 Feb 93 p 9

[Text] The General Department of Environmental Protection of Yazd and its affiliates made a total of 762 million rials through issuing hunting permits during the current year.

Hosseini, general director of the Environmental Protection Department of the province of Yazd, in an interview with IRNA's correspondent went on to say: Furthermore, the agents of this general department in the game preserves in question arrested 113 offending hunters and fined them a sum of 21.6 million rials for illegal hunting and inflicting damage to the natural resources.

He further added: In order to diminish the number of deaths resulting from an inadequate water supply in the Bajegan, Arizoo, and Darreh Anjir districts of Bafgh township during the current year, construction of a rock dam with a capacity of 500,000 liters of water in the

highlands of Bafgh has begun, of which 80 percent has been completed. It is predicted that the dam will be operational in the coming summer season.

In relation to the execution of the rules and regulations of the environment, he stated: During the current year experts from the General Department of Environmental Protection have visited the sites of 578 industrial production plants and granted approvals for the establishment and operation of 558 units. Furthermore, 23 polluting production units throughout the province were closed accordingly.

Report Shows Increase in Wilderness Recovery Activities

93WN0335E Tehran ABRAR in Persian 28 Feb 93 p 4

[Text] Economic Service. After the advent of the victory of the Islamic revolution, about 800,000 hectares [ha] of land were assigned to reforestation. Compared with the 392,000 ha of land that was assigned to reforestation before the advent of the revolution, the new figure shows a 104-percent increase.

According to the Public Relations Office of the Reconstruction Jihad, a comparison of the related activities in the area of wilderness erosion stabilization before and after the advent of revolution up until 1370 [21 Mar 1991-20 Mar 1992] each for a period of about 13 years, indicates that after the advent of the Islamic revolution over 400 million saplings were planted whereas for the same period before the revolution, about 34 million saplings were planted, thus we see more than a 12-percent increase.

Similarly, after the advent of the victory of the revolution, 800,000 ha of land were planted with saplings, 748,000 ha were tilled and seeded, 5,813 tons of seeds collected, and 67,730 tons of mulch were used accordingly. Compared with the pre-revolution era these figures indicate an increase of 2, 3, 4, and 2 percent, respectively.

The said report continues: After the advent of the revolution, 13,740 ha of lake area, 1,500 km of wind barriers, and 3,078 km of new roads were established.

According to the same report as of 1344 [21 Mar 1961-20 Mar 1962] until the end of 1370 [21 Mar 1991-20 Mar 1992], a period of 26 years, about 4.1 million ha of wilderness were stabilized; of this figure about 3 million ha were thus utilized after the advent of the Islamic revolution.

This report, while pointing to the stabilization of 10 million ha of wilderness in the provinces with predominantly desert areas, also indicates: The provinces of Isfahan, Khorrasan, Semnan, Sistan va Baluchestan, Kerman, Khuzestan, Fars, Hormozegan, the Central [province], Yazd, Tehran, and Bushehr have a total of 50 million ha of wilderness and about 12 million ha of sand deserts; of this figure 5 million ha are now considered

within the realm of this active program while 7 million ha are considered inactive at this time.

According to this report, in the program for the stabilization of 10 million ha of wilderness that began as a five-year plan in the current year, 3.8 million ha were assigned for planting saplings, 196,000 ha for mulching, and about 6.15 million ha for seeding.

The current year's program for recovery of wilderness will include 380,000 ha of sapling planting, 605,000 ha of seeding, and 15,000 ha of mulching in addition to preparing another 1 million ha for the stabilization procedures. Until now more than 50 percent of the program's activities have been accomplished while it is expected that by the end of Farvardin [March 21 through April 30—the first month of the new year] all the planned activities of the current year will be completed and therefore 2 million ha of the country's wilderness will be revived and recovered accordingly.

Owners of Polluting Vehicles Fined in Tehran

93WN0335C Tehran ABRAR in Persian 28 Feb 93 p 3

[Text] News Service—During past month the owners of 25,197 polluting vehicles [16,340 automobiles and 8,857 motorcycles] were fined by the officers of the Tehran Motor Vehicle Administration.

General Mansour Nia, director of Public Affairs Office of the Motor Vehicle Administration of Tehran in a telephone conversation with our correspondent while mentioning the above subject, also stated: During the same period, 644 polluting motorcycles and 1,358 polluting automobiles were seized as well.

He went on to say: In accordance with Article 185 of the Traffic Laws, which prohibit posting of any unnecessary logos, pictures, and other decorations on the automobiles, traffic officers have taken proper action against 5,403 violating automobiles as of 16 January through 24 February 1993.

In conclusion, Gen. Mansour Nia asked our fellow citizens to assist traffic officers in carrying out the traffic laws as best they could.

Felling Cypress Tree Carries Prison Sentence

93WN0335D Tehran ABRAR in Persian 1 Mar 93 p 2

[Text] According to the laws regarding the preservation and protection of the forests, those individuals who carry out any action with regard to cutting down cypress trees can be imprisoned for a period of three to six months.

Engineer Alipour, director general of the natural resources of the province of Semnan, at the beginning of "Natural Resources Week" while announcing this matter, also stated: In the abovementioned law that was approved by the Islamic Consultative Assembly, the cypress species was recognized as a special forest preserve.

He went on to say: The cypress trees in Semnan cover an area of approximately 150,000 hectares [ha] of forest and as a result the province of Semnan is one of the [most] resourceful provinces of the country. He further acknowledged the total area of the forests of the province at 225,000 ha and stated: In the last few years, with the cooperation of this office [Department of Natural Resources], the wooded area of the province, whether natural or humanly cultivated, has reached 300,000 ha.

Up to now an area of 1 million ha of land was assigned for pasturing, of which 350,000 hectares will be signed over to the livestock owners through a 30-year contract by the end of the second quarter of the current year.

ISRAEL

Recycling Waste Treatment, Household Trash

93WN0339B Tel Aviv HA'ARETZ in Hebrew
23 Mar 93 p B4

[Article by Eli Elad: "Recycling Trash in the Household Can"]

[Text] By the public attention that the Garbage Recycling Law has been receiving recently—and by the significant increase in the number of entrepreneurs knocking on the doors of government ministries, carrying letters of representation from international companies engaged in the recycling and burning of trash—one might assume that the only thing left to do is to equip the minister of ecology with scissors, so he can pass through the various new recycling sites and cut the ribbon marking the opening of each.

But that is still not the total picture. There has been an awakening, and increased awareness of the issue is evident with some of the local authorities and among the public at large, which is tired of seeing and smelling the hundreds of dumps throughout the country. In the meantime, however, only 4 percent of the total of 2.7 million tons of household garbage produced in Israel each year is being recycled.

Two years ago, the rate of recycling stood at only 2 percent. In other words, this is a 100-percent increase; but the garbage dumps of some of the local authorities—including Netanya, Hadera, Kfar Saba, Ra'anana, and Herzliya—are either already full, or must halt their operations due to the proximity of new residential neighborhoods to their fences.

In Hadera, advanced infrastructure work is already under way for the establishment of a new neighborhood south of Givat Olga, but construction cannot be started as long as Hadera's stinking garbage site, on the other side of the coastal road, continues to operate. The Irusim neighborhood in Netanya is located 300 meters from the municipal garbage site, and the neighborhood committee

is acting to have it closed down. Each town is about to announce a bid for the establishment of a sorting plant for recycling purposes.

The Herzliyya dump, which borders the coastal road near the Sirah junction, is just a step away from the stage wherein it will begin to rise above the level of the road. The distance between it and the busiest road in the country is approximately 10 to 20 meters. Givat Hakurkur, which hid the sight (but not the odor) from motorists in the past, was recently removed within the framework of the construction of the Sirah interchange.

The solution to the problem of the Hiriyya garbage site, too, is far away. In the interim, declarations about the imminent closure of the dump do not have any basis in fact, for the alternate site for the trash of greater Gush Dan has not yet been approved. This trash totals 2,500 tons per day. Prewinter appraisals that there had been a notable improvement in the level of maintenance at the site were apparently inadequately substantiated. There is no justification for a mountain of garbage in the heart of metropolitan Tel Aviv not being covered carefully with layers of earth throughout the year, including wintertime.

In any event, in Hiriyya, as well, there are plans for the establishment of a transit station for the receipt of Gush Dan's trash. Close to the transit station, a system for the sorting of garbage for recycling purposes is being planned, and garbage that is not sent for recycling will be moved to a future site in the south.

In other areas of Israel, there is less awareness of the need to treat the problem. In Jerusalem, the recycling potential will be examined shortly. Haifa, where the garbage mountain of the municipal dump near Gesher Paz—called Givat Go'el [Disgusting Hill]—is rapidly growing, does not yet feel great pressure, and there the matter is not being given significant priority.

Significant progress in the area of recycling has been made in Qiryat Tivon. Officials in the ministry of ecology hope that it will serve as an example for all of the municipal authorities in Israel. According to a recent survey, approximately 50 percent of the residents of Qiryat Tivon recycle their household trash. They are equipped with two types of bags, in different colors. They place dry garbage in the green bag—plastic, paper, glass, textiles and metal. All the rest—the wet garbage—is placed in the second bag. The municipality, on its part, collects the bags of wet garbage twice a week and the bags of dry garbage once a week, through a collections contractor, the Amanir company. Incidentally, garbage was collected approximately three times a week even before this system was instituted, so the cost of removal has not increased.

From Tivon, the bags are transferred to Amanir's recycling plant in Afula, where manual sorting is performed. Half the garbage is not recycled and is sent to the Talia dump site near Menechamya. The remaining half is

divided between compost and the recycling of raw materials for the paper, plastics, and glass industries.

The director of the department of solid waste in the ministry of ecology, Yitzhaq Gil, and the ministry official in charge of recycling, Dr. Yossi Inbar, say that Israel is currently on the verge of a breakthrough with regard to recycling. An initial manifestation of the breakthrough will be transit stations, such as the one currently being constructed at the Segulah site in Petah Tiqva, which is supposed to receive all of the municipal garbage. Sorting materials that can be recycled from the general trash will be performed at the site. The latter will be transferred to sites such as the paper mills in Hadera, locations for the recycling of plastic, and a glass plant. The separation of the recyclable material from the rest of the trash will enable, among other things, a reduction of the volume of garbage that must be removed to Modi'in. Accordingly, the cost of trash removal will also decrease. This is in addition to the economic value that will be derived from the recycling itself. Officials in the ministry of ecology are hoping that, in addition to the station in Petah Tiqva, the authorities will establish transit stations—including sorting facilities—in the north (the Na'aman site for the garbage of Acre, Nahariyya, the Qrayot [suburbs of Haifa]), Hadera, Natanya, Rehovot, and Be'er Sheva.

If people begin to sort garbage in all of these places for recycling purposes, it is estimated that the quantity of household waste recycled in Israel will again double, i.e. eight percent of it will be recycled. For purposes of comparison, it is worthwhile to note that in the northern European countries, which are considered to be the most advanced in terms of recycling, approximately one quarter of household trash is recycled. Most of the waste is buried in dumps, and the rest of it is incinerated. In the United States, 14 percent is recycled, 10 percent is incinerated, and all of the rest, approximately three-quarters of all household waste, is still buried in the dumps.

[Box]

Green Toilet Paper

An additional aspect of recycling is the establishment of the use of products made out of recycled raw materials.

Most manufacturers fear that if product packaging noted that it was made out of recycled materials, this would hurt sales. Thus, for example, the great majority of toilet paper currently sold in Israel is produced from recycled office paper, after treatment intended to guarantee the receipt of a hygienic product. Only one manufacturer, however—whose label is the "Green Forest"—has recently begun to note this on the packaging of their products. For this, they are worthy of the appreciation of consumers in Israel. It is fitting that they, like consumers abroad, should prefer green products.

Sarid Seeking Centralized Waste Dumps

93WN0339A Tel Aviv HA'ARETZ in Hebrew
23 Mar 93 p 1

[Article by Eli Elad: "Sarid Seeking To Halt Activity of Hundreds of Dumps Throughout Israel"]

[Text] A plan for the immediate closure of most of the waste dumps presently operating in Israel will be brought before the cabinet soon for approval by the minister of ecology, Yossi Sarid. The resolution will require local authorities to transfer the waste to several national central sites. This will significantly raise the costs of garbage disposal.

The plan seeks to halt the activity of most of the four hundred dumps that are currently operating. The implementation of the resolution will require a decision to establish two additional sites for garbage disposal.

Sites being considered are the Duda'im site north of Be'er Sheva or the planned Kalanit site in Beit Gobrin. The plan is for one of these to receive the trash from the Dan area, instead of Hiriya. The approved site near Menahamya or the planned Savyon site near Ayn Hashofet is proposed to receive trash from Haifa and additional towns in the north.

The implementation of this decision will create an economic incentive for the local authorities to act to decrease the volume of municipal trash. The main means of doing so will be recycling.

Yesterday, the Committee for Internal Affairs and Ecology, headed by MK [Member of Knesset] Yehoshu'ah Matza (Likud) (?approved) the final draft of the Recycling Law, which has been stuck in the Knesset Committee for approximately four years. The law will be brought before a plenary session of the Knesset for approval by next week. The draft law was submitted approximately four years ago by MK Dan Tihon. Since then, it has been blocked in various Knesset committees.

Among other things, there was serious disagreement between the ministries of the interior and ecology regarding the question of which ministry would be in charge of the law. It was recently agreed between Ministers Aryeh Deri and Yossi Sarid that the minister responsible for and in charge of the law would be the minister of ecology, and that with regard to the imposition of duties on local authorities, the minister of ecology would consult with the minister of the interior.

The Recycling Law deals with the separation of trash near the sources of its production, i.e., on the outskirts of the towns (at transit stations). Within the framework of the law, residences and businesses will be obligated to provide containers designated for the collection of various recyclable materials among the trash. Businesses will also have to install devices designed to decrease the volume of trash, particularly compactors and shredders.

The law will be administered in stages, with implementation commencing six months after the date of its publication.

MOROCCO**Update on Tangiers Water Shortage**

93WN0379A Rabat L'OPINION in French
5 Apr 93 pp 1, 3

[Interview with Lahoucine Tijani, ONEP (National Drinking Water Office) general director, by M. Touala; place and date not given: "Tangiers Drinking Water: Rationing Soon?"—first three paragraphs are L'OPI-NION introduction]

[Text] The city of Tangiers has experienced problems with its drinking water supply since the beginning of the decade. In 1989, when the ONEP [National Drinking Water Office] set a new treatment plant into service on wadi Hachef, the problem seemed to have been solved. In fact, in the last two years, there was no dysfunction in the water supply. The current drought means renewed hardship for the country since the water must be cut off already now, in winter; then, what is it going to be like in summer? Will we have to ration water?

To answer all these questions, we thought we should contact the ONEP to find out where we stand now, and what is going to happen in the future.

The ONEP general director, Mr. Lahoucine Tijani, answered our questions:

[Touala] The drinking water supply of Tangiers is becoming a nagging problem.

[Tijani] Everybody knows that our country is currently suffering from a critical drought that affects several sectors of our economy and whose impact is more or less acute, depending on the region.

As far as drinking water is concerned, the situation is worrying, but not disastrous as one might think. Actually, except for a few towns, Tangiers in particular, which we will consider later, most towns and urban centers do not have their water cut off, and this is due to the dam policy, to the fact that drinking water was given priority, and also to the government's considerable financial efforts in this sector for several decades; this, of course, does not mean that we should go on wasting water at will, for water is rare and any abusive use penalizes the entire economy.

Of course, if the drought persists, the Vigilance Committees (there is one in each town) will then have to take the necessary measures to manage the crisis according to the severity of the water shortage in their respective towns or centers.

[Touala] Well, then, how do things look in Tangiers?

[Tijani] In Tangiers, underground water is practically nonexistent. The surface resources already developed today comes from wadi M'Harhar, regulated by the Ibn Batouta dam which has a capacity of 38 million cubic meters [m^3] and from wadi Hachef but only during the rainy season.

The water of wadi M'Harhar is treated at a treatment plant built in 1958, which was doubled in 1975, and enlarged in 1982, increasing its capacity to 82,500 m^3 per day.

To adequately cover summer water requirements, a decision was made to build a dam on wadi Hachef; that dam will be set into service in 1995. Meanwhile, a new treatment plant connected to the dam was built in 1989, with a capacity of 121,000 m^3 per day; it is a run-of-river plant, which means that it works only during the rainy season. The water thus treated is stored in the large natural reservoir of Charf El Akab to meet summer requirements.

[Touala] Do you mean that this plant does not work in summer?

[Tijani] The plant was built with two objectives in view: the first one is the immediate objective of meeting the summer peak demand—the plant therefore treats the wadi water in winter and the treated water is stored for summer consumption; the second objective is, starting in 1995, to meet the long-term needs of Tangiers (in the year 2020) after the completion of the dam that is currently being built on wadi Hachef by the Hydraulics Department of the Ministry of Public Works, and Vocational and Cadre Training.

[Touala] Tangiers, therefore, is adequately equipped for the long term. It is therefore a matter of resources.

[Tijani] The city of Tangiers is actually adequately equipped. It will be completely equipped when the wadi Hachef dam, which is currently under construction, is completed. During the past 20 years, 25 billion centimes were invested, and another 16 are programmed by the ONEP, not counting the investments of the water supply company, as well as investments in the Hachef dam, which will cost 850 million dirhams. The problem, therefore, does not lie with the equipment, but with the scarcity of the resources. Currently, the Ibn Batouta dam does not even hold 4.2 million m^3 although it has a capacity of 38 million m^3 . The reserves of the Charf El Akab aquifer amount to 1.8 million m^3 , whereas it has a capacity of 26 million m^3 .

This decline is due essentially to the rain deficit of 1991-92, and to the fact that rains are very late this year.

[Touala] When the wadi Hachef dam is set into service, will the problem be solved?

[Tijani] The Hachef dam, with a capacity of 270 million m^3 , will first make it possible to store the water, to run the treatment plant continuously, and therefore to guarantee that enough drinking water is produced. If there is

another drought—which is something we must always expect when we manage our water resources—managing our scarce water resources will then be easier and more rational because we will have two dams.

[Touala] Meanwhile, can we import water?

[Tijani] For Tangiers, the water deficit is currently about 30,000 m^3 per day. If we could afford to make up for it by bringing in water from another region, for example from the Smir treatment plant near Tetouan, that would require a line of 1,000 30-ton tank trucks driving back and forth between Tangiers and Tetouan; imagine the feasibility and cost of such an operation!

There are other solutions, for instance transporting water by ship, which would cost a little over 100 dirhams per cubic meter, in addition to the large investments that would be required at the port of Tangiers to empty the ships quickly. A study of this solution was made by the ONEP, but we hope that it will not be implemented, as the measures that the Vigilance Committee has taken or will take to save water will certainly enable us to get to the end of the crisis without having recourse to such solutions.

[Touala] What can we do if the crisis continues?

[Tijani] Generally speaking, crisis-related problems are treated at two levels:

- the first one has to do with prevention;
- the second one deals with crisis management.

As far as the first one is concerned, I would like to say that, when it comes to drinking water, crisis is the daily lot of those who have to manage this rare and precious resource; actually, the crisis may be due to prolonged drought, or it may result from pollution, power cuts, or equipment failure.

In these cases, solutions are studied and applied whenever possible in order to prevent any service interruption and to ensure that the means and equipment required to remedy the problem are available in due time; scenarios have even been drawn up and tested full scale in urban neighborhoods to teach our personnel to cooperate in these cases with officials of the departments concerned, in particular civil protection organizations.

For cases when the crisis is serious and requires controlled and sustained management, the government has set up special structures in all towns. These are the Vigilance Committees chaired by the local authority, which bring together all the people involved in contacting:

- the producer in order to protect the resource and manage production as best we can;
- the distributor in order to improve the service, reduce water losses in the water-supply network and monitor water quality;
- the consumers, to avoid squandering water and rationalize consumption.

[Touala] What should we conclude?

[Tijani] Tangiers' problem is temporary; let us hope that we will get more rain so water levels will increase and existing water-treatment plants can operate normally. When the Hachef dam is completed in 1995, rational management of the complex will enable us to provide adequate water supply and to overcome our current difficulties.

In spite of this, a shortage may occur again in the future, this time at national level. This is why we should make it

a habit to save water, for we must become aware of the fact that water is a scarce resource we have no right to waste.

In addition, we must realize that wasting water does not penalize just the consumer who wastes it—and gets higher quarterly bills—but also other sectors that are all equally essential. Therefore, it is everybody's duty to become aware of the importance of saving water, because we all have a part to play in this respect; as for the press, it plays an important part in continuing to inform the public of the need to save water.

RUSSIA

Tomsk-7: President's Ecology Adviser Discusses Environmental Issues

OW1604112393 Moscow Ostankino Television First Channel and Orbita Networks in Russian
1845 GMT 13 Apr 93

[Studio interview with Aleksey Vladimirovich Yablokov, presidential adviser on ecological issues, by Irina Zaytseva; from the "Utro" program—live]

[Text] [Zaytseva] From our school days, we all probably know these lines of the great poet: I know there'll be a city; I know the garden will bloom. However the situation we have in our country today puts the flowering of gardens and the ripening of any fruit in question. As you can understand, our conversation will now turn to ecology. My guest is Aleksey Vladimirovich Yablokov, presidential adviser on ecological issues.

Aleksey Vladimirovich, a natural question, which practically all television programs are discussing, is the accident at the Tomsk-7 AES [Nuclear Atomic Electric Power Station]: Is the data being understated as Western press agencies and particularly the Greenpeace Organization claim?

[Yablokov] You know, it was not really an accident at an AES. It was an accident at a radio chemical production facility. A technological container exploded as the result of—and this can be now stated precisely—the incorrect actions of the personnel. We know for a fact that the results are being understated, as they claim, because we do not know the most important thing. We do not know how much plutonium was released. According to various estimates, this container held from 200 to 500 grams of plutonium. If only 100 grams have been released and dispersed over the territory, this would be enough to poison hundreds of square kilometers—forever, unfortunately. It all depends on how much plutonium was released.

Plutonium is extremely poisonous. It is not simply radioactive. There is no such element in nature, it is manmade. It is a very poisonous metal. If it gets into the human organism it invariably causes cancer.

So we do not have this information yet. Samples have been brought to Moscow. They were brought here on Sunday, and we hope that by Tuesday, sometime in the morning or during the day, we will have the results. An analysis of these samples can be carried out only at the Tayfun Association in Obninsk, Kaluga Oblast, which is not far from Moscow. Very intensive work is under way there right now.

[Zaytseva] Tell us, recently you asked the president to thoroughly investigate and check all AES's in Russia. Have there been any results?

[Yablokov] I can show the television viewers a directive signed by the president the day before yesterday which is devoted to this accident. [Yablokov holds up single page document]

[Zaytseva] That is success in itself.

[Yablokov] Yes, unfortunately, although it is a success... [pauses] We worked rapidly in this case and the president himself noted this when we reported it to him—he gets a roundup of all the news every morning—and he instructed that a directive be drawn up immediately.

Here are the main points of this directive:

To the Council of Ministers: Ensure nondepartmental state control and the most thorough measures of supervision. Gosatomnadzor [State Committee for Supervision of Nuclear and Radiation Safety] must carry out an investigation of Minatom [Ministry of Atomic Energy], Roskomoboronprom [Committee for the Defense Industry of the Russian Federation], and the Ministry of Defense Enterprises, Organizations, and Military Units by 1 December to verify security.

[Zaytseva] Does this even include an inspection of secret documents?

[Yablokov] No, not documents—reactors, regardless of where they are located. It is very important to stress this, because AES's were under control, but many reactors such as this production facility, were not under such stringent control. This is a military facility.

A very important point: All federal and administrative organs concerned must take measures to introduce new remote methods for operative detection of radioactive emissions. So far...[pauses] When did Moscow learn about this accident? After three or four hours. This is impermissibly slow. At the same time, at the very moment of leakage, detection could have been done instantly with the help of radar [radio lokator]. New detection methods can detect an emission tens of kilometers away.

The fourth point is very important for Tomsk Oblast: Minatom, Goskomchernobyl [Committee for Social Protection of Citizens and Rehabilitation of Territories Which Suffered from Chernobyl and Other Radiological Catastrophes], Minpriroda [Ministry of the Environment and Natural Resources], and the Administration of Tomsk Oblast must ensure the rehabilitation of the polluted territory and determine the loss caused to the environment and the population and compensation for this loss. This is being done for the first time.

[Zaytseva] For the first time?

[Yablokov] Chernobyl taught us a lesson. We must take measures rapidly and in an operational manner without exciting the population.

[Zaytseva] Compensation for whom? Who will pay this compensation?

[Yablokov] For Tomsk-7. There is simply no other alternative. Now the last point concerns you, the mass information media, directly: All organs of the state executive...[pauses] and mass information media must be aware of the need to unconditionally provide timely, complete, and truthful information to the populace. So I will give this directive to you so you can keep it and use it.

[Zaytseva] Thank you. Now tell us please, is it realistic to bring AES's in Russia up to the safety standards of those in Western countries? How many years would this take and how much would it cost?

[Yablokov] Yes, I can answer this question now since we have such estimates. We would need a minimum of 10 to 15 years and at least \$10 billion. By some estimates, we would need \$60 billion. This is partly the reason I oppose the construction of new atomic power stations...

[Zaytseva interrupting] It is not realistic.

[Yablokov] It is not realistic. We need to decommission aging atomic power stations and replace them with gas turbine generators. This would be a lot cheaper, some two to three times cheaper, and quicker.

[Zaytseva] Now naturally all of us, including the television viewers, are concerned by the ecological situation in Moscow.

[Yablokov] Well, there is nothing strange about it; it is routinely bad. The situation regarding the removal of garbage is bad, and it is bad regarding radioactive waste. Every year in Moscow...

[Zaytseva interrupting] Are there many radioactive sites scattered around Moscow?

[Yablokov] In the past 10 years, 600 sites have been found. They have been eliminated, but every year about 50 more are disclosed. It is like some kind of catastrophe. There are problems with drinking water, and it is particularly frightening now, in the spring. Our purification facilities are operating with outmoded equipment and still use chlorine. Equipment using ozone should be introduced as well as other modern methods, because chlorine, particularly in the spring when all kinds of organic fertilizers are being washed from the fields, when combined with this dirt produces dioxins. Not a large quantity, but nevertheless dioxins are produced which are most frightening poisons. Yet we do not even have a laboratory to measure the dioxin content of drinking water. This is the sort of confusion we have.

There are debates over the best way to handle garbage in Moscow. There is talk of building garbage incineration plants. Apparently there has been a consensus on their construction, although the entire world is already rejecting them. They should not be built since their emissions cause more poisonous pollution and they do more damage than good.

There are also routine problems with transportation. The streets are polluted with gas emissions. As you know, 70 percent of pollution is caused by transportation. Our transport is three to four times worse than any other country when you consider exhaust emissions. The standards need to be changed. Even if we make adjustments to very good technical characteristics which eliminate smoke, we will still have two to three times more pollution from every vehicle than in the West.

[Zaytseva] And nothing practical can be done, say in Moscow, by investing some money into this? Or don't we have any?

[Yablokov] No, something is being done. A lot is being done. In fact, air pollution is being decreased, both in the country as a whole and a little bit in Moscow. This is being achieved by reducing military production. Large plants are producing less. Fortunately their goods, or rather their products, are not necessary. So last year, air pollution throughout the country was decreased by about 15 to 13 percent. This is terrific.

Unfortunately, water pollution was not reduced; in fact, it increased somewhat. Municipal purification facilities are not operating very well. This is bad. The ecological fund is being augmented slowly. Two years ago, we had hoped that we could introduce economic levers. The polluter would pay and there would be a price on natural resources. This would mean a big influx of money into the ecological fund. The greater the pollution, the more money in the ecological fund. Now this is what happened in Moscow two years ago—I am afraid I do not know what is happening now: Some 400 million rubles [R] should have been collected into the ecological fund from polluters, but only R140 million were collected. The situation is improving somewhat, but it is nevertheless a very small amount. The taxation service is not working, enterprises are avoiding payments. So we are making our own lives miserable.

[Zaytseva] Well, nevertheless something is being done.

[Yablokov] Well, of course.

[Zaytseva] So let us conclude our discussion on this optimistic note.

[Yablokov] A lot is being done, and I must add that the government is doing a great deal. The number of nature sanctuaries has increased and an extensive drinking water program is being prepared which may get this whole issue rolling. A program on dioxins is being prepared...

[Zaytseva interrupting] In the near future I hope.

[Yablokov] Well, the program will be adopted this year, and a special program on dioxins will be adopted. In other words, everything is being done. Presently ecological entrepreneurship is developing actively. Literally

any day now, an exhibition of ecological entrepreneurship will open at the VDNKh [Exhibition of Achievements of the National Economy in Moscow]. The process is making headway, even if slowly and grudgingly.

[Zaytseva] Thank you very much. And I would like to remind you that the guest in our studio was Aleksey Vladimirovich Yablokov, presidential adviser on ecological issues. Thank you.

[Yablokov] Thank you.

Tomsk-7: Situation Reported Not Dangerous

LD1304223993 Moscow Ostankino Television First Channel Network in Russian 2000 GMT 13 Apr 93

[Video report from Tomsk-7 by correspondent Vera Morozova—from the "Novosti" newscast]

[Text] [Announcer] The commission of the State Committee for Emergency Situations in Russia which has been operating in the town of Tomsk-7, has given its verdict on the results of the recent disaster.

[Morozova] The town of Tomsk-7, from where such alarming reports have come, looks perfectly all right on the surface. The question "How do you feel?" is really for the ill-fated radio-chemical works.

At the entrance, as we were warned, the radiation background was approximately 230-250 microroentgens an hour. It's true that the readings showed 100; it was quite different at the actual site of the explosion. There the radiation was really strong.

[Speaking to director] Is it dangerous for the people working in neighboring production areas?

[V. M. Korotkevich, director of the radio-chemical works—captioned] All the production of the works, with the exception of the section where the disaster occurred, is operating. In operational areas the radiation situation enables a full working day of six hours to be worked.

[Morozova] So what has been getting us all worked up during this week has been, above all else, the medium radioactive clouds which have come to rest over the area. Judging by data released by the commission of the State Committee for Emergency Situations, the length of the tail which settled on the ground was 37 km and it is made up of spots in the range from tens to hundreds of microroentgens an hour. Of the villages affected by this fall-out, apart from Georgiyevka, one more was named today—Chernaya Rechka. As far as the rest of the territory is concerned, precise conclusions have been made on it.

[V. A. Vladimirov, chairman of the commission of the State Committee for Emergency Situations—captioned] The situation which has come about today in the disaster area is not dangerous for the life and activity of the population.

[Morozova] Can the results of the commission be trusted, in your view?

[V. M. Kress, head of the Tomsk oblast administration—captioned] Our State Committee for Nature Protection and our oblast committee have carried out checks, also our oblast sanitation and epidemic station, and we have brought in specialists from our oblast and scientists from the polytechnical university, and the State Committee, or rather the hydro-meteorological service has been working, and geologists from the Berezovsk specialized subunits in Novosibirsk oblast. So it is far from departmental data which we have here, but rather an accumulation of data from various sources. [video shows correspondent standing on pavement of busy street with passersby going about their business; truck passing "prohibited zone" sign; man with geiger counter and others in white overalls walking round site; vehicle spraying road; shattered wall of building; three separate interviews; commission working, close-up of map showing affected area; people seated at desks; more shots of men and vehicles at site]

Tomsk-7: Evacuation Resources Lacking

LD1304123993 Moscow Russian Television Network in Russian 1000 GMT 13 Apr 93

[From the "Vesti" newscast]

[Text] A government commission establishing the reasons for and circumstances of the Tomsk-7 accident has tentatively established that clearing up the aftermath of the explosion at the chemical works will cost a total of around 20 billion rubles. A correspondent in Tomsk reports that it has been established that should there be a bigger disaster, Tomsk would not be prepared for the evacuation of the population, lacking the necessary amount of transportation, food stocks, and places for the evacuated to go. The local authorities have asked Russia's Supreme Soviet to consider the town's situation at a session and to allocate funds for the cleanup.

Tomsk-7: Shutdown of Same Type Urged

PM1304103193 Moscow IZVESTIYA in Russian 13 Apr 93 First Edition p 5

[Report by Andrey Illesh and Valeriy Yakov: "Accident at Tomsk-7: No Plutonium Detected in Discharge So Far"]

[Text] In the days since the accident at the Tomsk-7 secret nuclear plant information on the incident has fallen into the "panic" (as described by the nuclear scientists) or "balanced" (in the opinion of journalists, merely concealing the true scale and consequences of the explosion) categories. The West, which has long been anxious about the state of Russia's nuclear complex, with good cause, has also reacted in a whole variety of ways to the event. The "hero of the festivities"—the Ministry of Atomic Energy—has behaved most calmly of all: A ministerial press conference is set for 25 April... Let us

try to keep emotions in check and analyze the current state of affairs, using our own resources and those of ITAR-TASS.

Extent of Radiation Contamination is 35 Square Kilometers [subhead]

The isotope composition of the contamination of the surface in the areas adjoining the Tomsk Radiochemical Plant is characterized mainly by the presence of a number of heavy metals, including zirconium-95, niobium-95, ruthenium-103, and ruthenium-106, Georgiy Kaurov, chief of the Russian Atomic Energy Ministry information administration, has reported. According to data from the Tomsk-7 industrial health inspection laboratory, no plutonium-239—the isotope that poses the greatest danger to human beings—has been found in the discharge, but the search is continuing. Identification of this element is a rather complex and lengthy procedure.

A group of specialists headed by Sergey Shoygu, chairman of the Russian Committee for Emergencies, has arrived in Tomsk. They have confirmed that no plutonium has been found in the discharge resulting from the explosion.

According to verified data, the Russian Atomic Energy Ministry calculates that the area of radioactive contamination is 35 square kilometers. The village of Gavrilovka, population 20, is on the edge of the contaminated area. In some places the radiation background there reaches 30 microroentgens, which is twice as high as usual but does not pose a threat to health. But there is some other information that says that the total area of contamination is 120 square kilometers. INTERFAX was told this on Monday by the same ministry's press service.

The Defense Sector Must Be Independently Monitored

Boris Yeltsin has issued a directive on measures to ensure the safe operation of nuclear energy facilities, the nuclear weapons complex, and radioactive sources and accidents at the Siberian Chemical Combine [as published]. Aleksey Yablokov, adviser to the president on questions of ecology and health protection, commented on it.

Concerning the first point in the directive, obliging the government to take exhaustive steps to ensure extradepartmental state monitoring of the safe operation of civil and defense enterprises and nuclear installations, A. Yablokov said: This point is "absolutely essential," since the Russian State Committee for the Supervision of Nuclear and Radiation Safety, which is an extradepartmental monitoring body, is running into obstacles erected both by the Atomic Energy Ministry and by the Russian Defense Ministry.

"Other Radiochemical Facilities Must Be Shut Down for Checks..."

A press conference was held at the Russian "Kurchatov Institute" scientific center devoted to the upcoming academic council session, which will be attended by leading scientists from home and abroad. But what interested us all most was not the content of the reports that are to be delivered but the current state of the CIS nuclear complex and forecasts of the possible consequences of the accident at Tomsk-7. The Kurchatov people gave their assessment.

Academician Nikolay Ponomarev-Stepnoy said: Judging by the available information, there are no grounds at the moment for comparing the consequences of the accident at Tomsk-7 to the consequences of Chernobyl, as has been done in the press. The accident at the chemical plant was certainly serious, but in terms of the scale of contamination of the surrounding area it is thousands of times less serious than the Chernobyl accident. According to the academician, there is no reason to distrust the information that is coming from the scene. If only because it is not first being censored by the CPSU Central Committee Politburo, as happened in April 1986, but is coming direct from the combine, where the special commission is at work.

But there is something that has not been done, something they are keeping quiet about: There are similar production facilities in Krasnoyarsk and Chelyabinsk. The cause of the accident at Tomsk-7 has not yet been properly established. According to the international rules, these enterprises should be shut down and carefully investigated, in order to improve reliability and safety.

Andrey Gagarinskiy, secretary of the Nuclear Society, added: The accident in Tomsk confirmed once again the need for the closest contacts among scientists and practical experts in the former Union. Isolationism can in no way contribute to nuclear development in the overall geopolitical space, and in some specific cases it is actually dangerous.

...The Atomic Energy Ministry press center has announced that Russia is not obliged to resort to an international investigation of the Tomsk-7 affair, because the incident occurred at a military facility...

Tomsk-7: Expert Says 'Lucky' Circumstances

PM1404112193 Moscow ROSSIYSKAYA GAZETA
in Russian 14 Apr 93 First Edition p 2

[Aleksandr Chernykh report: "Independent Experts Think Tomsk Was Very Lucky"]

[Text] Tomsk—Several groups that are not under the jurisdiction of any of the interested departments have been studying the radiation situation since the first few hours after the explosion at the radiochemical plant at Tomsk-7. The high standard of academic and applied

science in Tomsk made it possible to involve top-notch specialists in the work. They have subsequently been joined by scientists and practical workers from Moscow and Novosibirsk. Each group has its own equipment, instruments, and aircraft. They are working in parallel.

Vladimir Pakhomov, chief geophysicist at the Berezovskiy State Geological Enterprise, Novosibirsk:

"We are the main organization assessing the radiation situation in the cities of Siberia. We have been doing research since 1986. We use modern, highly productive, remote-sensing methods. An integrated STK [expansion not given] station makes it possible to register natural and man-made radionuclides with a very high degree of sensitivity.

"We have already carried out reconnaissance work and have preliminary data. Our equipment has recorded increased background gamma radiation in the region of the villages of Georgiyevka and Chernaya Rechka. It is two or three times higher than natural levels. In a few days' time we will be able to say for sure which territory has been contaminated and what the level of the increase in background gamma radiation is."

Leonid Rikhvanov, chief of the Faculty of Minerals and Rare Metals Geochemistry at the Tomsk Polytechnical University:

"Our group is made up of specialists in the fields of radioecology, geochemistry, and rare and radioactive elements. We are able to determine not only the strength of ionizing radiation, but its spectrum. The initial research results have shown that gamma radiation sources are represented by zirconium-95, niobium-95, ruthenium-103, and ruthenium-106. It is reassuring that long-lived gamma radiation sources are absent.

"The question of whether any alpha radiation sources are present began to concern us. It can now be stated that there are radioactive traces of them. The concentration of plutonium on the stretch of road between Tomsk and Samus is substantially greater than normal. Special work is now being done there. The concentration of alpha nuclides on the other side of the road will be low.

"As a researcher I am concerned about the presence of so-called 'hot' particles. These are several dozen microns in size and have a very high specific [udelnyy] radioactivity of up to several dozen milliroentgens. The particles may have traveled even further than the boundaries of the trace. Regional research would be needed to pick them up.

"Because of the melting of the snow the radiation situation is changing before our very eyes. Particles are settling in the soil from the melted snow. Everything will become clear in May-June. More detailed aerial gamma spectrometry and ground work is needed.

"Tomsk has been very lucky. First, the wind was blowing in the opposite direction. Second, wet snow brought the radioactive particles down to the ground. The main

contamination was on the territory of the combine itself, in its danger [sanitarno-zashchitnyy] zone. It was also fortunate that the equipment that exploded was at the end of the technological chain. There was a 'release' of cesium-137 with a half-life of 30 years, and strontium. If equipment at the beginning or middle of the cycle had exploded, the contamination would have been far more serious..."

Tomsk-7: Radioactive Cloud Over Alaska

AU1504070493 Sofia BTA in English 1419 GMT
14 Apr 93

[Text] Sofia, April 14 (BTA) - According to the latest data of the National Institute for Meteorology and Hydrology, the radioactive cloud formed as a result of the accident in Tomsk is now over Alaska and there is no danger of its drifting towards Bulgaria, Colonel Nedyo Radev, deputy chief of the Civil Defence Department, told journalists today.

The accident is qualified as level 3 on the International Atomic Energy Agency's seven-point scale of nuclear installations events and took place 5,000 km northeast of Bulgaria, experts of the department said. There is no theoretical possibility of the cloud reaching Bulgaria. According to them even if we admit a hypothetical possibility of the cloud passing over Bulgarian territory, its concentration when it reaches this country would decrease from 1 million to 1,000 million times.

Allegations have recently appeared in the press that the radioactive cloud may drift to Bulgaria. Bulgarians are very sensitive to the danger of radiation because this country was among the worst hit by the Chernobyl accident. At that time the communist regime did not inform the population and did nothing to protect it.

Tomsk-7: Precautionary Use of Iodine Causing Iodine Poisoning Among Children

PM1404143593 Moscow Ostankino Television First Channel Network in Russian 1445 GMT 11 Apr 93

[From the "Novosti" newscast: Video report by Announcer; figures in brackets denote broadcast time in GMT in hours, minutes, and seconds]

[Text] [145002] [Announcer] Sergey Shoygu, chairman of the State Committee for Emergency Situations, has spoken on television in Tomsk in connection with the recent accident and radioactive emissions at the secret Tomsk-7 combine. The latest figures indicate that an area of around 35 square kilometers has been contaminated. Shoygu stated that the situation is under control and there are no grounds for concern over the population's safety. The Tomsk authorities have already complained that certain press reports have prompted panic. Local inhabitants have started to take iodine as a precaution, and there are already cases of iodine poisoning among children. [Video shows scenes from the Tomsk-7 combine, clean-up operation] [145040]

Tomsk-7: IAEA Team Inspects Site*OW1604122093 Moscow INTERFAX in English
1105 GMT 16 Apr 93*

[Following item transmitted via KYODO]

[Text] After inspecting the site of the accident with a radioactive emission in Tomsk-7, a special IAEA [International Atomic Energy Agency] commission has agreed with the conclusions of specialists from the Atomic Energy Ministry and the RF [Russian Federation] State Committee for Emergency Situations on the causes of the occurrence. This was reported to Interfax by the press-service of the Tomsk region's council on Friday.

According to the press service's information, the commission inspected the radiochemical plant's workshop where the accident had occurred and measured the level of radioactive pollution in the Georgievka village. According to the measurements, the contamination level in Tomsk is 1-14 microroentgen an hour, 2-4 times the city's norm. International experts say this poses no danger to the population, nor will it evoke serious medical effects. They compared their measurements with those on radiation levels in Europe, where in some areas, radioactive pollution amounts to 30-40 microroentgen an hour.

The IAEA commission concluded that the blast had been partially due to the fault of the operators who serviced the installation. It found that there was excessive pressure in a uranium-filled unit, and that caused a chemical reaction and radioactive emission. The polluted area, according to official reports, had amounted to 35 square kilometers. The commission confirmed that the accident in Tomsk-7 was considered by international standards as a 3-degree accident without the exposure of humans to radiation.

At the same time, the IAEA experts intend to make an additional computerized model of the accident upon their return to Vienna to complete their findings. Presently, they are on their way to Moscow.

Meanwhile, as the RF [Russian Federation] Atomic Energy Ministry has reported to Interfax, the Minister Viktor Mikhailov left for Tomsk-7 last night to stay at the site of the accident through Sunday. He plans to familiarize journalists with the results of his April-20th trip. The news conference will take place in the ministry at approximately 16.00.

Tomsk-7: Ecologists Accuse Commissions of 'Hushing Up' Danger*LD1804005393 Moscow Ostankino Television First Channel Network in Russian 1915 GMT 17 Apr 93*

[Video report by correspondent Vera Morozova; from the "Novosti" newscast; passages within quotation marks are recorded]

[Text] Now, news from Tomsk. Even after the commission's conclusions, and after the visit by International Atomic Energy Agency representatives to the chemical combine there, attitudes differ toward the aftermath of the accident.

[Morozova] The contrast is striking. In Tomsk-7, where the accident took place, people will convince you that there is no cause for concern and tell you not to exaggerate things. The oblast center of Tomsk is seething, however. The precedent was set at a meeting with leaders of the two commissions—from the Atomic Energy Ministry and the State Committee for Emergencies. The Greens took the initiative. They turned the meeting into an assembly. After letting the guests deliver their reports, they made them listen to all the issues that have been boiling up.

There are fundamental divergences. The official bodies claim that in the 35 km radioactive emission zone:

[Ye. Mikerin, chairman of Atomic Energy Ministry Commission] "There are no obstacles to conducting normal economic activity."

[Morozova] In the opinion of the Ecological Initiative [?]and] people's deputies in the Action group:

[O. Kotikov, oblast soviet deputy and chairman of ecology commission] "Citizens should be resettled further away, and the use of these lands in the agricultural process is unacceptable."

[Morozova] Commission members believe that the radical nature of the conclusions is a result of the incompetency of the Greens. The Greens, quoting readings obtained by independent organizations, accuse state functionaries of hushing up the degree of danger and toeing the official line.

[Unidentified speaker] "The whole point is the lack of information. I personally spent three days trying to get hold of the document with the commission's conclusions."

Tomsk-7: Latest Data on Contamination*PM2104100193 Moscow IZVESTIYA in Russian
17 Apr 93 First Edition p 2*

[Unattributed untitled report]

[Text] As a result of surveys carried out by specialists from the Russian Federal Hydrometeorology and Environmental Monitoring Service in conjunction with the Russian Geology Committee's "Berezovgeologiya" PPG [expansion not given], it has been established that the area of contaminated territory [around the Tomsk-7 site] is 100 square km. This includes a contaminated area circumscribed by an isoline [izoliniya] of 30 microroentgens per hour and more outside the Siberian chemical combine's danger [sani-tarno-zashchitnyy] zone—50 square km. The settlement of Georgiyevka is within this zone. The

main area of contamination is between the 27.5 and 29 km marks on the Tomsk-Samus highway, where the axis of the trace is located. The strength of the radiation dose on the trace axis is 240-480 microroentgens per hour. According to the results of a gamma spectrometrical analysis of snow and soil samples taken near the highway, the isotopes ruthenium-103, ruthenium-106, zirconium-95, and niobium-95 have been detected, as have traces of cesium-137 and antimony-125.

Work to detect plutonium-239 continues, the Russian Hydrometeorology Committee Press Center reported.

Draft Law Passed To Protect Citizens Affected by Radiation

LD1604093893

[Editorial Report] Moscow Russian Television Network in Russian at 2000 GMT on 14 April broadcast a video report by commentator Yelena OZRINA on the 14 April proceedings in the Russian Supreme Soviet.

OZRINA noted that two of the 10 scheduled agenda items were dropped: a discussion of the situation in the Northern Caucasus in connection with the events in Abkhazia, and the implementation of the 16 July 1992 Supreme Soviet decision rehabilitating the Cossacks.

OZRINA said the Supreme Soviet started by passing the law on the state monopoly on alcohol production, the draft law on the use of cash-register bills in settlements with the population, and the draft law on responsibility for illegal trade.

Valeriy Ivanovich Gerasimov, deputy chairman of the Committee for Health Protection, then presented a draft law on health resorts. He noted that health resorts are in an alarming situation. In the coming summer, most of the Russian Federation's citizens will be unable to get proper rest or treatment. Health resorts are being closed, and in the past five years virtually no new ones were built.

OZRINA interviewed Sochi Town Soviet Chairman Yu.N. Polyakov, who stated that state support is important. Health resorts which previously made losses were completely unprepared for the market when they lost their state, trade union, and departmental subsidies. It is doubtful if health resort towns like Sochi can be supported. Polyakov explained that the draft law's purpose in taxing health resort towns is to make them self-financing so that they eventually produce income, including hard currency, for the state budget.

OZRINA then said the deputies discussed a draft law on introducing amendments and addenda to the law of the Russian Federation on the status of judges in the Russian Federation, presented by Mityukov Mikhail Alekseyevich, chairman of the legislation committee; a draft law on the social protection of citizens affected by radiation as a result of the 1957 accident at the Mayak

production association, which was presented by Aleksandr Sergeyevich Kosopkin, chairman of the subcommittee and commission for social policy; a draft law on state policy on dealing with radioactive wastes, presented by Yevgeniy Konstantinovich Nesterov, member of the Committee for Ecology and the Rational Use of Natural Resources; and a draft law on introducing amendments to the law of the Russian Federation on commodity exchanges and exchange trade, presented by Vitaliy Nikolayevich Kulakov, chairman of the subcommittee and committee for economic reforms and property.

The deputies discussed setting up a commission to investigate the 28 March events on Vasilyevskiy Spusk, a street near the Kremlin.

Deputy Mark Matveyevich Kulakov, member of the committee for the budget, plans, taxes, and prices, spoke of the progress of the law on Russia's budget for 1993. He said that in some regions, people have not received any wages for two to three months because the budget has not been passed, and that in consequence people are blaming the Supreme Soviet. He said Voronin and Khasbulatov should be asked to take extraordinary measures to have the law on the 1993 budget signed.

Deputy Dmitriy Stepanov, introduced the second reading of the draft law on introducing amendments and addenda to the law on the Russian Federation referendum. He said that because it is not possible to pass this law by 25 April, the Supreme Soviet Presidium should empower people's deputies to supervise the referendum on the basis of existing legislation. The draft law was passed in principle with 66 votes in favor, 2 against, and 2 abstentions.

Aleksandr Sergeyevich Kosopkin presented the draft law on the social protection of citizens affected by radiation as a result of the 1957 accident at the Mayak production association and the discharge of radioactive waste in the Techa river.

People's deputy Fetisov, deputy for the 755th territory constituency, director of the Mayak production association, noted that people suffered very seriously because of the accident. Along the Techa River alone, 935 people are known to suffer from chronic radiation sickness, even though many have not come forward for treatment. More than 22,000 people have been moved away from their homes. In 1957, 20 million Curies of highly radioactive substances were discharged into the air by the explosion, and 18 million of these fell on the industrial site.

The bill was passed with 90 votes in favor, none against, and no abstentions.

An unidentified speaker then introduced a draft bill on state policy on dealing with radioactive wastes. Deputy Stepanov says it is impossible to render radioactive substances harmless, therefore it should not be allowed to bring radioactive wastes into Russia from abroad. The

law, including this proposal, is then passed in principle with 86 votes in favor, 2 against, and 1 abstention.

Deputy Iran Rogachova presented a draft bill on the state monopoly on alcoholic production. She rejects press claims that the Supreme Soviet is trying to reestablish an administrative-command system. Such a state monopoly exists in all countries, and its purpose is to protect people's health. The draft law was passed in the first reading by a roll-call vote, with 73 in favor, 8 against, and 6 abstentions.

Inspector Sees Flaws in Reactor Safety Inspections

934K0988A Moscow LITERATURNAYA GAZETA
in Russian No 15, 14 Apr 93 p 13

[Article by Kirill Belyaninov, LITERATURNAYA GAZETA special correspondent: "And if It Goes Off With a Bang?"]

[Text] *The Capital Has 50 Nuclear Reactors. A Person Who Doubted the Reliability of at Least Two of Them Was Fired.*

Practically speaking, this story has no plot. On 10 December of last year, Vladimir Kuznetsov, the Gosatomnadzor [State Committee for the Supervision of Nuclear and Radiation Safety] chief of inspection for monitoring nuclear and radiation safety, shut down two reactors in Kurchatov Institute. On 25 December, Kuznetsov was fired.

I will mention immediately: I do not intend to throw stones into the garden of our native nuclear power engineering, and I listen with great interest to all of the arguments of the nuclear engineers about its necessity in the complex stage of uninterrupted reformation of the Russian economy. But this is what is strange: Before Kuznetsov, a minimum of three other officials tried to shut down the reactors that operate on the territory of Kurchatov Institute, and not one of them was discharged. As early as March 1991, the Mossovet [Moscow Soviet of People's Deputies] carefully familiarized itself with the conclusions of a joint commission of the Gosatomnadzor, the Academy of Sciences, and the Ministry of Atomic Energy, and, as a result, it passed resolution No. 46 dated 11 March 1991. Judging by the document, it was proposed to shut down two of the Kurchatov reactors immediately, to take one out of operation by 1993, and to leave the remaining four "to the extent...of their service life." But on 14 November of this year, the chairman of the state committee of Russia on science and higher schools concurred with the opinion of the Mossovet, also adding this to previous thoughts about the unsafe condition of the reactors of the old design that "the need to stop the operation of the nuclear reactors is stipulated by the fact that they constitute a potential danger for the population of the city of Moscow, inasmuch as the possibility of their destruction as a consequence of accidents, spontaneous calamities, and other

reasons cannot be ruled out..." The finish to this portentous correspondence was put by then deputy prime minister Ye. Gaydar, who on 27 November of 1991 finally ordered these same reactors to be shut down.

Nevertheless, without exception, the units in Kurchatov Institute continued to operate during the year, and no one particularly hinted at firing the authors of the three instructions, not counting, of course, a significant group of deputies who, out of patriotic motives, came to dislike the word "Gaydar."

It took only two weeks to fire Kuznetsov.

Twelve persons worked in his group. A majority were from the "pochards," former naval officers who served a couple of decades on nuclear submarines and who were received in Gosatomnadzor with open arms: There was a chronic shortage of specialists on the state committee. They maintained research reactors in Ufa, Belgorod, Norilsk, and Tomsk, and they monitored safety at the Bilibinskiy AES [nuclear electric power station], although Moscow was always the main headache for Kuznetsov:

"Count for yourself: The city has almost 50 nuclear units, and in the oblast, in the Pribor Scientific Research Institute in Lytkarino alone, there are five reactors that work only on weapons problems. And to service this entire group, there are 12 persons at a salary of 6,000 per month each. Moreover, a majority of the units were designed somewhere at the end of the 1950's, when there were no safety norms at all. And those that were developed in the 1970's meet today's requirements approximately in the way that a steam-powered automobile meets the requirements of the Paris-Moscow-Beijing Rally."

Kuznetsov's group approached the checkup of the Kurchatov Institute "by becoming seriously skilled" beforehand: According to the results of the previous checks, the operation of 10 units on its territory was halted. But within 10 days after the start of the check on the Kurchatov reactors, Kuznetsov decided to shut down two of them.

"First, we had the materials of the former commissions, and, second, after our check, we understood that both units could be shut down on the basis of just one document that regulated the rules of radiation safety: We found 25 violations in the operation of the MP reactor, and there were almost 30 in the IR-8 unit! Moreover, it is necessary to take into account that the total power of these reactors was equal to the power of the Bilibinskiy AES, but the parameters under which the MP works are very close to the parameters of the power plant of a large reactor. But no one today can guarantee the safety of the unit, which was produced as far back as 1964, although there are homes that are as close as 200 meters from it..."

To evaluate the role of one individual, taken separately, in the matter of all-round reinforcement of the country's safety is a wittingly pointless and hopeless thing. For the

reason at least that, in response to your statement, without fail, at least 10 opponents will jump out of a previously dark corner who will try to prove that on two accounts this person did not at all reinforce safety, but even quite the opposite—systematically undertook to undermine it. But if it becomes a question of radiation safety, the discussion can be boldly given up as a bad job, it can be further recorded in the archives, and, best of all, without arriving at a critical moment, when the criticizing parties will resort to any arguments. Of the type, on the one hand, “old reactors are potentially dangerous,” and, directly the opposite, “there has been no accident up until now.”

Kurchatov Institute specifically employed such a method, after evaluating the actions of a Gosatomnadzor group in the newspaper KURCHATOVETS in the following manner: “We have no complaints against the commission, it was guided by the rules. But to be guided by common sense, having the rules, is impossible.”

“The paradox is that the main organization that is responsible for the elaboration of radiation safety rules is the Russian science center of Kurchatov Institute.” But it is not specifically interested in elaborating the rules: In accordance with modern norms, all of its units will have to be shut down quickly, Kuznetsov believes. “Not one Kurchatov reactor is supplied with a system of localizing accidents and a shielding dome that can reduce the aftereffects of an accident. The institute has 25 units plus, in addition, 30 “hot chambers.” Spent AES nuclear fuel is “crumbled” in them for research, and afterwards is loaded into storage situated on the same territory. But fuel was not transported out of Kurchatov storage until 1963! The combine Mayak at Chelyabinsk-65 simply does not accept this fuel: After 30 years, the technology has not yet been developed that is capable of utilizing the results of experiments with spent fuel. Even now, according to our approximate calculations, the total active wastes in storage at the institute exceeds the norm by a factor of 20. And consider: The storage is located in the immediate vicinity of one of the reactors. In the event of an accident, the building structures will simply not hold up! And despite all of this, there has not been one nuclear safety check on the institute’s territory in the last four years.

However strange this might seem, Kuznetsov did not get “burned” at all over the results of the check. The management of Gosatomnadzor treated him with an understanding befitting the situation—it approved the protocols—but in two weeks Kuznetsov was urgently summoned to the chairman of the state committee.

Yu. Vishnevskiy outlined the situation very briefly: A letter arrived from the bowels of Kurchatov Institute in which Kuznetsov is accused of the extortion of bribes for canceling published instructions, but in the end he asked him to write a statement “of his own accord.” To avoid unnecessary fuss.

I do not intend to judge the “utility” of such advice: In the end, it is a matter for the Procuracy, and not for the chief of the state committee, even if at the rank of a minister, to pronounce the final sentence according to an article that has existed for a long time in the Criminal Code. For me, something else is much more important.

Not one capital of the world and not one city that achieved a population of one million with difficulty will permit itself the luxury of having [bold]50 nuclear reactors. Not one city in the world will allow itself to store radioactive waste from day to day for more than 40 years, while publicly discussing their complete safety. And, incidentally, not one country has yet permitted a monitoring organization to subordinate itself to an organization that is being monitored. After all, Gosatomnadzor itself, which everywhere declares its full independence and impartiality, in fact is only a department of the Ministry of Atomic Energy. If you do not believe this, you can ask any employee of the state committee who has not been fired yet.

And, therefore, I am somehow not inspired by the announcement by specialists of the Russian Science Center of the Kurchatov Institute that after the necessary repair the remaining reactors will once again be able to work for the good of the country. That is why at least we, the nonspecialists, would sleep easier, if there were at least two less reactors in the city...

Archival Documents on Chelyabinsk-40 Released

93WN0372A Moscow ROSSIYSKAYA GAZETA
in Russian 10 Apr 93 p 8

[Article by Tatyana Smolyakova, under the “Investigation” rubric: “The Urals Trail”]

[Text] VURS stands for the “East Urals Radioactive Trail.” This abbreviation appeared on the pages of mass publications quite recently. Even though the tragedy which this concept stands for was almost 36 years ago, today we are far from knowing everything, even about the events of 1957. For the dismal story certainly began long before that, and it is still too early to consider it over.

Materials from the secret archives are literally extracted in crumbs. Paradoxical as it may seem, even the Supreme Soviet deputies who make the laws cannot boast of complete information. All the documents have not been available even to the state expert commissions which were working in the region where the Mayak production association has influence.

We make no claim to the role of discoverers of secrets, but even so, the editorial office has at its disposal documents which are being published for the first time today, as well as little-known materials. It is unlikely that they will seem sensational, since they deal with particular events. Nonetheless, they add light to a dark stage of our history.

What It Was

The Mayak production association (it is Chelyabinsk-40, a chemical combine and a plant) is an industrial complex for producing plutonium for military purposes and for utilizing and burying radioactive wastes. From the very start of its activity, this enterprise, which was the first one of this specialization in the country, discharged an enormous quantity of radioactive matter, thereby creating an extreme ecological problem in a large region, 26,700 square kilometers. Three emergency radiation situations (as is customary to say now) made the greatest contribution to the pollution of the environment.

The first was in 1949-1956—the disposal of high-level and medium-level radioactive liquid wastes into the system of the Techa, Iset, and Tobol Rivers. The total radioactivity was 2.76 million curies.

Subjected to radiation action were 124,000 people who lived along the shores of this water system in Chelyabinsk and Kurgan oblasts. The inhabitants of the village of Metlino in Chelyabinsk Oblast received the highest radiation dose—around 170 rem.

The question is, why do all official documents call the 1949-1956 events an emergency situation? An emergency is something unplanned. But here it was the constant, industrially related discharge of radioactive wastes. Obviously it was easier that way, not merely from the linguistic point of view, but politically too.

The second emergency situation, on 29 September 1957, was a thermal explosion in a radioactive waste repository.

From the findings of the combined expert group on environmental protection of USSR Gosplan [State Planning Committee] and the USSR Supreme Soviet under the leadership of Professor A.G. Nazarov (1990): "High-level radioactive liquid wastes....are being stored in stainless steel containers mounted in metal-lined reinforced concrete canyons. They contain 900 million curies of radioactivity (more than 90 percent of the radioactivity of the production association's wastes). Because of the evolution of heat and radiolytic decomposition of the wastes and the lack of a proper monitoring system, one of the tanks of high-level radioactive liquid waste exploded, and the 1957 catastrophe is linked to that. The old containers, according to the production association's data, were withdrawn from operation. The danger index is the maximum—10 points."

Radionuclides with a total radioactivity of 20 million curies were discharged from the repository. A large part of them settled around the repository, but 2 million curies rose into the atmosphere and formed a cloud which passed over Chelyabinsk, Sverdlovsk, and Tyumen oblasts.

That is how the East Urals Radioactive Trail was formed. The territory with a density of strontium-90

contamination of more than 0.1 curie per square kilometer totaled 23,000 square kilometers. There were 217 population points there, with a total population of 272,000 people. The highest radiation doses were received by the inhabitants of the villages of Berdyanish, Saltykovo, and Galikayevo (57 rem in seven to 10 days) as well as the village of Kirpichiki (45 rem) in Chelyabinsk Oblast.

The third emergency situation, in the spring of 1967, was the wind-borne transfer of radionuclides from the banks of Lake Karachay, which were dessicated by a drought.

This lake is an open repository of liquid radioactive wastes at the industrial site of the Mayak production association. Contaminated particles of sludge were scattered to distances of 50-70 kilometers and for the most part were deposited on the East Urals Trail, enlarging it by 2,700 square kilometers with a contamination density of 0.1 curie per square kilometer. The total radioactivity was 0.6 million curies. There were 41,500 people who suffered from it.

During the entire time of the activity of the Mayak production association, 437,000 inhabitants of the region, and together with the employees of the association and the cleanup crews—about half a million, were exposed to radioactivity.

"Clean It Up by Burning"

As follows from the archives of the Mayak production association, the first relocations of the inhabitants of the Techa River basin began in 1953. This was not a compulsory measure. To all appearances, only those families whose members experienced the worst physical health were moved out, at their own request. Inasmuch as the new place of residence was 15-20 kilometers from the old one, essentially the relocation did not change anything. Altogether, about 7,500 people were relocated before 1957.

It was a different situation in 1957. The inhabitants of the villages in Chelyabinsk Oblast which had suffered the most were evacuated on an emergency basis and in an "organized" fashion within 10 days after the accident. Later, another 18 populated points in Chelyabinsk and Sverdlovsk oblasts were moved out over roughly the next two years.

Aleksandr Kosopkin, the chairman of the Supreme Soviet subcommittee on social protection of citizens who were victims of radiation:

"As compared to Chernobyl, the relocation procedure was much stricter. Without ceremony and with no explanation, people were simply moved out to the outskirts; everything was completely taken away from them, they had to change their clothes, and they were taken away. They were allowed to take a minimum of things with them. Livestock were shot, shoved into trenches, and

buried. Houses were burned. That is to say everything was done in a precise military fashion. Soldiers carried out these operations.

"The attitude toward prisoners was even harsher. Their hair was cut, they had to change their clothes, and it was "forward march" in trucks. They were not allowed to take anything with them, not even notebooks or photographs of their loved ones and relatives. But when the hardened criminals fell on their knees and begged to be allowed to keep the photographs, the soldiers condescended and quietly let them keep them.

"You can condemn this unceremoniousness, but remember the Totskiy explosion. We often speak with indignation about the fact that our military command treated our soldiers dishonestly. There were units which were driven through the epicenter of the explosion and the soldiers couldn't even change clothes afterward. The constant source of radiation acted on the organism for a long time afterward. That was how it was, but here, I think, the prisoners were treated more or less humanely."

Official Report, 1 March 1958.

"Village of Galikayevo, Kaslinskiy Rayon, Chelyabinsk Oblast. We, the commission consisting of representatives of Post Office Box 21: 1. V. G. Ustinov; 2. V. A. Popov; 3. Vronnikov from MSO-71 [Medical Section-71]; and Pochkin, prepared this document as follows. On the basis of the measure approved by Comrade Churin on 11 January 1958 on cleaning up the consequences of the accident, we eliminated the village of Galikayevo by burning it in windless weather. This document was prepared in confirmation of this."—(Signatures)

This is a typical document of that time. We have several such documents on "clean up by burning." They are dated 1958-1959, and all of them have references to this unknown Comrade Churin. Today many people can imagine what it means to burn houses full of radiation, even in windless weather.

But let us return to the year 1957. Despite the relative haste in moving out the first villages (10 days), the necessary protocols were made up and property was appraised. The accuracy of the appraisal is questionable, it is true, since it was done many days after the inhabitants had been evacuated.

"Official Report, 4 November 1957.

"We, the undersigned, a commission made up of the provost of Sovkhoz No. 1, Comrade N. D. Zyryanov, representative of the plant's chief accounting office, Comrade N. D. Vlagin, and Comrade Sotnikov from "D" service, in the presence of the members of the Kyzyl-Tash kolkhoz and comrades F. Samokhuzhin and A. Gubaydullin, burned the things which belonged to the population of the village of Berdyanish, worth R104,798.05. This document was prepared in confirmation of this."—(Signatures)

The documents on the destruction of livestock and poultry which were the personal property of the kolkhoz members "because of a certain harmfulness" was effected separately. The plant accounting office (read, state) even went so far as to reimburse the villagers for this loss. But this was done in a fairly original way. There is a list for "issuing livestock to citizens of the village of Berdyanish from the public herd of the Kyzyl-Tash kolkhoz to account for theirs which were slaughtered." That is, it means livestock which were at best several kilometers from the village.

Aleksandr Kosopkin recalled the Totskiy explosion, when soldiers were sent to the epicenter without any safety equipment. I must say that the conditions in which the Chelyabinsk cleanup crews had to work were not much different. The padded jackets and cotton pants in which the cleanup crews were sent to the radioactive zone can hardly be called safety equipment. And they were their personal things.

One of the former regular-term soldiers, who is now chairman of the Mayak section of the Udmurtia branch of the Chernobyl union, Lev Kiyavev, relates:

"I was drafted into the Army in December 1957 in Izhevsk. Some 2,500 of us Udmurt draftees were hurriedly loaded into cattle cars and carried away in an unknown direction. As we found out later, we were taken to Chelyabinsk Oblast.

"Two weeks after elementary training, we were distributed to the regiments of the division. I ended up in an installation regiment. None of the commanding officers told us what had happened there on 29 September, and there was no discussion of safety equipment. The only warning we received was to walk on certain paths and not to go off anywhere or swim in the lake—it was dangerous. Just what this danger was not explained. Of course, we found out some things from the old-timers, but only the general outline.

"Our regiment was in a radius of five kilometers from the site of the explosion. We were building facilities for the Mayak production association. The construction regiment was partially involved in decontaminating the site. The soldiers were not issued any special safety equipment other than the simplest respirators—gauze and a layer of cotton batting. We worked in ordinary cotton uniforms. Nor did we receive a special diet. There was no dispensary system, just everyone was given some injections in the spring.

"Almost no one went on leave, other than a few who were close to the commanders. It was said that there was no money for it. After three years, we departed for our homes after signing a promise of secrecy."

Tears Invisible to the World

From the documents we have, it follows that the losses which could be assessed in rubles were more or less

accurately recorded, especially if it affected state property. Here is one more record of this type.

"Official Report, 1957, month of October, day 29, we, the undersigned, the senior veterinarian of Sovkhoz No. 2, N.I. Burov, chairman of the Kyzyl-Yar kolkhoz, K.M. Vakitev, agricultural botanist of the kolkhoz, F.A. Nigmatullin, the stock breeder brigade foreman, A.Yu. Karimov, and member of the kolkhoz auditing commission, M. Tamenteyev, compiled this document as follows:

"During the period from 8 October through this day, that is, through 29 October 1957, the following numbers of livestock died at the Kyzyl-Yar kolkhoz as a result of a cattle and small livestock illness, which was manifested as a refusal to eat and complete emaciation accompanied by bloody diarrhea:

- "1) milk cows—10 head (ten);**
- "2) calves born in 1957—23 (twenty-three) head;**
- "3) adult sheep—3 (three) head;**
- "4) foals born in 1957—1 (one).**

**"This document was prepared to confirm this."—
(Signatures)**

The figures on the value of the dead animals were put on the document by a different hand (apparently the plant accountant). In the lower left-hand corner was the resolution: "Accountant, for payment in the sum of 33,054.35."

Things were different with the compensation for loss of health. That was not observed either before 1957, in 1957, or even in 1993. A cow died—it was a universal misfortune, but if a person fell ill, that was his personal problem, and if he died—even more so. The first medical examinations of the population exposed to radiation were conducted two years after the discharge of radio-nuclides into the Techa began, and only at one populated point—the village of Metlino. It was three to six years later in other places.

These were the so-called field exams conducted by brigades of the USSR Ministry of Health Institute of Biophysics. Less than one percent of the population exposed to radiation were studied during all the years before the second emergency situation. Incidentally, this number was apparently altogether sufficient for the goals which the employees of the institute set for themselves. And the goals of these field exams were purely scientific. No one intended to treat the unfortunate people or even just provide a diagnosis for them and tell them what it meant. The people were no more than rabbits in an experimental laboratory.

From the archives of the Mayak production association.

"According to data from the Russian Federation Ministry of Health Institute of Biophysics brigade for 1958, 140

people were examined in the village of Metlino (but 1,200 lived there—Ed.) and 55 people were registered as having radiation disease.

"Of 142 children, 16 died at an early age (11.3 percent) and 20 were born premature or dead (14.1 percent)."

Not understanding the grandiose experiment that they were participating in, the "rabbits" continued to live, fall ill, give birth to puny progeny, and die. And it did not matter whether they were moved out or not; everyone had gotten plenty of exposure. Here is one more dispassionate archive record.

"Sample data on certain resettled families:

"Village of Metlino:

- "1. Family of A.V. Gavrilova, consisting of two persons: she herself (born 1915) died in 1987, son (born 1950) died in 1970, both had radiation sickness.**
- "2. Family of A.D. Nezyrin, consisting of five people: one girl still alive, born in 1952; others died in 1974, born in 1913, 1911, 1940, and 1948.**
- "3. Family of P.D. Pavlova, consisting of three people (born 1891, 1932, 1938)—all died.**

"Village of Asanovo:

- "1. Family of M. Gilyazova, consisting of four people, two still alive, a daughter born in 1941 died in 1980 and a son born in 1949 died in 1981.**

"Village of R. Karabolka:

- "1. Family of N.T. Syskov, consisting of four people, four people died (born 1892, 1927, and 1948).**

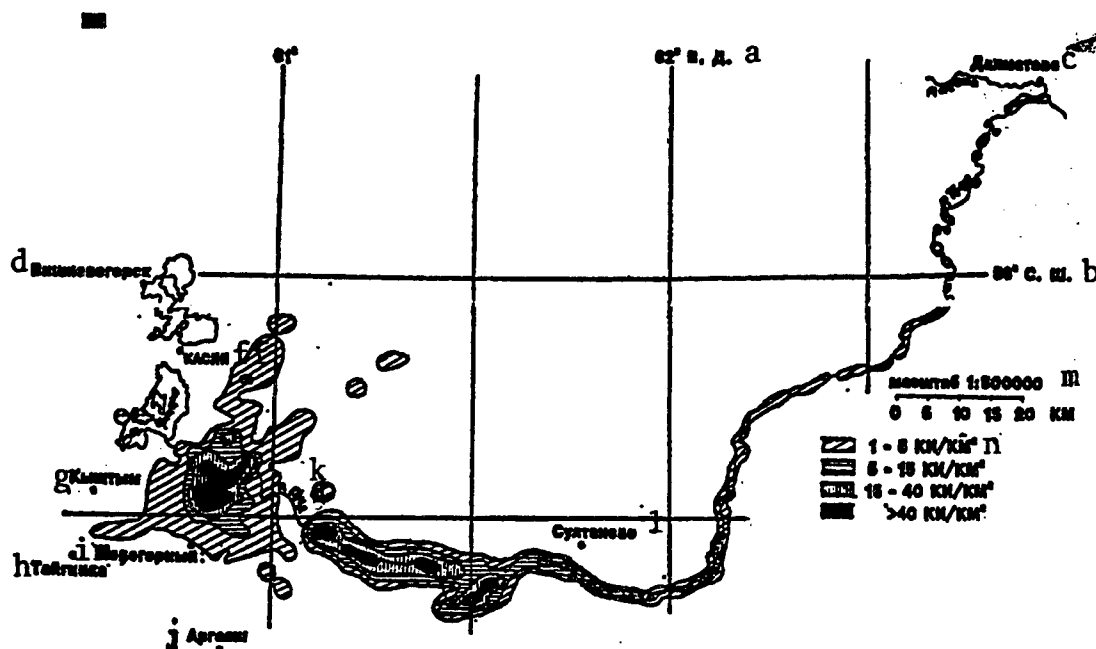
"Notes: 1. Early deaths of people born in 1940. 2. Men complain of impotence. 3. Many men do not have families, or those who are married do not have children. 4. Feeble children and grandchildren born—first generation, second generation."

In all, only five families out of hundreds of thousands. What do we know of them, of their tears and moans? Everyone dies alone.

We know even less or essentially nothing about the fate of the wards of seven children's homes which were in the Techa River basin and on the territory of the VURS.

Among the hundreds of appeals of victims to the Supreme Soviet, the organs of power of Chelyabinsk, and the Mayak production association, there is not one from former prisoners. And nothing is known of their fate or the state of their health, either. However, apparently they were affected more than anyone.

However, those of whom nothing is known have one, though weak, advantage; they are far from the hellish place. But then many people continue to live here. If it is taken into account that as a result of the three emergency situations in the South Urals 437,000 people were



Плотность загрязнения цезием-137 территории Челябинской и Курганской областей по состоянию на январь 1993 г. Карта предоставлена Институтом глобального климата и экологии РАН. Публикуется впервые.

Density of Cesium-137 Contamination of the Territory of the Chelyabinsk and Kurgan Oblasts as of January 1993. Map submitted by the Russian Academy of Sciences Institute of Global Climate and Ecology. Published for the first time.

Key:—a) 62° East Longitude b) 56° North Latitude c) Dalmatovo d) Vishnevogorsk e) [words not legible] f) Kasli g) Kyshtym h) Tayginka i) Novogornyy j) Argayash k) Techa River l) Sultanovo m) Scale n) Curies per square kilometer

exposed to a high level of radiation and less than 18,000 were moved away, count how many are left.

The village of Muslyumovo is one of the worst in terms of radiation dose level (28 rem). Today 2,500 people live there. A great deal of attention was given to this village: During the election campaign the future president of Russia was here. Of course, he was horrified. Of course, he was angry. And, of course, he promised in the shortest possible time....

Instead of Commentary

Of course, the president has no time for this right now. Who cares about some remote little town? Or even the entire South Urals. They have waited 35 years—they can wait a little longer. Now Russia must be saved. To be honest, it is shameful to mention such things to the president in such a difficult historical moment. But it is even more shameful before the deceived people. Some of them will not survive even until the referendum. And they will not see the desired law on their social protection. It has been ready for a long time now and back on 18 March should have been examined by the Supreme Soviet in the first reading. It was postponed first because of the congress and then the president's appeal....

But meanwhile, the health of Russian citizens is in such a critical state that it has even become a factor of state security. It was not without reason that a special meeting of the Security Council was devoted to this question recently. And Yuriy Skokov noted justifiably that very soon all our political squabbles may prove to be completely meaningless—there will no one to "save."

Russian Official: Sunken Submarine Potential 'Catastrophe'

93EN0367A Oslo AFTENPOSTEN in Norwegian
13 Apr 93 p 7

[Article by Halvor Tjonn: "Kremlin Asks for Norwegian Aid"—introductory paragraph in boldface as published]

[Text] Yeltsin's environmental advisor appeals to Norway: "We need help in order to avoid a catastrophe with the nuclear submarine Komsomolets."

The sunken Russian nuclear submarine Komsomolets, which sank outside Bear Island, is a time bomb. Should radioactivity start to leak from the submarine, the Norwegian Sea and the Barent Sea might be ruined for ever. "Russia can solve the problem. But we need support from,

among others, Norway," says Alexey Yablokov, environmental advisor to President Boris Yeltsin, in an interview with AFTENPOSTEN.

Alexey Yablokov receives AFTENPOSTEN's reporter in his office in the Kremlin, near Yeltsin's office. The problems in connection with Komsomolets have suddenly been given the highest priority in Moscow. AFTENPOSTEN has been granted access to the Kremlin with only two hours' notice. Immediately after the interview with AFTENPOSTEN Yablokov meets with Leidulv Namtvedt, the ministerial council at the Norwegian Embassy in Moscow, to discuss the same question.

"I will not hide the fact that there are several ways of calculating how and when Komsomolets will begin to leak radioactivity. Some projections are optimistic, others are pessimistic. We have tried to investigate this matter during the last few months and have reached the following conclusion: We have only two to three years to solve this problem," Yablokov states to AFTENPOSTEN.

The Torpedoes Are Rusting

What the Russians for their part have done is to investigate in much more detail than earlier how the material in Komsomolets' torpedoes will react when it comes into contact with seawater. The alloy in the torpedoes will be broken down far sooner than previously thought. It is not only the torpedo room in the submarine that is in danger of corroding. There are strong indications that corrosion will attack the torpedoes themselves. Nobody has seen this with their own eyes, naturally enough since the submarine is resting at a depth of 1,600 meters. The reason why the Russians are sounding the alarm now is due to a mixture of technical calculation and theory.

"There are 6 kilos of plutonium inside the two nuclear torpedoes onboard the Komsomolets. This is highly radioactive. If this amount of plutonium comes into contact with seawater, the radioactivity will leak directly out to some of the richest fisheries in the world. The entire ecological system, the entire food chain in the Norwegian Sea and the Barents Sea might become poisoned. We have no right to let this happen to future generations."

"Let me remind you that plutonium has a very long half-life, and that it will continue to poison the ocean for thousands of years should an accident happen," Yablokov states.

Yeltsin's environmental advisor goes on, pointing to facts people so far have known little about: As far as we can see today the ocean currents around Komsomolets are much stronger than previously assumed. Our researchers now express fear that the ocean currents along the bottom outside Bear Island move at a speed of

several kilometers per hour. That means that if radioactivity should begin to leak from the submarine, it will not be long before it will be spread all over the northern part of the Atlantic Ocean.

Three Alternatives

There are today three alternative ways of preventing the catastrophe from happening, according to Yablokov. First, a sarcophagus can be built around the entire submarine, of the same type that was built around the Chernobyl reactor. It is theoretically possible to do this, but it would be very expensive and difficult.

"The two other possibilities are more interesting: Either we can raise the torpedoes from the submarine, or we can surround the torpedoes with a material that hardens when it comes into contact with seawater."

To raise the torpedoes from the submarine is quite possible. Russian experts would be able to do this job. This would definitely avert the danger of a catastrophe. But the operation is difficult and carries a price tag of between 200 and 500 million dollars. There is no money for this in the Russian treasury today. For this operation to be carried out, Moscow is dependent on extensive support from Western countries, Yablokov underlines.

Postponement

He is inclined to concentrate on the third alternative. To enclose the torpedoes with a solid, saltwater-resistant substance would not solve the problem for good. But it would give the countries around the northern part of the Atlantic a postponement of perhaps 10 years to find the most ideal solution. Russian factories are able to produce the needed material. The price of this operation has been estimated at 20-30 million dollars. This money must also come from abroad. "An expedition with Russian scientists will be organized this summer in order to determine the condition of Komsomolets. Norway, and possibly the United States, should participate in this expedition. After the expedition I hope we can arrange a common conference where interested countries would participate. Hopefully we can then come to the necessary decisions. And hopefully we can procure the necessary funds," Alexey Yablokov says.

Understands Norway

"I understand Norway's situation," he says. "You Norwegians have done your best to fight the fear of possible leakage from Komsomolets. This is natural, seen in light of Norway's interest as a fishing nation. But I do not think that Norway's actions [of suppressing their fear] is the best way of solving the problem. It is better to be pessimistic and to act accordingly," Alexey Yablokov says to AFTENPOSTEN.

Fourth Set at Balakovo AES Automatically Shut Down

*LD1604014693 Moscow ITAR-TASS World Service
in Russian 1630 GMT 15 Apr 93*

[By ITAR-TASS correspondent Veronika Romanenkova]

[Text] Moscow, 15 Apr. (ITAR-TASS)—The new fourth set at the Balakovo AES [atomic emission spectroscopy] went into operation yesterday. So far it is only operating under a testing regime. Today it was automatically shut down. They plan to start the reactor up again today after adjustments. This was made known to an ITAR-TASS correspondent by a source close to the Atomic Energy Ministry. Until now three sets, VVER type reactors [water-cooled water-moderated reactors] of a thousand megawatts each have been in operation at the Balakovo AES. This is the newest and most modern station, equipped with automatic safety systems which react to each insignificant deviation from normal operating parameters.

International 'Ecology-93' Exhibition Opens in Moscow

*LD1504151193 Moscow ITAR-TASS in English
1311 GMT 15 Apr 93*

[By ITAR-TASS correspondent Marina Barinova]

[Text] Moscow April 15 TASS—An international exhibition "Ecology-93" opened in Moscow on Thursday. Exhibits put on display reflect efforts made by scientists, industrial workers and entrepreneurs to protect Russia's environment. Various institutions and enterprises display their equipment, technical facilities and technology being used in practical work and innovations suggested to be used in industrial production. The use of such equipment and technology will enable to ensure ecological safety in chemical and oil processing industries and protect the environment during production and use of chemical fertilizers.

Taking part in the exhibition are companies from Germany, Switzerland, Japan, Finland.

A scientific seminar "Ecology-93" has opened today in the framework of the exhibition.

Kozyrev Talks With Muto About DPRK and Continued Need to Dump Nuclear Waste in Sea

*OW1504150793 Tokyo KYODO in English 1450 GMT
15 Apr 93*

[Excerpts] Tokyo, April 15 KYODO—Russian Foreign Minister Andrey Kozyrev told his Japanese counterpart Kabun Muto in talks Thursday [15 April] that Russia wants to resolve its territorial dispute with Japan on the basis of "law and justice" in order to fully normalize relations.

Japanese Foreign Ministry officials said the two also discussed the timing of a visit to Japan by Russian President Boris Yeltsin in the wake of Yeltsin's remarks he would like to come in late May.

In the almost four hours of talks at the Foreign Ministry's Iikura Guesthouse, Kozyrev agreed to Muto's proposal to set up a bilateral working group to look into Moscow's dumping of radioactive waste in the Sea of Japan.

Furthermore, Muto and Kozyrev agreed to make further efforts to persuade North Korea to rescind its decision last month to withdraw from the Nuclear Non-Proliferation Treaty (NPT), the officials said.

Kozyrev was quoted as saying, "Russia wants to make efforts to normalize bilateral relations through resolving... the territorial problem on the principles of law and justice and concluding a peace treaty." Japan demands the return of the islands of Etorofu, Kunashiri, Shikotan, and the Habomai group of islets, which the former Soviet Union seized at the end of World War II.

Officials, who declined to elaborate on specific dates discussed, said the ministers agreed to continue working out the concrete schedule and preparations for Yeltsin's visit through diplomatic channels. [passage omitted on background of Yeltsin visit, covered in ref]

Officials said Muto strongly criticized the practice of Russia, and the Soviet Union before it, of dumping radioactive waste for decades in the Sea of Japan, the Sea of Okhotsk, and in an area southeast of Kamchatka. He said Japan is particularly concerned to hear that two nuclear reactors were discarded in the Sea of Japan in 1978.

Officials said Kozyrev did not reply either affirmatively or negatively to Muto's demand that Russia "immediately halt" the practice of sinking radioactive garbage.

Russian presidential spokesman Valeriy Butov said in Niigata on April 4 that Russia would never again dump nuclear waste in the sea. But a subsequently released Russian Government report said Russia will continue to dump its radioactive waste and aged reactors from nuclear submarines at sea because of delays in the construction of storage and processing facilities.

On the subject of North Korea, Kozyrev agreed with Muto on the importance of North Korea's return to the NPT, officials said. He said Russia was willing to do what it can to persuade North Korea to do so, but added that there are limitations to Moscow's influence over Pyongyang.

Officials suggested Muto took pains in the talks to clarify Japan's recently elucidated position that it is not "linking" economic assistance to Russia with the territorial dispute.

At a press conference in Moscow on Monday, Yeltsin said, "The possibility of a Japan visit is emerging as Prime Minister (Kiichi) Miyazawa has said he will not

link economic aid (to Russia) with the territorial issue." The Russian leader's remark had sparked concern in Japan that Yeltsin had misunderstood Japan's position to mean it was shelving the dispute.

Officials said Muto told Kozyrev that there is no change in Japan's position of making efforts to expand relations with Russia in areas covering politics and economics in a balanced manner.

Muto said Japan wants "to promote bilateral relations, centering on economic cooperation, while developing a process leading to a conclusion of a peace treaty by solving the pending territorial issue." He added that progress in one track would have a favorable effect on the other track.

Japan has long insisted that the dispute must be resolved first, or at least significant progress must be made to that end, before any dramatic expansion of bilateral ties can be effected. But Russia, and the Soviet Union before it, have insisted that it is first necessary to create an environment conducive to a territorial settlement.

Japan is now saying that while its public will not support full-scale assistance, it will not link progress on the territorial issue to assistance to Russia extended in the context of concerted G-7 efforts to help that country's reforms succeed. At the opening of the G-7 ministerial session Wednesday, Miyazawa announced that Japan will provide Russia with 1.8 billion dollars in fresh aid.

WESTERN REGION

Ukraine: Germans Allegedly Dump Toxic Waste in Country

AU2204094993 Kiev DEMOKRATYCHNA UKRAYINA in Ukrainian 17 Apr 93 pp 1, 2

[Article by Iryna Musatova: "They Have Found a Dumping Ground!"]

[Text] Problems may be resolved in various ways, but should never be at the expense of others. However, this is precisely the way in which the developed countries of Western Europe behave sometimes: Unwilling to spend money on processing their toxic waste, they use territories of other countries as dumping grounds for it. The question of waste products is particularly acute in Germany, whose dishonest dealers are striving to use Ukraine, exhausted by the Chernobyl disaster, for resolving this problem. Current or former citizens of our state who presently reside in Germany are acting as intermediaries in this dirty business. It appears that for them, commercial profit, even at the expense of complete devastation of their native land, comes first!

Let us corroborate our accusations by facts that have been gathered and studied for several months by Ukraine's Security Service, because participation in resolving ecological problems is one of the most important aspects of its operational activity. In Lvov Oblast,

the Security Service Administration, together with other law-enforcement agencies, in 1992 prevented more than one attempt by the German firm "Kraftfahrzeug" to bring ecologically dangerous industrial waste into Ukraine. The intermediaries have been found—they are former residents of Ukraine who live in Germany.

During the same year, the firm "Rimex" (from the German town of Wolfen) shipped several batches of chemical products, including toxic waste, to Nikolayev Oblast. The German partners promised to deliver, at preferential terms, construction materials and consumer goods that are in short supply in our country if heads of the associations "Ochakivopttorh" and "Pivdenahrokompleks" ensure the receipt, sale, and secret dumping of materials that are genuine poisons.

The Nikolayev administration of Ukraine's Security Service, together with the Oblast Procurator's Office and the Customs Committee, found where the chemical products were stored and, with the help of the specialized "Farmatsiya" association, conducted preliminary analyses of the substances. As a result, very toxic chemical compounds of groups A and B, as well as alkaloids, were discovered. During an inspection in March, S. Furs and the German citizen H. Rumich arrived in Nikolayev. They are leaders of the MP [expansion not known] "Partner." H. Rumich also heads the Heinz Rumich Agency (Leipzig)—one of the two firms into which the notorious "Rimex" had split. The cargo that these businessmen accompanied was not found to contain any prohibited substances. Mr. Rumich, who was very concerned about his firm's prestige, immediately agreed to take away previously delivered forbidden products from the territory of Ukraine, even though shipment would cost him 100,000 German marks.

However, there is doubt, not without grounds, as to the effectiveness of such an agreement. The thing is that, shortly before this incident, the "Ochakivopttorh" association brought from Germany in its own vehicle, among other "goods," toxic waste materials. In accordance with Article 51 of Ukraine's Customs Code, the dangerous cargo was sent back to Germany in the same truck, but Polish border guards reported that the truck with the cargo never crossed the Polish border. Incidentally, it was learned from conversations with drivers that German exporters recommend dumping the cargo in some remote places if it happens to be detained or returned.

Citizens! Do not rejoice when you find something that may come in handy for your household: a jar of paint, an almost empty metal container, an old refrigerator, or anything else—all of these may turn out to be poisoned gifts from the god of trade and profit. So far, no traces of the Nikolayev vehicle have been found, but the director of "Ochakivopttorh" has been fined 108,000 karbovan-tsi, and the Oblast State Committee for Environmental Protection and the Sanitary and Epidemiologic Station,

jointly with the Oblast Procurator's Office, are continuing to inspect oblast storage houses where other chemical poisons from abroad are kept.

Here is another fact. Between January and March, a consignment that was declared to contain paint and varnish materials and products of the chemical industry was delivered to Rivne Oblast. In fact, it contained waste materials of chemical production, substances of unknown origin, and poisonous substances whose import into Ukraine is forbidden. The metal containers were damaged by corrosion and friable substances were kept in paper bags unsuitable for reliable storage. According to the labels, their use-by date expired some 10 or 15 years ago. The senders were the German firms "Rimex" (Wolfen) and "Hannelore Sibrantz" (Wittenberg). The recipients were commercial concerns in Lvov, Kiev, Nikolayev, Khmelnytsky, and Zhytomyr, which even provided their own road transportation for all of this.

Among the 250 tonnes of cargo checked by officials of the Rivne Security Service Administration, there were 130 barrels containing active substances, low-quality herbicides, toxic chemicals, waste mercury substances in three barrels each weighing a hundred kilograms, and numerous chemical products that must not be stored or used. The local MP "Podillya" received 13 truckloads totalling 100 tonnes of these dangerous "goods." The sale of the imported materials has been delayed, and the poison is stored on the territory of the Rivne tourist development production association [turystychno-ekspluatatsiynе vyrobnyche obyednannya]. The firm "Alliance West" [Alyans Vest] has also received similar "humanitarian assistance".

Nature conservation organizations, the "Greens," Rukh [Ukraine's People's Movement for Perestroika] activists, and the mass media are taking part in investigating this state of affairs. Finally, in accordance with the resolution by the oblast sanitary inspector, storage of the poisonous products by the MP "Podillya" was forbidden. On 5 April, the oblast Procurator's Office dealing with environmental protection instituted criminal proceedings in accordance with Article 70 (on contraband). However, Ukraine's Security Service in Rivne is continuing to sound the alarm: Parts of the "arrested" cargo are being taken to unknown storage places, and "businessmen" are trying to sell the poison to Georgia at a very low price.

Security Service officers are trying to put an end to the spread of this plague throughout the state. Oblast administrations are alert to discovering similar cargo. An appropriate document was sent to customs authorities in order to organize joint actions. Some Supreme Council deputies who are taking part in the work of the Commission for Ecology and Environmental Protection have received information by word of mouth. The authorities are now studying the mechanism of functioning of the criminal interstate group of commercial structures and small enterprises that, under the pretense of importing

free of charge high-quality products for the declared purpose of obtaining the capital that they need to create joint ventures with Germany, are, in fact, importing harmful industrial waste and products whose storage dates long ago expired or products that must be processed and buried.

The following are the principal causes for such a critical situation: The fact that Ukraine is not a signatory to international agreements on ecological problems, the inadequacy of the appropriate internal normative and legislative foundations, the unsatisfactory material and technical level of the supervisory bodies, and insufficient control over the storage and utilization of such substances. Therefore, the problem needs to be resolved at a state level.

CAUCASUS/CENTRAL ASIA

Uzbekistan: Legal Expert on Implications of Environmental Law Violations

934K0888A Tashkent VECHERNIY TASHKENT
in Russian 3 Mar 93 p 2

[Article by D. Vakilyanov: "Meet Ecological Demands"]

[Text] On 9 December 1992 the Supreme Council of the Republic of Uzbekistan adopted the law "On protection of nature." It went into effect on 29 January 1993 replacing the previous one.

Article 47 (Section 11) contains a detailed list of violations of environmental protection laws the commission of which may lead to criminal, administrative, disciplinary or some other liability in accordance with legislation of the Republic of Uzbekistan. That is, the indicated types of liability are also concretized in other enforceable enactments, which in turn provide more detailed information on individual types of violations and introduce some new ones. For instance, Article 45 of the new law states that the burial of harmful wastes, including radioactive wastes with a high level of radiation, is prohibited near cities and populated points, close to regions with a high population density, in resort areas, treatment-recuperation and recreational zones, as well as in bodies of water and in forest shelter belts for water conservation. While Article 215 of the Criminal Code is now interpreted as follows in the light of the law of the Republic of Uzbekistan of 20 November 1991 "On introduction of changes and amendments in certain legislative acts of the Republic of Uzbekistan connected with intensification of liability for violations of the environmental protection laws": the pollution of rivers, lakes, and other bodies of water and water sources with unpurified chemical substances, waste or sewage from industrial, agricultural, communal, or other enterprises and organizations, causing or with a known potential to cause harm to human health or to the animal or vegetable world or agricultural production, as well as pollution of the air or soil with industrial waste or chemical substances, if these acts are committed after the levying

of administrative fines for a similar offence, is punishable by confinement to corrective labor for a period of up to one year or a fine of up to 3,000 rubles."

Such actions producing severe consequences are punishable by imprisonment for a period of up to five years or by corrective labor for a period of up to two years.

Noncompliance with environmental protection laws constitutes a violation of duties which are delegated to those using nature in regard to the protection and rational utilization of the natural environment. The current law stipulates administrative responsibility for refusal to pay established sums for the use of natural resources, for the discharge or release or polluting substances, distribution of solid waste, pollution of the natural environment or for other harmful practices affecting it. Such liability also pertains to nonfulfillment of plans for construction of environmental protection facilities or other measures aimed at restoration of the natural environment and elimination of the effects of harmful practices on it, and the like. Administrative responsibility for violations comes if these violations by their nature do not create criminal liability in accordance with existing legislation.

The law on protection of the environment (Article 48) provides for limitation, halting, cessation and reprofiling of the activity of facilities causing harm to the environment. This right is granted to the State Committee of the Republic of Uzbekistan for Environmental Protection and to its local organs. Such a measure is quite effective as a rule, but at the same time, in practice, it may be said, that this right is not being utilized.

Disciplinary liability represents one of the varieties of legal liability for violation of environmental protection laws. A disciplinary fine, determined in accordance with norms of labor and special legislation, is imposed on the official, worker, or employee who commits a disciplinary misdemeanor.

The imposition of criminal liability, administrative responsibility, or disciplinary responsibility on individuals for violation of environmental protection laws does not free them from having to pay reimbursement for the damage done to the environment. In accordance with Article 49 enterprises, establishments, organizations, and individuals are required to pay reimbursement for the damage done to the environment including loss of profits. The officials and other workers in this case bear material responsibility in accordance with the Civil Code of the Republic of Uzbekistan.

In that manner four types of legal liability are recognized: criminal, disciplinary, administrative, and civil-legal (material). The type of liability depends on the nature and gravity of the offenses.

The current law (Article 50) establishes a new type of liability—economic liability.

As a rule, if legal liability entails violation of established legal norms in the area of the protection of the environment, whereas economic measures are usually determined according to the extent of damage caused to the environment. That is, economic liability comes about for damage to the environment occurring as a result of lawful activities, while legal liability results from damage due to unlawful acts. Lawful damage is allowed, permitted by law by virtue of inevitability of economic activity. Unlawful damage occurs as a result of the violation of environmental protection laws in economic activity.

Enterprises, establishments, and individuals are subject to increased taxation for irrational exploitation of nature, above-norm and excessive discharge and release of polluting substances, and distribution of industrial waste and excessive consumption.

Economic liability is regulated by a decree of the Cabinet of Ministers of the Republic of Uzbekistan of 29 June 1992 "On introduction of payments for above-norm discharges (disposal) of polluting substances into the environment, and distribution of waste."

The imposition of these payments does not free the enterprise, organization, or officials from the payment of fines and reimbursements for damage (claims) done to the environment as established by legislation in effect. The amount of payment is subject to indexation in accordance with the rise in prices on the territory of our republic.

A penalty in the amount of 0.1 percent of the total amount due is levied for each day the transfer of funds is delayed. In case of the failure of a subject to make payments their recovery along with that of penalties is accomplished on a compulsory basis as determined by the Civil Code of the Republic of Uzbekistan.

With detection of a willful discharge (disposal) (without issuance of an appropriate permit), or distribution of polluting waste a payment is collected from the subjects for the total amount of pollution as being above-norm and fines are imposed on the responsible individuals who are also held criminally liable in accordance with Article 215 of the Criminal Code of the Republic of Uzbekistan.

In cases involving concealment or distortion of data on discharge (disposal) of waste or distribution of waste and polluting substances the guilty parties bear criminal liability in accordance with Article 215 which states that pollution of bodies of water, air, and soil is punishable by imprisonment for up to five years and in accordance with Article 108 harming the health of the population through willful concealment or distortion of information on the state of the environment leads to imprisonment for a period of up to three years.

Payments by subjects for above-norm discharge (disposal) of waste or distribution of waste and polluting substances does not release them from the obligation of

fulfilling measures for the protection of nature, rational utilization of natural resources or the observance of laws for the protection of nature, regardless of the type of products being manufactured, inasmuch as the payment that is made is inadequate to compensate for the damage inflicted by them on the environment.

The problem of protecting the environment, achieving rational utilization of natural resources and thrifty use of natural riches of the republic is complicated and multifaceted. Organs of state power and administrations are not the only ones being called upon to resolve it. All of the people, all residents of Uzbekistan must help as well. Every one of us, utilizing all that is generously given to us by nature, must meet the ecological requirements.

**Uzbekistan: Academician on Republic's
'Dwindling' Supply of Clean Water**

934K0888B Tashkent VECHERNIY TASHKENT
in Russian 23 Mar 93 p 3

[Article by E. Chembarisov, chief of the Hydrochemical and Water Resource Protection Laboratory of the Institute of Water Problems of the Academy of Sciences of the Republic of Uzbekistan, doctor of geographical sciences: "Everyone Needs Clean Water"]

[Text] Acquisition of the status of an independent state by the Republic of Uzbekistan and the development of a market economy in it, which binds all branches of the national economy, became the basis for development of priority directions in various sciences, including some in the sphere of environmental protection.

The present-day unsatisfactory ecological situation which formed practically in all the regions of our republic, primarily, in our opinion, demands the resolution of hydroecological problems. The ecological sector of hydrological science is just being born in Uzbekistan and the tasks of hydrology include the study not only of changes in the quality of water in rivers and water reservoirs under the influence of anthropogenic activity, but also of the quality of water in those reservoirs themselves resulting from the composition of various hydrobionts present in it and the effect of polluted water on the state of living matter, and primarily on human health.

Hydroecology, as any natural science, covers a broad spectrum of questions that are studied because of which today I would like to dwell on the most important ones that are of the greatest urgency in our republic. Among them it is, first of all, necessary to name the problem of drainage and pollution of rivers and the related deterioration in the quality of drinking water.

On the basis of available hydrochemical data and our own observations in the field carried out by our laboratory personnel a comprehensive evaluation was made of the current degree of pollution of the rivers of Uzbekistan and their suitability as a source of drinking water.

Four classes of quality were differentiated—good, satisfactory, poor, and dangerous. Good water was considered to be water which did not contain elements in excess of their PDK (maximum permissible concentration). Dangerous water was water in which a significant concentration of chemical ingredients was observed exceeding their PDK which were in the highly hazardous class.

Studies that were conducted made it possible to reach the following fundamental conclusion: sources of drinking water meeting potability requirements are becoming increasingly scarce in Uzbekistan. By way of an example we shall cite evaluations of the degree of pollution of rivers in Tashkent Oblast and the Zeravshan River basin (Samarkand, Navoysk, and Bukhara oblasts).

The Chirchik and Akhangaran rivers are the principal surface water arteries in Tashkent Oblast. Only water in the upper reaches of the Chirchik basin (Bostanlyk Rayon) was categorized as "good." Water quality is somewhat worse in the Chirchik River near Gazalkent and in the Ugam River. Water quality is "satisfactory" in the Parkent and Akhangaran rayons (in the Akhangaran River up to Angren Dam). A concentration of heavy metals exceeding the PDK was observed only in Dukant-Say. Further along the course of the Akhangaran River (right up to Soldatskiy) its water quality becomes "poor" with eight ingredients exceeding the PDK, while below Soldatskiy the quality of water becomes "dangerous" for drinking.

In the Kibray, Tashkent, Zingiatinsk, Urtachirchik, Yangiulskiy, Pskentskiy, and Kuychirkchik rayons the quality of water in the Chirchik, Akhangaran, and Syr Darya rivers belongs in the "poor" category, while in the Chinaz, Akkurgan, Bukinskiy, and Bekabad rayons water quality is "dangerous" as concentrations of 10-12 ingredients belonging to various hazardous classes exceeds the PDK there.

In the past decade different sources of subterranean water have become unsuitable for use in households or for drinking as a result of the pollution of surface and subterranean water by industrial waste. They should, first of all, include the Arangi-Karabay, Kibray, Poltoratskiy, Yangiyul, Chinaz, Soldatskiy (Galabinskiy Rayon), Almazar, the lower sector of the Akhangaran source, and the Bekabad sector of the Dalvarzin source.

Unfortunately it is necessary to note that Zeravshan River is one of the most highly polluted rivers in Uzbekistan. At the present time the quality of water there has changed under the influence of collector-drainage water of the irrigated zone and drainage water from enterprises of Samarkand, Kattakurgan, Navoi, and Bukhara.

In connection with the fact that water from the Zeravshan River is used for irrigation in Samarkand Oblast, and its presence in the river bed is to a significant degree

conditioned by collector drainage, rayons located west of Kattakurgan River have practically stopped receiving good quality surface water.

A similar picture of deterioration in the quality of surface water is also observed in the other regions of Uzbekistan: in Priaralye, in the basin of Kashkadarya and Surkhandarya, in the Fergan Valley, and elsewhere.

In order to preserve and improve the quality of surface and subterranean water it is necessary to introduce some water protection measures. They include adoption of the "Law on water utilization" (its draft is being currently discussed by the specialists); creation of a broad network for monitoring the quality of surface and subterranean water with timely detection of any changes, as well as for evaluation and elimination of negative processes; establishment of forest shelter belt for water conservation and belts along the shores of bodies of water designed to prevent their pollution and drainage, as well as for the maintenance of their sanitary condition; a decrease in the discharge of collector-drainage water from irrigated fields into the rivers and its purification to remove residues of poisonous chemicals and fertilizers; banning of accumulators and burial grounds for liquid and solid waste, dumps, etc.; construction of water recirculation systems for industrial water supply, as well as purification, decontamination, and disinfection of drainage water.

The implementation of these measures will guarantee the availability of clean water for every water consumer in the republic.

Uzbekistan: Enterprises Must Register With State Ecological Committees

934K0888C Tashkent VECHEPNIY TASHKENT
in Russian 23 Mar 93 p 3

[Unattributed item: "If You Are Creating Your Own Enterprise or Firm"]

[Text] In accordance with a decree of the Cabinet of Ministers of the Republic of Uzbekistan of 12 June 91, No. 159, a certificate of registration of the enterprises with local organs of the State Committee of the Republic of Uzbekistan for the Protection of Nature is necessary, among other documents, for the registration of enterprises with the state in the Khokimiyat.

In order to accelerate processing at the Tashkent City Committee for the Protection of Nature it is necessary to prepare the following documents: an application addressed to the chairman of the Tashkent City Committee for the Protection of Nature concerning issuance of a registration certificate; the charter agreement (1 copy), "charter of the enterprise" (all copies) which should indicate not only the types of activity but the designation of products that are manufactured. The

notarization of charters should be done after checking with the organs for the protection of nature.

The telephone numbers for inquiries are 44-56-75 and 39-11-48. Registration office hours—Wednesdays from 1000 to 1700 hours.

Timely registration of an enterprise in full accord with dictates of the law will prevent you from having numerous problems in the future. Remember that!

BALTIC STATES

Estonia: German Help Promised for Tackling Nuclear Pollution

LD1304173893 Hamburg DPA in German 1453 GMT
13 Apr 93

[Text] Tallinn (DPA)—Environment Minister Klaus Toepfer has promised Estonia German help in tackling environmental problems in areas previously used by Russian troops. He told the press today after talks with the government in Tallinn that there are two military sites on the Baltic Sea which are particularly badly affected by nuclear waste: the naval base on the Paldiski peninsula, 50 km west of Tallinn, where Russian naval personnel received training for nuclear submarines; and a military site for the treatment of nuclear waste near Sillamae in northern Estonia.

"I hope that we can work together in an exemplary way in eliminating the inherited pollution," Toepfer said. The first task is to precisely identify the potential danger and adopt redevelopment plans, if possible through international cooperation.

Estonian Environment Minister Andres Tarand made it clear that his government is counting above all on international action to persuade the Russian government to commit itself to a specific withdrawal date, especially with regard to the Paldiski site. Until now the Russian side, which denies any nuclear danger, has earmarked the year 1998. According to Tarand, the situation at the military base is precarious not merely due to the continuing existence of two reactors for training purposes, but also because nuclear waste may have found its way into the sea. He said that Swedish and Finnish experts are already helping to tackle the problems at the Sillamae military base.

Toepfer also had talks in Estonia on cooperation in tackling pollution of the Baltic by giving help in building sewage plants and in measures for improved soil protection and air purification in areas where oil shale is used to generate energy. Toepfer also made it clear that Germany will not issue export permits for waste to Estonia. The "waste mafia in Europe" must be pursued by joint efforts.

Toepfer also met Prime Minister Mart Laar and will travel to Latvia tomorrow. He announced that Laar is to visit Bonn in June.

Estonia: Environmental Pollution in Kunda 'Unbearable,' No Funds To Help

WS1404092193 Riga LETA in English 1549 GMT 13 Apr 93

[Text] Tallinn, April 13 (LETA)—The ecological situation in Estonian city of Kunda is unbearable, Kuno Raude, a member of Estonian National Assembly, said.

The main industrial enterprise in the city is a cement production plant but its dust receivers have been out of order for several days running so that the city and its neighbourhood are covered by a thick layer of dust.

The frequency of various diseases in Kunda has increased. Research indicates that health condition of residents might deteriorate even further. The officials from Estonian Environment and Nature Protection Ministry visited the city but no solution was found.

For reconstruction of Kunda cement plant 30 million USD are needed, including 5.75 million for environment protection measures, but no source of financial means could be found to cover those expenses.

Latvia: Environmental Protection Agreement Signed With Germany

OW1404172293 Moscow BALTFAX in English 1624 GMT 14 Apr 93

[Following item transmitted via KYODO]

[Text] On April 14 the German Federal Minister of the Environment, Nature Conservation, and Nuclear Safety Klaus Topfer and chairman of the Latvian committee on environmental protection Indulis Ensis signed an agreement on cooperation in the field of environmental protection.

The agreement envisages conduction of regular meetings between experts of two countries and exchange of scientific-technical information.

The German Minister had a meeting with Latvia's Prime Minister Ivars Godmanis.

Lithuania: Police Hunt for Stolen Uranium, Strontium

PM1304101693 London THE DAILY TELEGRAPH in English 13 Apr 93 p 13

[Report by Matthias Lifkens in Vilnius: "Safety Fear in Lithuania as Uranium Disappears"]

[Text] Hundreds of pounds of nuclear materials have disappeared in Lithuania, which has become the major transit point for smuggling radioactive substances from Russia to the West.

More than 600 pounds of uranium and strontium recently disappeared from a nuclear power plant in Ignalina, north-east Lithuania, and police are looking for 22 pounds of uranium 238 stolen from the industrial town of Panevezys.

Both incidents raised concern over the safety of the nuclear power industry in the former Soviet Union, highlighted by an explosion last week at Tomsk 7, when plutonium was spread through a small area of forest, and by the revelation that at least 20 nuclear reactors were dumped at sea off the Russian Arctic and Pacific shores.

The spectre of theft is haunting authorities at the nuclear power plant in Ignalina, who discovered the theft of the container of nuclear fuel during an annual inventory in January.

"The container which is listed in the inventory must be somewhere in the plant," said an official, who blamed the theft on problems of accounting. The director of the plant said it was virtually "impossible to steal the 21-foot long container".

For the past month Lithuanian investigators have also been unable to locate two rods of uranium which were allegedly thrown into a river near Panevezys. The uranium is said not to be enriched and cannot be used in weapons production.

After being tipped off by the Russian prosecutor, Lithuanian police arrested Raimondas Urbonas, a metal dealer, who admitted smuggling 22 pounds of slightly radioactive uranium from Russia to Lithuania to be sold in Poland.

Prosecutors believe Urbonas lied, and that the uranium is either in the hands of the local "mafia" or has already been sold to the West.

Urbonas told investigators he had brought the uranium for several hundred thousand Deutschmarks in a cafe in Glazov, a city in the Urals, then transported it in his suitcase by train to Lithuania.

On hearing that the gang which stole the uranium from a plant in Russia had been arrested, he claimed to have thrown the remaining rods into a river.

The search for the radioactive metal has so far not yielded any results. According to investigators, it is extremely difficult to locate the uranium, which could have sunk into the mud of the river bed.

"At least it is better kept in this river than in the hands of a country which tries to produce the atomic bomb," a local newspaper quoted a member of the search squad as saying.

The inexperienced police force admits its inability to hunt for radioactive material. The risk of being caught with uranium is very low," admitted one investigator.

After protests from Germany, the Lithuanian borders were recently equipped with radioactive detectors, although, according to the chief of the Lithuanian border guards, the Soviet-made dosimetres are "useless to detect small amounts of uranium".

Lithuania: Danish EC Deputy on 'Shocking' State of Ignalina Plant

PM2304173093 Copenhagen BERLINGSKE TIDENDE in Danish 17 Apr 93 p 3

[Louise Fleischer report: "EC Politicians Demand Closure of Nuclear Power Station"]

[Text] It is only a week since there was an accident at the very rundown nuclear power station at Ignalina in Lithuania. A turbine fell to pieces and it was necessary to shut down one of the reactors.

"When we got there they were still busy repairing it. They said that there had not been any radioactive emission. But with the monitoring equipment they have I would question whether they have any real idea of what is going on."

Social Democratic European Parliament deputy Freddy Blak is deeply shocked after visiting the rundown nuclear power station on Tuesday and Wednesday [13, 14 April] together with Conservative colleague Christian Rovsing.

"Things are much worse than we can imagine. And if I had known anything about the accident I am not sure I would have gone to visit.

"It was shocking. For example, there is not a single computer in the control panel. The whole thing is manually controlled," Freddy Blak said.

"And inside by the turbines there are holes in the cement around some tubes which come up through the floor. I have taken pictures showing how they have filled the holes with cardboard," Freddy Blak said.

"Above the reactor, which is water-cooled, they cannot really control the steam. So every time it becomes too fierce they simply lay a few sheets of lead on top. With the result that the steam emerges all over the place. And with their old-fashioned technology there is a risk of an explosion when the reactor becomes too warm," Freddy Blak said.

The Ignalina power station was built in 1984, but its nuclear waste has never been removed.

In a building by the side of the power station nine years of nuclear waste are stockpiled.

He now wants to get the EC to intervene and grant the three billion [currency not specified] which experts estimate will be the cost of closing the Ignalina power station.

"We can jump up and down and we can shout, but we have to pay the price, because otherwise it will simply blow up. And I will fight to make sure that we find the money to close that power station down. For there is no alternative," said Freddy Blak who is also chairman of the EC Parliament's Auditing Committee.

Lithuania: Ignalina Nuclear Reactor to be Closed for Maintenance

LD1804141793 Vilnius Radio Vilnius Network in Lithuanian 1700 GMT 17 Apr 93

[Summary] The second power block of the Ignalina nuclear power station is to be shut down for scheduled routine maintenance with the consent of the state nuclear power engineering safety inspectorate.

According to Viktor Shevaldin, director general of the power station, the first reactor will remain in operation until the end of June, working with a capacity of 1,950 mega watts. This will be sufficient to satisfy the needs of consumers in Lithuania.

Lithuania: Ignalina Safety Never To Reach Western Standards

PM2304180093 Copenhagen BERLINGSKE TIDENDE in Danish 17 Apr 93 p 3

[Birger Hilstrom report: "Lithuanian Power Station Will Never Reach Western Standards"]

[Text] Vilnius—The Ignalina nuclear power station in Lithuania is a long way from satisfying the safety requirements of Western countries and will never do so fully. But the authorities in Lithuania do not think that there is an imminent risk of a nuclear accident and an explosion like that in 1986 at the Chernobyl plant which also claimed victims in the Baltic countries is considered unlikely.

"We are giving no guarantees but we have to live with the risk which is very, very small," Deputy Energy Minister Saulius Kutas said. "We are now involving Western countries in improving safety. At the moment we are negotiating economic support with the European Bank of Reconstruction and Development."

The Lithuanians do not expect the bank to finance a modern new power station contained in a safety shell which would cost \$5 billion. On the other hand the energy authorities are investing in running modernization of the plant's outmoded and rundown technology.

Saulius Kutas can understand very well how some Danes are afraid and the Lithuanian ministry reacted to this a month ago.

"We agreed a warning plan with the Danish Foreign Ministry in the event of any emission. We are doing everything we can, but remember that almost 90 percent of our electricity is produced at the Ignalina power station. Our economy is in a pathetic state and we cannot afford to shut down the power station."

The Energy Ministry is also working on the problem of the nuclear waste which is piling up and which will exceed Ignalina's storage capacity in two years' time. A new and more secure dry storage unit [toerlager] will be built either by a German, U.S., or Canadian firm.

Nor does the head of the Lithuanian nuclear safety commission, VATESI, Povilas Vaisnis, see any need for an urgent salvage operation, although he does want a safety system for the rapid shutdown of the reactors in the event of an earthquake or a fire, for example.

"We are solving the problems which arise as they arise, but we need more money for this," Povilas Vaisnis said. "Sweden has lent technical and financial support, and we are included in EC programs, but whether this is enough depends on where you set the safety level. The power station can never be made as safe as new ones in the West.

"We have a shortage of nuclear specialists, especially since we have become an independent nation and we are forced to call on help from outside."

People in the streets of the capital, Vilnius—150 km from Ignalina—do not think of the nuclear danger, even though almost everyone knows someone affected by the Chernobyl emission. The daily struggle for existence in the new and impoverished nation overshadows the risk of radioactive clouds.

GERMANY

Environment Minister's Controversial Bill To Emphasize Industry's Recycling

BR2204132993 Munich SUEDEDEUTSCHE ZEITUNG
in German 30 Mar 93 p 25

[Article by Thomas Froelich: "Waste Avoidance Takes Priority—Toepfer Presents Controversial Bill/Criticisms from Trade"—first paragraph is SUEDEDEUTSCHE ZEITUNG introduction]

[Text] In the future, industry will be responsible for the recycling and disposal of used products, if Federal Environment Minister Klaus Toepfer CDU [Christian Democratic Union] gets his way. Waste avoidance and recycling secondary raw materials will take absolute priority over waste disposal. Nothing that can be recycled as a secondary raw material should be wasted. These are the aims of the Residue and Waste Management bill to be passed by the federal cabinet tomorrow (Wednesday).

As long ago as last August, Toepfer had submitted a working bill, which had come up against massive criticism from industry. Wholesale and export trade president Michael Fuchs had described the bill at that time as an "ecological enabling act." After months of negotiations and representations to the Federal Chancellor by the Chemical Industry Association (VCI), the Environment Ministry was assuming yesterday that cabinet will pass the bill tomorrow, after which industry will have a much greater inducement than before to "think in terms of waste."

This means that, according to the principles of a low-waste recycling-oriented economy, hence the Recycling Economy Act, priority is to be given to avoiding residues or recycling them as secondary raw materials, and only as a last resort incinerating them or otherwise disposing of them as waste. For the first time, moreover, the bill will embody in an act the privatization of public waste disposal, which has already been introduced with the Packaging Ordinance. In that instance, privatization had led to the creation of the Dual System.

New Regulatory System

The bill, of which SUEDEDEUTSCHE ZEITUNG has a copy, creates an entirely new regulatory system, does away completely with the previously accepted concept of waste, and includes secondary raw materials. Waste is taken to mean only those residues that cannot be recycled lawfully and harmlessly as secondary raw materials. Recyclable residues are secondary raw materials; "residue" will be the central concept in the future.

In Article 4, the bill states that residue recycling (reutilization of materials) takes priority over incineration (exploitation for energy purposes). This is only a target, however. The priority to be given to recycling is restricted again in article 4 (4): "Where there is no

difference, in ecological terms, between recycling materials and recycling waste for energy purposes, the decision shall depend on economic considerations." Proof of the type and whereabouts of residues that have been recycled or disposed of must be submitted every two years in special residue balance sheets. In order to prevent waste being exported, the bill stipulates that, in principle, it must be disposed of in Germany. Exceptions are possible if the movement of waste is part of a cross-border regional waste management plan run by EC states.

The product liability advocated by the bill includes the requirement that products be reusable many times, be low in residues, and have a long useful life, but the Federal Government reserves the right to introduce product bans, restrictions, and labeling provisions by issuing statutory orders. In article 21, the legislator threatens to ban or restrict the use of packaging in cases where, "if they were disposed of as waste, the release of harmful substances could not be prevented or only at a disproportionately high cost.."

In spite of months of negotiations with industrial associations, the trade associations that make up the Council of German Trade still reject this bill. According to a policy statement, trade supports waste avoidance and reduction, but claims that the principle of product liability takes no account of the particular circumstances of trade.

Thinking in Terms of Waste

Trading concerns, it continues, cannot "think in terms of waste" as they do not have sufficient product knowledge. If private collection systems fail to materialize, trade fears that areas will have to be set aside for waste removal and sorting.

NETHERLANDS

Shell Produces Fuel Derived From Natural Gas

BR2304090693 Rijswijk POLYTECHNISCH
WEEKBLAD in Dutch 26 Mar 93 p 3

[Unattributed article: "Gas 'Changed' Into Benzine Products"]

[Text] Amsterdam—The research originates in Amsterdam; the application is found in Malaysia. That is where Shell has set up test operations with the first factory in the world to produce benzene products such as gas oil, naphtha, kerosene, and diesel oil from natural gas. The concern intends to achieve an output of 12,000 barrels of oil products per hour in Bintulu.

The process was developed by the Royal Shell Laboratory in Amsterdam, known as the KSLA. In fact, it updates the German Fischer-Tropsch process, which dates from the 1920's. It was only after the first oil crisis in 1973 that Shell thought about producing oil products from natural gas. The concern has been running trials

with the improved process in a small test factory on the KSLA site for nearly 15 years.

Shell wants to use the new technology in order to be less dependent upon crude oil supplies. Shell owns 60 percent of the factory in Bintulu (Borneo). The remaining 40 percent belongs to the Malaysian Government.

Paraffin Chains Selective in Usable Fragments

The Shell Middle Distillate Synthesis Process (SMDSP) consists in principle of three stages. First, the natural gas is oxidized under the influence of steam until it becomes a synthesis gas, a mixture of carbon monoxide and hydrogen. From this synthesis gas, pure paraffin is produced. This synthesis, also called "Fischer-Tropsch reaction," takes place because of the action of a catalyst especially developed by Shell, which ensures that very long, simple paraffin chains are formed. In the last phase of the SMDSP process, the paraffin chains are selectively cut into usable fragments. This process, called hydroconversion, is completed with hydrogen and a catalyst. The end product of the Shell Middle Distillate Synthesis Process is a mixture of middle distillates, such as naphtha, kerosene, and diesel oil. The catalyst type determines in which proportion these products are produced. They can be separated as pure fractions via distillation.

According to Shell, the middle distillates are of high purity. They contain no sulfur dioxide or aromatics.

The so-called paraffin wax, the intermediate product, can be used, for example, for the production of coatings or domestic products such as soap and candles.

NORWAY

National Radiation Protection Agency Inaugurated

93EN0402Z Oslo AFTENPOSTEN in Norwegian
16 Apr 93 p 5

[Article by Ole Mathismoen: "Norway Well-Equipped"—first paragraph is AFTENPOSTEN introduction]

[Text] The health minister dismissed criticism from Kai Eide that Norway's atomic bureaucracy is too weak.

Yesterday Werner Christie opened the official inauguration of the National Radiation Protection Agency—the new central organization responsible for coordinating supervision and oversight of natural and artificial radiation sources, accident preparedness, and the dissemination of technical information.

The National Radiation Protection Agency is a fusion of the National Institute for Radiation Hygiene, the National Atomic Authority, and the Action Committee on Atomic Radiation Accidents.

Recently, international heavyweight and Conservative Storting candidate, Kai Eide, had harsh words for Norway's atomic radiation program and demanded a clear strategy and plan. He found the program adept at tackling the media and public opinion, but not the problems. Health Minister Christie emphasized in his introductory speech at the opening yesterday that there was indeed a need for a clear strategy, which was the reason the National Radiation Protection Agency had been set up.

Well-Equipped

"With the technical advisory board and the appended crisis committee and group of officials now set up, we are very well equipped to meet any new emergencies," said Christie.

In answer to a question from AFTENPOSTEN, Under Secretary Borre Pettersen of the Environmental Protection Ministry answered the criticism in this way:

"On the technical end we are fully competent. Furthermore, in the course of just a few years we have taken on an incredible number of cooperative projects with Russia. But it is clear that as new things on dumping and installation standards come to light, we are finding it necessary to enhance our capacity further," he said.

During the opening, Director Ole Harbitz of the National Radiation Protection Agency said that preparedness in Norway is now markedly improved and that Norway today has a program which can tackle unforeseen situations.

Early Warning

"Yet, despite our preparedness, we can never eliminate the consequences of a possible accident. The most important task, therefore, is to prevent the chance of accidents. The early warning principle is a special challenge. We must pay attention to the uncertainties while ensuring that a reasonable balance has been struck between the benefits and inconveniences of the protective measures we mandate. Fear of the unknown, the hidden and the uncontrollable, is innate in all of us and must be taken seriously also by those of us in administration and research," said Harbitz.

He referred particularly to the long-term research being done on the effects of low-dose radiation. He also thought that Norwegian research should consider a new matter: the effect of increased ultraviolet radiation on the earth's surface as a result of the thinning ozone layer.

"We know a lot. We have the ability to make very accurate measurements and predictions of the effects of radiation. But we must also recognize that there is much that we do not know," said Harbitz.

As a result of the fusion, the National Radiation Protection Agency has now been put under the Social Ministry, but maintains close ties with a number of technical authorities, such as the Environmental Protection Ministry.

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