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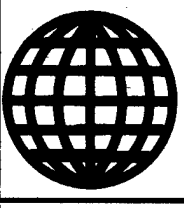

FOREIGN BROADCAST INFORMATION SERVICE

JPRS Report

Environmental Issues

Environmental Issues

JPRS-TEN-91-001 *4 January 1991*

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U.S. Stance at Second World Climate Conference Reviewed

91WN0109A Copenhagen WEEKENDAVISEN in Danish 9 Nov 90 p 14

[Article by Frede Vestergaard: "Global Agreement on Warming"]

[Text] Geneva—Less than three years after the greenhouse effect first became the subject of a political/scientific conference and became known to a broader public, environmental ministers and other representatives from 137 countries agreed Wednesday at the UN international climate conference in Geneva to begin negotiations which will conclude in the early summer of 1992 with a convention concerning how the greenhouse effect is to be combatted.

The aim is a framing convention, which will later be supplemented with legally binding protocols. The first topics to be considered are the tropical rain forests and emissions of carbon dioxide, which contribute to warming. Thus, the actual hard negotiating is not at the top of the agenda.

Nevertheless, it is highly noteworthy that it has been possible to achieve international agreement concerning the long-term objective within the course of just two years. Environmental Affairs Minister Lone Dybkjaer is sorry that no agreement has been reached with respect to concrete global reduction goals. Nevertheless, she views the conference positively.

"The scientific basis for the battle against climatic changes is no longer a matter of discussion. That is an important step forward." Lone Dybkjaer also calls the fact that the "safety principle" has been adopted in a global context a step in the right direction. "An incomplete scientific foundation must not stand in the way of the necessary measures if there is a danger of irreparable environmental damage. Thirdly, there was agreement among the industrialized nations that the environmental efforts of undeveloped nations should be supported both technically and with additional foreign aid."

Climate Criminals

Environmental organizations were critical of the conference's results.

"Climate criminals" was the caption below huge pictures of the United States' President Bush, Great Britain's Margaret Thatcher, the Soviet Union's President Gorbachev, Saudi Arabia's King Fahd and others.

Members of Greenpeace stood holding these portraits at the entrance to the Geneva conference center. A giant balloon bearing the same message floated over the conference center.

Inside the conference center, the United States was the whipping boy not only for Greenpeace and other environmental organizations, but also for many European environmental ministers, including Denmark's Lone Dybkjaer.

The criticism derives from the fact that the United States (as well as the Soviet Union and Saudi Arabia) have long been opposed to setting maximum limits for greenhouse gas emissions. The pressure on the United States increased when the 12 EC member nations agreed on 29 October that the EC region's emissions of carbon dioxide must not be greater in the year 2000 than they were in 1990. At a meeting between EC and EFTA [European Free Trade Association] countries' environmental ministers in Geneva on Monday, the EFTA countries agreed to the same limit the EC countries had agreed upon. Since Japan has also promised to stabilize its carbon dioxide emissions per inhabitant at the 1990 level (i.e., plus 6 percent total) in the year 2000, a total of 21 of the 24 members nations in the Western industrial nations' cooperative organization OECD have set a target limit. Only the United States, Yugoslavia, and Turkey are left.

Scientific Uncertainty

However, the United States refused once again to commit itself to a specified limit. At a press conference, American delegation leader John Knauss explained this by stating that the American way of progress was different from that of Europe.

"We don't believe in accepting a target limit for carbon dioxide emissions without having made the decisions as to how that target limit will be achieved. We prefer to do things the other way around, and make decisions about the requisite measures first," and he referred to the recently adopted Clean Air Act.

American delegation sources did not try to hide the fact that they did not think much of the plans and decisions which some European countries had adopted to reduce carbon dioxide emissions. "If they have decided how they are going to do it, then it was a decision which they would have made anyway," said one American congressional advisor to WEEKENDAVISEN. "Take for example the German closure of extremely energy-intensive and polluting East German factories," he said. "Now they're basing that on the carbon dioxide emissions issue."

He was not familiar with the Danish Energy Plan 2000, which will ensure at least a 20 percent reduction in carbon dioxide emissions in Denmark by no later than 2005, despite the fact that Danish representatives at the conference made an effort to distribute the plan in English translation. However, when he heard that the plan's objective will be achieved to a large extent by replacing imported coal with Danish-produced natural gas, he was quick to conclude that the primary purpose of the plan was scarcely a reduction in carbon dioxide emissions.

At his press conference, American delegation leader John Knauss pointed to scientific uncertainty concerning the greenhouse effect when he said:

"We agree with what the United Nations' scientific climate panel is certain of, which is that man-made greenhouse gases cause climatic changes. That is the best scientific evaluation which is available today, but new knowledge could emerge later on. There is no doubt that global warming is occurring. The question is just how extensive and how rapid this climatic change will be."

Norwegian Speculation on Shift in U.S. Climate Policy

91WN0103A Oslo AFTENPOSTEN in Norwegian 13 Nov 90 p 7

[Article by Ole Mathismoen: "Is U.S. Climate Policy Changing?"—first paragraph is AFTENPOSTEN introduction]

[Text] Increasingly Europe chides the United States for being the world's leading environmental retard. At the same time, there are indications that the Bush administration is preparing a program for stabilizing carbon dioxide emissions, something that would represent a complete reversal of American environmental policy.

Signs of this are numerous and they are becoming clearer as time goes on. When highly placed American diplomats were earlier asked whether the United State would ever commit to stabilization or reduction of its carbon dioxide emissions, the answer was brushed aside as hypothetical. At the big climate conference in Geneva last week, the answer was entirely different. The leader of the delegation, John Knauss, said:

"We are doing a lot to reduce our emissions, even though we are not yet ready to commit to binding programs." The word "yet" is entirely new in this connection.

Invitation to a Meeting

Further, the United States has issued invitations to the first round of talks on an international climate convention, to take place in Washington in February. The plan is to have a convention (framework agreement) ready by 1992. Signs indicate that President Bush himself will open the conference and therewith launch the first global agreement concerning climate, though it will not contain concrete percentage cuts. As Norwegian diplomatic observers say: It is doubtful that Bush will attend in order to be chewed out another time. If he is coming, he has something to say. Most likely, it is that the United States intends to set goals for a carbon dioxide program. Whether it will contain reduction, stabilization, and if so, on what level, is obviously impossible to predict. But, starting from the United States' currently enormous quantity of emissions, it is important to keep in mind that a weak program in the United States can have a greater actual impact on the greenhouse effect than can a strong program in Europe.

Different Strategies

American authorities have worked hard in this past year on different strategies whereby emissions of carbon dioxide, among other things, could be reduced. A greater energy savings program and the president's immense reforestation program are examples. As Americans themselves have on many occasions pointed out, they have the habit of finding out how and whether an objective can be achieved before undertaking it. A bit maliciously, but not wholly incorrectly, this is held up against European practice. Over here, objectives are adopted in heated debate, while the issue of how these objectives are to be achieved, is set aside for a later time. Norway passed its carbon dioxide program in the Storting in the spring of 1988, while the strategy for implementation will be presented in the form of a proposal for the first time at the start of the new year 1991. Because carbon dioxide emissions in Norway have not risen much in recent years, because of, among other things, warm winters and consequent low heating, our goal for stabilization will probably be easier to accomplish than expected. As soon as next year, the Storting could pass a stricter measure calling for actual reduction of Norwegian emissions before the year 2000.

Fulfills Its Agreements

The Unites States is in the habit of fulfilling the agreements it commits itself to. When the United States, together with most other nations in the world, signed this June in London a new version of the Montreal Protocol on the ban of emissions from ozone-depleting CFC [chlorofluorocarbon] gases, a milestone was reached. Not only was the world's largest consumer of CFC gases in accord with total prohibition, but the United States was also agreeable to furnishing extra assistance to underdeveloped nations above current levels of assistance. This would enable these nations to fulfill the agreement as well. There are only two, possibly three, nations who have so far demonstrably provided new funds. These are the United States and Norway. The third is Great Britain, but uncertainty exists in this case because of budget camouflaging. The remaining developed nations have up until now only moved funds from other third world projects. On these grounds and much other evidence, many anticipate that the United States intends setting up goals. Only when this happens will progress be made in the work of restricting emissions on a worldwide basis.

The United States today is responsible for approximately 26 percent of the world's total carbon dioxide emissions, but has only 5 percent of the world's population. Europe and the rest of the OECD nations are responsible for 23 percent, the Soviet Union and East Europe for 26 percent, and the developing nations for 26 percent. The United States wastes the most, and allows twice as much as Europe to escape per each produced unit of the gross national product (GNP).

Results of Antarctic Treaty Meeting in Chile Summarized

OW0712221990 Beijing XINHUA in English 1859 GMT 7 Dec 90

[Text] Santiago, December 7 (XINHUA)—During the 11th special consultative Antarctic treaty meeting held in the Chilean city of Vina del Mar, 140 kilometers to the northwest of the capital, member countries decided to create a new international instrument to protect the South Pole's environment.

According to the final communique issued by the 17-day meeting which ended Thursday, participants agreed to prepare as soon as possible a new protection instrument and start negotiating its implementation.

The communique said the Antarctic is an ecological reserve which will be used for peaceful scientific research and that all nations agreed to set up a legal regime for its protection.

The delegates also stressed the need to adopt the principle of environmental evaluation as a previous requisite for any human activity in the zone.

About mining, the communique informed that it was generally accepted that the activities would be prohibited for a long time.

According to meeting sources, an attempt by delegation heads to impose a 50-year moratorium on mining failed at the last moment owing to strong opposition from some countries.

The 11th meeting on Antarctic protection was very constructive, since a consensus was reached on the need to protect the South Pole environment, the communique said.

The meeting's president, Oscar Pinochet, chief of the Chilean delegation, informed that the second part of the 11th special consulatative meeting of the Antarctic treaty will be held next year in Spain.

Antarctic Meeting Suspends Mineral Exploitation

PY0912231490 Santiago Domestic Service in Spanish 1600 GMT 8 Dec 90

[Excerpt] The international ecological group Greenpeace described as very important the special consultative meeting of the Antarctic Treaty, which has concluded in Vina del Mar after 18 days of deliberations. Greenpeace also expressed its frustration with the meeting's inability to conclude once and for all the debate on the exploitation of minerals in the Antarctic. The two hundred delegates to the Antarctic meeting who met to discuss environmental protection measures agreed to create a new international instrument for protection of the environment. The instrument includes the four proposals taken to the meeting by different groups. The Antarctic Treaty representatives also decided to prohibit, for a long time, the exploitation of minerals in the Antarctic, which is an area of the planet that has not been contaminated. [passage omitted]

Pakistan Scientific Expedition To Leave for South Pole

OW0612080890 Beijing XINHUA in English 0725 GMT 6 Dec 90

[Text] Islamabad, December 6 (XINHUA)—Pakistan is for the first time sending a 40-member scientific expedition to Antarctica on December 10 and will complete its journey in a month's time, it is learnt here Thursday [sentence as received].

The composition of the expedition includes scientists, oceanographers, personnel from the navy and army, and a producer of Pakistan television.

Informed sources noted that the expedition will conduct different environmental, oceanic and other experiments.

The expedition has been jointly organized by the Ministry of Science and Technology and the Pakistan Navy. The experts at the naval headquarters and the Ministry of Science and Technology have pushed the scheme in order to avail an opportunity of conducting experiments at South Pole, which will host no more expeditions after 1991 under the law of seas [as received].

Pakistan has hired a special ship from Sweden for this proposed expedition, which could operate in glaciers [as received]. The ship will sail off to the South Pole on December 10 from Karachi, the country's biggest port city, and a base camp will be set up after landing on Antarctica.

USSR's Shevardnadze Views Ecology Impact on Soviet, World Politics

AU1112070190 Moscow MEZHDUNARODNAYA ZHIZN in Russian No 10, Oct 90 pp 5-19

[Article by Eduard Amvrosiyevich Shevardnadze, USSR minister of foreign affairs: "Ecology and Politics"]

[Text] Strictly speaking, we might do without the conjunction "and." It is our common misfortune that ecology has ceased to be the exclusive sphere of interests for special natural science disciplines. Nowadays, it is also an area of increased attention on the part of politics, and it is therefore meaningless to verbally divide these two notions or put them together: Interpenetration here is so complete that even such terms as "ecological diplomacy" or "ecological policy" do not strike us as quite new ones.

Nor, unfortunately, do they appear to be too old or of very long standing. In spite of the fact that the problems of environmental protection have not emerged in our country yesterday but rather have been worrying our country's public opinion for more than just one decade, it was not until relatively recently that they have been

publicly recognized and as openly put in the category of issues deserving special attention on the part of politicians. For me personally, this happened on that day in April 1986 when the Ministry of Foreign Affairs was literally overwhelmed by the avalanche of inquiries, representations, and notes from foreign political departments of neighboring countries. This happened when approximately 15 ambassadors sought urgent meetings at the USSR Ministry of Foreign Affairs motivating the urgent nature of their requests by the special instruction from their respective governments to obtain explanation concerning the radioactive elements which had appeared in the atmosphere, soil, and water of their national territories.

That was the day of Chernobyl. Even before we pronounced this name and even before we revealed for ourselves and for the whole world the scope of the catastrophe which it designated, it had already become abundantly clear that from then on, no ecological calamity could any longer be regarded as pertaining solely to that national territory on which it had occurred. It had also become clear that in the contemporary world, the boundaries and zones of particular catastrophes resulting from the conflict between the technosphere and biosphere are quite arbitrary, whereas the need is absolutely undeniable to oppose, irrespective of all borders and on an international scale, the danger which is no less grave than the danger of a nuclear war—the ecological disintegration of the planet.

This danger has not emerged just now, yet it was not until relatively recently, at least in our country, that it has been comprehended and perceived as an imperative, more specifically, an ecological imperative of survival which has embraced a multitude of concerns and problems.

We can excel as much as we please in coining definitions or we can even introduce new word combinations, such as "the ecologization of politics," a term which is so difficult to pronounce—the essence, goal, and task are determined very simply: the protection of man. On the scale of national interests, this is precisely that "mark" and that "unit of measurement" which we must use to verify the measure of security of nations and peoples. However, as also applied to ourselves, a broader scale must be used: man—mankind. It is only by protecting each individual person that we can save mankind and, conversely, it is only by a concerted effort on the part of all the people and in the framework of the whole of mankind that an individual person can be saved.

That this is precisely the case follows from the trends, events, and recent phenomena whose analysis leads to a whole range of conclusions and considerations.

Below, I will allow myself to share them with the reader because I realize the importance of joining efforts now that the times are so difficult for all of us.

Let me first speak of the internal aspect of the situation, the one which concerns our Union. I will say straightaway that I would not have touched upon it had it not been so directly relevant to the sphere of our foreign policy. In our country, many aspects pertaining to the nature conservation sphere could be qualified by the words "for the first time."

For example, for the first time in our country, the sorrowful truth of the ecological catastrophes comparable with the one which had involved the Aral region began to be removed from the secret list, although not without delay and not always of our own free will. There is little joy in this, but if one knows the truth it is easier to defend it.

For the first time, the thesis to the effect that protection of nature is the same thing as protection of man has been advanced to the forefront.

For the first time, it has been declared that protection of nature and man must be guaranteed, among other things, by adopting long-term ecological state programs for the country as a whole and for the Union and autonomous republics, in particular, by passing laws on environmental protection, and by improving the structure and activity of those bodies which are responsible for nature conservation.

For the first time, the task has been set to give the force of law to the procedure whereby questions connected with the distribution of new industries must be resolved on the basis of the most strict appraisal by scientists and taking into account public opinion.

For the first time, the demand has been advanced to the level of economic policy that more attention be given to the realization of programs for the rational exploitation of nature, preservation of resources, and economical utilization of raw and other materials and that all attributes of the attitude toward nature as an object of relentless exploitation be renounced.

For the first time, the need was acknowledged to tackle these questions in close international ecological cooperation with the world community.

It has been pointed out repeatedly that in our country, the dramatic significance of ecological problems has been comprehended with an obvious and great delay. Let us call a spade a spade: The people had sounded the alarm long ago, but the inherent deafness of the powers that be constantly prevented them from hearing the alarm signals. All this has been supplemented by the philosophy of favorites [vremenshchiki]—"apres nous le deluge"—and the mechanisms for the unconditional subordination to the commands from above have been grinding the grains of misgivings and warnings and scattering them to the wind of indifference. Any sensible reasoning has always been contradicted by the arguments of "supreme state interests." For example, the destructive exploitation of the unique natural wealth has been "sanctified" by the interests of the defense of our

Fatherland. All other dangers have only been subordinate to the military one. It has only recently been realized that the introduction of the hierarchy of threats and the numbering of them in the order of their significance is hardly appropriate, that life, which is the main value common to all mankind, is being threatened by the thermonuclear conflict and the ecological disaster alike, and that there exists an actual interrelation between these two global problems, an interrelation which manifests itself, in particular, in the fact that disarmament is the only large reserve of the means for resolving nature conservation problems.

However, it is not only a matter of the distorted character of our ideas of what constitutes the threat to peace, mankind, and ourselves, a distortion which has already been overcome. Unfolding the industrialization with limited material resources and means at our disposal, within a limited period of time and with the help of extensive methods, and, moreover, making do with the slogan "Overtake and surpass!" we were inclined to ignore the tasks of protecting nature. Well, anyway, what is the use of speaking about these tasks being ignored, given the fact that it has been brought home to every Soviet citizen, from his early childhood, that his motherland is boundless and inexhaustible and that we cannot wait for favors from nature.... With ecological carelessness, the people have been trained to treat their native land as a huge construction and industrial site. To construct ahead of schedule and develop ahead of schedule, and everything else can go to hell and is, in fact, going precisely there....

The new political thinking has opened up paths toward the radical perestroyka of the entire situation involving environmental protection. The USSR Supreme Soviet has passed a decision on "Urgent Measures To Improve the Country's Ecology." The work on a long-term draft state program for environmental protection and rational utilization of natural resources has entered its concluding stage. In the near future, we will have to adopt a nature conservation law, the first such law in our country's history. Special programs for different regions and projects have been approved or are in the process of elaboration. Thus, a new state policy is being shaped in the sphere of nature conservation.

However, this cannot even be referred to as the beginning of the undertaking. The state of the environment in the USSR still remains generally unfavorable, and in some regions—their number is continually increasing—it is acquiring the character of ecological disaster. In 103 of the USSR's cities with 18 percent of the country's population, the level of atmospheric pollution exceeds permissible concentrations by a factor of 10 or more. The total area of those zones, in which the ecological situation is considered to be severe, is 17 times as great as that of our national parks or game reserves. The state of two-thirds of the country's water sources does not meet the requirements of sanitary ecological standards. We are losing 10 billion rubles [R] annually as a result of "ecological" diseases. Natural fertility is decreasing and the soils are being degraded as a result of erosion, salinization, and technical load. One mammal species totally disappears between every three and five years. The losses which our national economy is sustaining because of the damage caused to nature reach between R25 and R30 billion a year.

Thus, the situation unambiguously testifies to a sliding toward disaster. It is impossible to prevent it from happening by localized half-measures. A complete and radical restructuring of this work is needed. First of all, we will have to radically change the character of our production activity from the point of view of its ecological consequences. The ecological capacity of the territories must be taken into account when making decisions about the actual distribution of economic complexes; the possibilities of the ecosystems of individual regions must be reflected in the national economic plans; and the results of these analyses must be taken into account in pursuing the demographic, regional, and national policy as early as at the level of preliminary planning documents and all the more in preparing national economic plans.

It is essential that the country's long-term ecological program be discussed and adopted in such a way as to enable us to take it fully into account in the process of elaborating current programs and programs for the future.

Here, a fundamental role belongs to the strictest ecological impact assessments with regard to all types of industries and their distribution, impact assessments which will be guaranteed by law. There are more than enough decisions to this effect but, so far, their practical effect has been minimal. For example, the output of machine building had to undergo an ecological impact assessment starting from 1 January 1989, but this work has not yet been placed on a practical footing. In my opinion, this question needs to be seriously analyzed at the USSR Supreme Soviet.

We must see to it that demands be radically raised of the technology itself which is being used in industry and agriculture, of the rational utilization of energy and resources, and of the implementation of technologies and industries which involve no waste products. Some work in this sphere has already been done: Over the three years of the current five-year plan period, 21 percent of the increase in demand for ferrous metals could be satisfied with the help of economizing these resources. Today, however, this is already insufficient. The task of elaborating a comprehensive program for saving energy and resources, a program which will have the force of law, is obviously becoming increasingly urgent.

Through the ecological perestroyka of our domestic affairs, we must revise our priorities concerning the approaches to resolving many social tasks, first and foremost, those that are associated with the protection of people's health, which is further threatened by the violated environmental balance.

Maximum support must be given to scientific studies and fundamental disciplines dealing with the biosphere and its ecosystem.

It is vitally important that the sphere of education and indoctrination in our country be permeated with ecological content and a new and up-to-date attitude toward nature be shaped, an attitude oriented toward enhancing the prime importance of universal human values and toward helping our people to regard themselves as a part of nature. About this I would like to speak in more detail.

It is, of course, impossible to change patterns of thinking and behavior all of a sudden, but we must make a start. Those workers who are occupied in quite diverse spheres of activity must develop ecological awareness in their professional thinking. There is not a single sphere of human activity in which ecological awareness could be ignored.

All this is a comprehensive sociocultural process which involves various stages and levels. It must also be kept in mind that the accumulation by man of a certain amount of ecological knowledge does not necessarily lead to ecologically correct behavior. Such habits are shaped in the family and at school and are subjected to the influence of local traditions and professional knowledge or, in short, they are molded against the background of one's general culture. Of course, the general state of society and the system of ideals and values which it professes also play a part in the shaping of ecological morality.

If man degenerates morally and if human personality is considered to be of little value, then what kind of nature conservation are we talking about? We must start our perestroyka of the attitude toward nature by altering the attitude toward man and restoring the sovereign rights of the individual. Only after that, can ecological indoctrination become based on the principle according to which the conscience of an individual is shaped and activated by his deeds. In other words, every individual's personal participation in resolving environmental problems and the genuine concern about the state of the environment are becoming a decisive factor.

In 1988, competent state departments, in cooperation with the USSR Academy of Sciences, the "Novosti" News Agency, and the "Znaniye" Society analyzed an educational program in the area of environmental protection for the period up to the year 2005. The program was focused on the task of shaping a new ideology and a new thinking, determining the basic patterns in the functioning of ecosystems, enhancing the interdisciplinary content of instruction, turning the instruction process into a continuous one, and taking account of specific regional features. In the sphere of indoctrination, it was considered an urgent task to promote the shaping of ecological awareness in various population groups and the formation of an active social position in every person. It was proposed to ensure that knowledge be disseminated on a broad scale and on a voluntary basis, that new forms of instruction be looked for, educational curricula be elaborated, the ecological training of journalists and cinema, television, and radio workers be improved, and the continuity and interrelation be achieved between formal and informal ecological education.

Alas, this document is being translated into the language of practical measures in an obviously slow manner and even timidly.

The implementation of our nature conservation policy must be based on such an economic, legal, and financial mechanism which would make the infliction of any damage to nature absolutely unacceptable. The elaboration of such a mechanism must be regarded as an important constituent part of economic reform.

I believe that the key question in the ecologization of the economy lies in the adoption by state and cooperative enterprises and organizations of the principle of paying compensation for the utilization of mineral reserves, land, water, and forest resources; they must also cover the costs of the reproduction of the corresponding types of these resources; sanctions must be imposed on them for the excessive utilization of these resources, violation of the environmental protection legislation, and manufacture of ecologically unsafe equipment. Perhaps, it might be justified to leave a part of the proceeds from such sources in the provinces in which local organs would make use of them to promote the implementation of environmental protection measures. To all appearances, it is necessary to make people liable for the failure to fulfill state orders on the commissioning of environmental protection projects; this must also include material responsibility: Only 74 out of 152 such projects stipulated for by the 1989 plan have been put into operation.

It is clear that, protecting nature, we must not encroach upon those systems which guarantee the satisfaction of vital needs of the population. In individual cases, by virtue of the fact that this problem has been so neglected—one has to resort to such an extreme measure as halting the operation of one industry or another. However, the indiscriminate closing down of enterprises may cause perceptible damage or even create extraordinary situations, as it happened in the sphere of the country's public health services due to a sharp reduction in the production of medicines as a result of the closing down or partial halting of the work of a number of pharmacological and chemical enterprises.

It goes without saying that extraordinary measures alone cannot ensure an optimal solution to the problem which would guarantee the maintenance of a normal ecological situation. Any sensible distribution of productive forces and of power-supply and other installations of national significance must be based, among other things, on the indispensable requirement of ecological safety and, in order to comply with this requirement, scientific expertise must be requested, if necessary, on an international scale.

The supervision on the part of the USSR Supreme Soviet, republican and other soviets, and the government over the implementation of any ecological programs is acquiring decisive significance. It is no secret that many good decrees, including those on the Aral Sea and Lake Baykal, are not being realized.

A very important aspect stands out clearly in the deliberations concerning the internal policy side of the ecological rebirth.

Environmental protection is a unique factor in the consolidation of all the forces of society in all regions of the country without exception. In our country, as in many others, various "Green" movements started from below. The ecological alarm was sounded by our scientists who received strong support on the part of public opinion. At the level of politics, it has only recently been realized how vitally important it is to resolve ecological problems. At present, all of us have become involved in these movements.

This unity has been preconditioned by the very character and scope of the ecological challenge. It is global and does not recognize either state borders or ideological differences. Here, as in no other sphere, the unity of mankind is manifested in all its completeness.

Of course, nobody is denying the existence of local ecological problems. However, in the majority of cases, the critical mass of local and regional ecological threats is acquiring a transborder dimension. How can one regard and, moreover, correct the ecological situation by "bits and pieces," for example, north of the Amur River or south of it? How is it possible to rescue the natural habitat of the western areas of the Ukraine unless its western neighbors join in the coordinated activity?

In terms of the level of background atmospheric pollution, three regions must be specially mentioned: the European territory of the USSR; Soviet Central Asia and Kazakhstan; Siberia and the Soviet Far East. For example, with regard to the European territory, where background pollution is especially strong, the struggle against it requires that joint efforts be made by all republics and oblasts of the European part of the country and that close cooperation be established with the states bordering upon us in the west.

It appears that the settlement of ecological problems will become a much faster process if whole geographical regions are drawn into cooperation, regions which are connected, first and foremost, by their environmental communality heavily burdened by the economic activity of the corresponding countries or their individual regions.

It is precisely in this direction that the cooperation between the countries of the Baltic Basin is now developing. Preparations for a conference, proposed by Finland, on the protection of the unique natural habitat of the Arctic region are in full swing.

The idea of creating national parks on both sides of the borders of neighboring states deserves special attention. At the Soviet-Polish border, this idea is being implemented in the forest tract of the Belovezhskaya Pushcha. It is also close to a realization at the opposite end of the country—a Soviet-American agreement has been reached on opening in 1991 of an international nature and ethnography park in the Bering Strait region. Finland has proposed that a joint nature reserve be created in borderland areas of our countries, and this proposal can be implemented with the most active participation of the Karelian Autonomous Soviet Socialist Republic, Baltic republics, and neighboring oblasts.

It is, of course, impossible to resolve the entire complex of questions of bilateral and, all the more, regional ecological cooperation by creating borderland nature preserves. We are now talking of one of the components of such interaction which opens up the widest possibilities for incorporating into it our republics, krays, and oblasts.

Here is yet another consideration in this connection. The task of rescuing the ecology of countries and regions demands that bold decisions be adopted, decisions which are not always pleasant and often quite stringent. The breaking up of those territories which make up single ecosystems, the raising of barriers, and the adoption of the attitude "I know myself what is best for me" may have a negative effect on resolving the task of consolidating our forces.

We must not forget: In many respects, we are guilty not only before our own people—the seats of global ecological calamities have emerged on the territory of our country. Chernobyl is not the only such source. Look at the Aral Sea.

Virtually during the life span of one generation, only one-third of the former amount of water has remained in the Aral Sea. About 3 million hectares of its bottom have become exposed, and winds are removing from it hundreds of millions of metric tons of sand and dust annually. The quality of fluvial water has sharply deteriorated. The fertility of soil is decreasing. In other words, the situation has actually gone beyond human control. About 4 million people live in the Aral region, and their very existence is at stake. According to the evaluation of experts, the revival of the Aral will cost between at least R30 and R35 billion. It is clear that we cannot make it by using local forces alone, either financially or in any other ways—this task may be resolved only by joint efforts.

The entire complex of environmental protection measures will require about R130 billion in capital investments—four times as much as the present volume of such investments. Naturally, it is impossible to procure such means at once. However, they may be increased if we join efforts at all levels. The top priority task is to see to it that urgent, current, and long-term environmental

protection measures be consecutively fulfilled and intensified. In this direction, the territorial principle must prevail in planning the protection of nature and rational utilization of natural resources.

The useful undertakings initiated in the provinces, especially the experience of the elaboration of a new mechanism for the utilization of natural resources, must be made available to the country as a whole. We will have to generalize the experiment which is presently under way in many cities and industrial centers of our country's various regions. The purpose of this experiment is to elaborate methods and practical parameters for introducing payment for the utilization of natural resources and for establishing environmental protection funds.

An ecological rebirth and the shaping of an up-to-date attitude to nature must play the most important role in the consolidation and stabilization of our society, as well as in its renewal and moral improvement. We all need to complete a course in democracy and tolerance and do this as soon as possible. I am sure that ecology will be entered into the "school-leaving certificate" of this school as one of its leading disciplines.

As concerns the foreign policy aspect of the matter, we have our own program. These are the key theses of M.S. Gorbachev's address to the participants in the Moscow Global Environmental Protection and Development Forum for the Survival of Humanity.

I will allow myself to analyze in detail the principles advanced in this policy document.

Its initial thesis reads: The interdependence and interrelationship of the contemporary world have been dramatically reflected in the present ecological crisis. This, in turn, dictates the **need to elaborate a coordinated international policy in the sphere of ecology**. Only its joint implementation will help prevent a tragedy from happening and guarantee ecological safety. This is why the problem of consolidation is arising in its full significance again, but this time it is acquiring worldwide connotations. The elaboration of a global ecological policy is quite feasible on the basis of collective efforts, even though it raises questions which are far from simple and which sometimes have a bearing on state sovereignty.

The primacy of international law, which embodies the priority of universal human values, must be the starting-point in this and other spheres of international security. Here, the central role must, undoubtedly, belong to the United Nations.

Let me point out that the decree "On the Main Trends in the USSR's Internal and Foreign Policy" which was adopted by the first Congress of People's Deputies reads: The country's security, including its ecological component, must be guaranteed, first and foremost, by political means, on the basis of the authority and potential of the United Nations.

Coming out in support of the United Nations and its institutions, we are convinced that this unique organization can have an actual influence on resolving the entire complex of present global issues, including ecological ones. It is precisely from this point of view that we are shaping our new philosophy and practice with regard to the United Nations and its organizations and specialized institutions and with regard to ensuring international security in the ecological sphere, mainly through multilateral cooperation, and primarily within the framework of the United Nations. The resolution recently adopted by the UN Economic and Social Council and calling upon the entire international community to mobilize its efforts to help our country to overcome the consequences of the Chernobyl catastrophe is an eloquent expression of such cooperation.

The elaboration of a consistent and coordinated international approach and of long-term and universal principles of man's attitude to nature is of first-rate significance in the UN activity. Agreements with regard to such principles as well as with regard to key directions in the cooperation in the sphere of nature conservation must ensure safety, rational utilization, and reproduction of the environment in the interest of all states.

It must be said that it is precisely in this vein that the multilateral dialogue on ecological issues is evolving in the United Nations. Thus, in my opinion, the unanimous adoption of all the ecological resolutions, first and foremost of the resolution on the preparation for the UN conference to be held in 1992, has become a major achievement of the 44th Session of the UN General Assembly.

The UN Conference on the Environment and Development must be thoroughly prepared. The effectiveness and purposefulness of the global environmental protection activity will, in many respects, depend on those decisions which it will adopt. It may be pointed out with satisfaction that the principal outlines of these decisions were drawn in Nairobi at the first session of the preparatory committee for the conference which will be held in Brazil between 1 and 12 June 1992. The preparatory committee's recommendation that the conference be conducted at the level of heads of state and government, as was proposed by the Soviet Union, is of special significance.

Let me speak in more detail on what results we are expecting from the conference from today's point of view.

In my opinion, a document comprising a code or foundations of ecological ethics could become one of such results.

If such a document is adopted at the conference by heads of state and government, this will signify introducing new ethical principles based upon the ecological imperative into the practice of international relations, and will

testify to the world community's determination to build its life in the 21st century in accordance with new canons.

A program which will expound the global strategy of the cooperation between states in the sphere of nature conservation and specify the sources for financing the undertakings which it envisages must constitute another important result. It would also be a good idea if draft international conventions on the protection of the climate and conservation of the earth's biological diversity could be completed prior to the conference. For example, who is able to accurately forecast now the economic and social consequences which the several hundred kilometers northward shift of the main climatic zones will have on the present and next generations? According to some estimates of scientists, this is quite a realistic outlook if global temperatures rise by between just one and one-half and four and one-half degrees. In the conditions in which nature is losing up to 100 biological species daily, it is redundant to talk about the seriousness of the situation due to the exhaustion of the earth's genetic fund. In order to keep the negative tendencies associated with the above phenomena under control, agreements on a global basis are needed.

Finally, we need authoritative recommendations on the development of ecological education and on the improvement of the system of international bodies dealing with ecological problems.

The UN Environment Program [UNEP] occupies a special place in this system. Our cooperation with UNEP reinforced by the USSR's increasing voluntary contribution to its fund is producing quite specific results. This may be exemplified by the agreement signed in January 1990 between the USSR and UNEP on the cooperation in elaborating a plan for actions to be taken for overcoming the ecologically unfavorable situation in the Aral Sea region.

It has been planned to implement the project by several stages. The first stage of the project covers a period of two years. Over the 24 months, starting from 1 February 1990, a group of international specialists formed under the auspices of UNEP, which will include experts from developed and developing countries and representatives of the scientific world, will take part in analyzing the situation in the Aral Sea region and in elaborating a plan for actions and a mechanism for its realization, which will then underlie an international program for the restoration of the ecological balance in this region. The project will enable the Soviet Union to elaborate, within a relatively short period of time and with the participation of leading scientists and international organizations, a program for practical measures aimed at rescuing the Aral Sea, to organize a system of ecological monitoring in the region, to join the international network of information exchange on questions of environmental protection, and to increase the efficiency of its participation in the international cooperation in the sphere of nature conservation. This agreement is also advantageous for many other states, because its goals include studying ecosystems of closed water areas using the Aral region as an example and elaborating a future global strategy model for the management of analogous regions and water resources in other countries. It is, for example, well-known that a similar ecological situation has taken shape around internal-drainage lakes in Africa and in Australia.

We must also take a more active part in the environmental protection projects launched by other UN institutions—the World Meteorological Organization, the World Health Organization, the International Labor Organization, the UN European Economic Commission, and others.

The elaboration of an international law regulating the protection of unique nature zones which are important on a global scale is yet another fundamental thesis. This concerns, first and foremost, Antarctica. We share the concern of many scientists and public figures with regard to the exploitation of the natural resources of this continent. Adhering to the principle of reasonable self-restriction in the name of universal human values, the Soviet Union is ready to take part in the efforts to turn Antarctica into a world nature reserve and our common natural laboratory. It goes without saying that the actions in this direction must be based on the Agreement on Antarctica which has officially legalized the creation of the first nuclear-free zone in the world and the first territory on the planet which is completely open to international scientific research.

It is also time for all of us to jointly think over the solution to the problems of the Danube and of the Black and Mediterranean Seas. None of these problems yields to a geographically "truncated" solution. Let us take, for example, the system of the Danube and the Black Sea. Up to three-fourths of all the pollutants are introduced into this sea with the Danube waters. Moreover, the upper boundary of the hydrogen sulfide layer in the Black Sea water has risen from the depth of 200 meters to the depth of 75 meters below surface, and this is fraught with the "overflowing" of this layer into the Sea of Marmora, the Aegean, and the Mediterranean Seas. In the light of this situation, it appears unjustified that only Bulgaria, Romania, Turkey, and the Soviet Union should participate in the conventions on the Black Sea, while other countries of the Danube region should not. It is equally useless trying to resolve the problems of the protection of the Mediterranean region without the participation of the countries of the Black Sea region. Here, it is obviously high time for new decisions and we must start to elaborate them jointly without delay.

The human race needs such "ecological legacy" as tropical forests and large forest tracts in general—these "small" planets—as well as coral reefs and other unique natural phenomena, like Lake Baykal. It is time we did something concrete to satisfy these needs, something

which would also make up for our self-imposed limitation in using forest resources, unique fresh-water reservoirs, and so forth.

With regard to the Baykal, I would like to point out that the Baykal International Center for Ecological Studies is being created in the settlement of Listvyanka in Irkutsk Oblast. Scientists from the USSR, the United States, Great Britain, the FRG, China, Canada, Sweden, and other countries have combined efforts in their work on studying the lake which is the world's largest fresh-water reservoir. The results of their studies will, undoubtedly, be of great scientific and practical interest for many countries of the world.

There are also other interesting ideas with regard to the development of the mutually advantageous international cooperation in the environmental protection sphere on USSR territory. They include our proposal to the FRG to conduct joint studies on the general problems of the Volga and Rhine fluvial ecosystems, the creation of an international base for studying desertification problems on the basis of the Repetek National Park in the Kara Kum Desert, and the elaboration of an international project for an accurate investigation and improvement of the ecological situation on those territories which have been polluted as a result of the Chernobyl accident. The possibilities of international cooperation in the study of northern trans-polar regions, Siberia, the Soviet Far East, and other unique natural zones of international significance are far from exhausted.

An international mechanism for technological cooperation in the sphere of environmental protection must become an inalienable part in the system of measures aimed at improving the world's ecological situation. I have in mind those technologies which make it possible to prevent the emergence of new sources of pollution and reduce, as much as possible, the harmful effects of the existing industries on nature. The disproportions which exist between the levels of socioeconomic development of various countries are also responsible for the nonuniform distribution of technological potential throughout the world. Today, the majority of the technologies the utilization of which would enable us to lower or even avoid environmental pollution are concentrated mainly in developed countries. However, it is abundantly clear that one "cannot be clean just on his own," and that national or commercial selfishness is out of place in matters which involve the rescue of nature.

Therefore, we need to create a system of international exchange of ecologically safe technologies, a system which would effectively guarantee the most-favored treatment for all the countries wishing to make use of these technologies.

We are ready to share such technologies with other countries. At the first conference (June 1990, London) of the countries which had participated in the Vienna Convention on the Protection of the Ozone Layer and signed the Montreal Protocol of this convention with regard to those substances which cause damage to the ozone layer, the Soviet Union confirmed its readiness to pass over, without charge, the technologies it has developed which do not cause any damage to the ozone layer.

The experience of our technological cooperation with Norway and Finland is becoming increasingly extensive. In particular, the Soviet-Finnish declaration signed in the course of M.S. Gorbachev's visit to Finland particularly stresses the need to elaborate "environmental protection technologies and make their exchange a common duty of all states."

Of course, there also exist complicated questions in the development of the technological cooperation in the sphere of environmental protection, and both diplomats and workers at environmental protection and other departments will have to work on resolving them.

For example, in the West, the overwhelming part of technological studies and elaborations are accomplished by private business. It can hardly be expected that private firms will be willing to give over, free of charge, those innovations whose creation involved considerable investments. Consequently, problems of copyright, licensing, and financial compensation are arising. All these are questions which are far from being simple.

There also exist problems of a quite different nature. They stem from the fear on the part of developing countries lest their general economic growth should become hampered as a result of expenditure on the implementation of ecologically safe technologies. In discussing the theme of international technological cooperation, the developing countries raise demands that additional means be allocated to them for environmental protection purposes, apart from that aid which they are receiving from various countries and international financial institutions for the purposes of development.

The essence of our position with regard to the range of problems associated with the transfer of ecologically safe technologies is that the Soviet Union is ready to participate in technological cooperation in the name of preserving our common habitat on the earth; this cooperation must be very broad, with different countries enjoying equal rights, and must be aimed at achieving practical results. Moreover, we are ready to allow inspection to be conducted on our own territory in order to dismiss any suspicions which may arise with regard to a possible misuse of this technology.

I would also like to make another mention of our proposal to the effect that an international register be created of those industrial facilities which present a particular ecological threat and that their technological reequipment be accomplished as a matter of top priority with the help of credits from the international fund.

The question of a more active involvement of businessmen in discussing and resolving problems of cooperation in the sphere of nature conservation is also quite acute, and such cooperation cannot be realized unless a

balance of interests is achieved. Incidentally, this is also confirmed by the experience of elaborating the convention banning chemical weapons and—in the ecological sphere—by the course of elaborating new and implementing already adopted agreements. This may, in particular, be exemplified by the efforts taken to prevent possible catastrophic consequences of the global changes in climate.

In the past two years, a number of major international conferences have been held in Toronto, the Hague, Tokyo, and Noordwijk (the Netherlands) at which scientists, prominent political figures, and heads of states discussed integrational efforts in this area. The most popular among the proposals on how to prevent a sharp rise in global temperatures has been the idea of reducing emissions into the atmosphere of carbon dioxide of which power engineering is the main "producer." The most radical proposals envisage a 20- or even 30-percent reduction of carbon dioxide emissions into the atmosphere by the years 2000-2005 by way of saving energy or going over to gas or other alternative energy sources. However, it has so far been impossible to reach consensus of the international community on the limitation or at least stabilization of carbon dioxide emissions. This is due, first and foremost, to the fact that it is quite difficult for the majority of the countries to make an abrupt transition to those technologies which make it possible to reduce carbon dioxide emissions, because this involves considerable expenditure.

The special conference of experts on global changes which was convened in Washington in April 1990 on the initiative of U.S. President George Bush did not arrive at any unambiguous conclusions with regard to the evolution of the climate.

The task of elaborating internationally coordinated measures for dealing with potential climatic changes is incredibly difficult. This task has been entrusted to the Intergovernmental Group of Experts on Climatic Changes in which more than 40 states are represented, including those from the USSR. This group was created in 1988 by the World Meteorological Organization and UNEP. It must prepare a scientifically substantiated report on the state of the problem and offer recommendations on how to react to these changes. The conclusions will be presented to the Second World Conference on Climate and the 45th Session of the UN General Assembly and will serve as the basis for an international convention on climatic changes.

The depletion of the ozone layer, which is found in the upper atmosphere and which plays the role of a specific shield for all living things on Earth, has a strong influence on climate. According to estimates of scientists, the tropospheric ozone which disintegrates under the effect of freons accounts for approximately 20 percent of the "greenhouse effect." To resolve this problem, measures have been elaborated and are being implemented to preserve and restore the ozone layer, and the Montreal Protocol adopted in 1987, which stipulates the states' obligations to freeze the production of and subsequently reduce the manufacture of those substances which cause damage to the ozone layer, became effective as of 1 January 1989. The conference of the signatories to the Montreal Protocol has arrived at a distinct conclusion on the need to make the terms of the Protocol implementation more stringent and has supplemented it by the decision to totally stop the production of those chlorofluorocarbons which have been listed in the Protocol.

The international mechanism of ecological monitorihg and control is expected to play an important role in the complex of the new forms of international ecological cooperation.

The idea of global monitoring from space was formulated in a new way in M.S. Gorbachev's speech at the 43d Session of the UN General Assembly in which it was declared that the USSR was ready to cooperate in creating an international space laboratory or a manned orbital station to deal exclusively with monitoring the state of nature. The Soviet leader further developed this idea while awarding decorations to Soviet and French astronauts on 17 February 1989, when he emphasized the importance of creating a global system of observation and control of the environment in the interest of resolving ecological problems. Such a system would certainly incorporate individual units which already exist.

Among the existing international ecological information networks, the Global Resource Information Data Base [GRID], created within the framework of UNEP, stands out as a particularly effective one. Many specialists believe that global ecological monitoring must be based on GRID, because the utilization of the most up-to-date methods of acquisition and processing of the data of ground and aerospace environmental observations enables GRID to resolve various regional and global tasks involving the planning of environmental protection activity and utilization of natural resources. Incidentally, if Soviet organizations are admitted to GRID, this will result in raising the technological level and technical and software provision of the work aimed at assessing the state of the environment.

The international mechanism for ecological monitoring and control could be created under UN auspices, with close cooperation between space and environmental protection organizations and scientific institutions of all interested states.

The Soviet Union is ready to contribute to this mechanism its own large satellites which are especially suitable for accommodating the corresponding equipment.

Openness and transparency, as well as the possibility to make sure that the partners are conscientiously fulfilling the obligations which they have assumed, are indispensable components of international cooperation in the sphere of environmental protection. Nowadays, after the publication of a detailed report on the national ecological situation, a report which contains a profound and

unbiased analysis of the entire sum total of our misfortunes and hazards, the need to overcome the chronic syndrome of secrecy is becoming really pressing. For example, can it be considered normal that approximately 10 percent of the USSR's territory is presently categorized as so-called "closed regions"? I do not think so. It is necessary to reduce the number and the size of "closed regions" to reasonable limits, and this will contribute to the involvement of our country in extensive international cooperation in the sphere of environmental protection.

In our opinion, the realization of ecological confidence-building measures could start with the opening of national parks. We attach great significance to the preservation of unviolated ecosystems and to the creation of new nature preserves and other protected territories, as they may become standards of living nature and, at the same time, an area for the open and free international cooperation of ecologists.

Civilized and ecologically correct interaction between different states is beneficial for man. The right to enjoy a healthy environment is one of the human rights and the basis for ecological ethics. It must also include the right of an individual and of groups of people to participate in the elaboration of ecological policy. The contemporary "greater politics" in the sphere of environmental protection is rooted in the ecological mass movement. It is precisely this movement which, having taken shape in the sixties, has led to the situation in which today, at the beginning of the nineties, mankind has become aware of the need to resolve ecological questions and create special interstate political structures for this purpose and has realized the importance of adhering to strict internationally recognized ecological law and order and to the new ecological ethics.

Nowadays, it is difficult to find a country in which there would be no influential social associations fighting for the protection of nature. The "Greens" in the Scandinavian countries, the FRG, the Netherlands, Belgium, Denmark, Switzerland, and Great Britain are especially active in this movement. Last year, 24 representatives of different European ecological parties in the European Parliament decided to unite and create a "Green" group to pursue a joint policy. There are many environmental protection groups and organizations in the United States, Canada, and Australia. The "Green" movement is gathering momentum in Eastern European countries.

Recent years have also seen a vigorous growth of environmental protection groups in the Soviet Union.

Our ecological public organizations are more energetically establishing direct contacts with their foreign partners and are becoming increasingly "harmonious" elements in the international cooperation in the sphere of environmental protection. For example, for the first time, representatives of Soviet and American ecological public organizations took part in the work of the 12th session of the Joint Soviet-American Commission on the Cooperation in the Sphere of Environmental Protection. The USSR was represented by the Socioecological Union and the United States by the Sierra Club, the Audubon Society, the Greenpeace International Council, the World Wildlife Fund, Legacy International, Friends of the Earth, and others. An agreement was reached on specific projects to be implemented in the framework of the cooperation. The joint statement of the session found it expedient to enlist the services of public organizations of both states in the work in the framework of the 1972 cooperation agreement in the sphere of environmental protection on a permanent basis.

I am sure that the 10 principles-commandments of the international "Green" movement will occupy their fitting place in the code of ecological ethics. Let me quote these principles: Ecological wisdom, democracy from below, personal and social responsibility, nonviolence, decentralization, development of the local economy as a basis for man's business activity, respect for the pluralism of opinions and concepts, collective character of actions, global responsibility, and the development of the individual vision of the future.

The activity of international nongovernmental organizations [NGO's] is giving a strong impetus to the search for constructive decisions on the path toward an ecologically sensible structure of the world. Among the NGO's which are particularly active in the ecological sphere, one can list the International Union for the Protection of Nature and Natural Resources, the World Wildlife Fund, the International Council of Scientific Unions, the World Natural Resources Institute, the International Institute of Applied Systems Analysis, the Club of Rome, and others.

It was already mentioned above that it is necessary to take a careful account of public opinion in the preparation for the UN Conference on the Environment and Development. We need an effective and flexible mechanism for ensuring an interaction between state structures and the ecologically minded public which, it must be admitted, raises many questions in a more sensitive and principled manner than do workers at the corresponding departments. The deferential attitude toward the opinion of an enthusiast scientist, a self-organized group of the population, or an association of citizens coming out in defense of nature is an essential condition for the choice of a right position in the ecological sphere.

The recent Bergen meeting on the problem of a stable development of the European region, which was held at the level of ministers, introduced a new element into the traditional mechanism of interstate conference diplomacy. For the first time, representatives of governments sat at the same table with the leaders of NGO's and elaborated a serious document: A code of ecological recommendations under the title "The Program for Action."

In my opinion, the preparatory process for the 1992 international ecological forum must also aim at accumulating a certain potential of "popular ecological wisdom" and translating it into concrete and well-founded ideas and proposals appealing to the entire world community. Nor can one remain unimpressed by the point of view of those enterprising participants in ecological movements who believe that the preparation for the 1992 conference must be used as a kind of lever for putting things in a better ecological order in our home.

The last consideration in favor of the need to seek the active involvement of the general public is as follows: In the final analysis, the decision rests with it, because not a single governmental program can be fulfilled unless it gets the population's support.

At present, the tasks of restricting military activity are dictated not only by the need to lower the military threat but also by the interests of environmental protection.

Here, the central question lies in nuclear disarmament and a total ban on nuclear tests. We again confirm the Soviet Union's readiness to stop nuclear tests at any moment and for good if the United States will do the same.

At present, that the work on the control protocols for the 1974 and 1976 Soviet-American treaties with regard to underground nuclear tests has been completed, the continuity of the negotiating process on a further limitation of the power and quantity of nuclear explosions, with the ultimate goal of totally banning them, is acquiring particular significance.

The curtailment and, ultimately, a ban on the production of fissionable materials used to create weapons also has a serious ecological significance. I believe that the present suspension of their production in the United States and our own program for closing down, by the year 2000, all Soviet reactors which produce weapons-grade plutonium directly call for an interaction in the joint elaboration of the corresponding technologies and measures for environmental protection.

The destruction of chemical weapons which will start within the framework of the implementation of the Soviet-American agreements and within the context of the negotiations on reaching a multilateral convention on banning these weapons is giving rise to an urgent need to create ecologically safe procedures for resolving this task. The topicality of such cooperation is increasing in connection with the large-scale reductions of the armed forces and conventional armaments, first and foremost in Europe.

All these processes are putting the question on an even broader basis: Any military activity, whether on land, sea, or air, underwater, or even in space, must be conducted while taking into account potential ecological consequences. With this goal in mind, the Soviet Union intends to impose certain restrictions on the flights of its military aircraft and movements of ground troops and warships. We must also resolve the problem of "cosmic waste." We are ready to take part in the elaboration of new international agreements to this effect.

Also indisputable for us is the fact that disarmament and the related conversion of military production constitute the main potential source for additional resources—both material and intellectual—for resolving environmental protection tasks. "Ecological conversion," as a part of the nationwide conversion program, is a necessary measure to be taken by every state and, certainly, by the Soviet Union.

On the agenda today is not only direct transfer of financial assets from the military to the civil sphere or reprofiling defense enterprises for the production of environmentally safe equipment. This is also a matter of a rational utilization of everything which we have in our possession already today and which has until quite recently been used exclusively in the military sphere.

For example, the Soviet defense industry has accumulated considerable experience in the creation of automated information systems. According to published data, just a standard element of one such system may include several thousand measuring modules, may monitor an area of up to 10 thousand square km, and may also check the ecological situation in terms of the availability of many—up to 100—pollutants. Specialists also find it realistic to accelerate the development of up-to-date airborne ecological laboratories by using [modified] strategic bombers. The converted heavy bombers may also prove to be useful for extinguishing forest fires.

Finally, the mechanism for the international monitoring of the environment could be based, at least in part, on the methods, procedures, and instruments similar to those which are used in monitoring arms reduction, including on-site inspections. Ideas have already been voiced in the most general form for using, for the purpose of ecological observation and monitoring, such structures as centers for the reduction of nuclear danger, the "open skies" system, and so on.

The possibilities offered by the transformation of the means of destruction into the means of nature conservation will turn out to be simply inexhaustible, if we approach this problem in a creative manner, using our inventiveness and exercising responsibility.

The great Russian scientist V.I. Vernadskiy called for the entire human habitat to be turned into a domain in which reason will prevail. Reason which embodies the trinity of scientific knowledge, the humanitarian principle, and universal human morality is becoming a motive force in the search for new and effective approaches toward the requirements of the ecological imperative. Its consecutive translation into practice is a guarantee for our success in resolving that totality of political and ecological tasks which are emphatically reminding us literally every day how much we still have to do.

I do want to believe that we will manage to do this or will at least embark on this path.

Conference on Global Problems Opens in Moscow

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[By TASS correspondent Mikhail Ivanov.]

[Text] Moscow December 3 TASS—The economic aspects of environmental control, high prices for natural resources and the transition to ecologically substantiated alternative development are on the agenda of the international conference "Environment-Development-Disarmament", which opened in Moscow today.

The forum was sponsored by the Soviet Peace Fund (SPF) and co-sponsored by the Soviet Afro-Asian Peoples' Solidarity Committee.

Vladimir Kollontai, head of an SPF programme, noted at the opening session that most global problems, including disarmament, development or environmental control, were tackled separately for a long time.

"A solution may be acceptable if, easing one threat, for instance ecological, we do not aggravate another," Kollontai stressed.

"We have made noticeable headway in understanding new problems of the developing world and opportunities which may open by ending the arms race," he continued. However, very important issues remain unsettled, Kollontai emphasized.

In his opinion, hard thinking should be made how to use the scientific and technical potential of the military-industrial complex for peaceful purposes.

The conference is attended by 14 countries, including environmentalists, economists, representatives of international and nongovernmental organisations, legislators and publicists.

Proposals put forth at the forum will be an important contribution to preparations for the UN conference on development and environmental control to be held in Brazil in 1992.

CSFR's Meciar on Visit to Austria, Nuclear Power Plants

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[Interview with Slovak Republic Premier Vladimir Meciar, by NARODNA OBRODA correspondent Jaroslav Klc at the Bratislava-Petrzalka border crossing on 27 November: "An Interview After a Visit to Austria; Successfully Into the Future"]

[Excerpt] Bratislava—[Klc] A "burning" problem in Austro-Czechoslovak relations is Czechoslovak nuclear power plants. Did you also touch upon this subject during your talks with the Austrian partners?

[Meciar] We have discussed the operation of our nuclear power plants with the representatives of the International Atomic Energy Agency (IAEA) at the UN. We closed the issue. We asked the representatives of the commission whether the situation in the nuclear power plants in Slovakia is such that there would be an immediate need to close any of them.

We received an answer stating that there is a seven-degree rating of the condition of nuclear power plants. In Czechoslovakia, the IAEA has not discovered anything worse than the third degree, which means that they are normally operational. The decision on the operation or non-operation of the nuclear power plants is within the competence of the government. We agreed that they will provide us annually with technical assistance in assessment of the condition and will propose measures. Should these proposed measures go beyond a certain financial limit, we will have to consider other ways.

We have also reached an agreement on technical assistance in considering the further fate of the A-1 block at Jaslovske Bohunice, whether or not it must be demolished, and, if so, then under what conditions, and on technical measures to improve the condition of V-1, to extend its operational life. Otherwise, it would not last long.

Similarly, we discussed possibilities for cooperation with the UN Industrial Development Organization. Concrete agreements were reached. Despite their proximity to us, we did not know that they entered into agreements with the federal bodies, that joint commissions exist. Therefore, we attempted to deal with the situation right on the spot, and we joined the system of technical cooperation. It seems to show great promise and we will establish a joint enterprise shortly. [passage omitted]

Gibraltar Tanker Accident Causes Fish Kill, Pollution

91WN0105A Rabat AL-'ALAM in Arabic 30 Oct 90 p 3

[Article by 'Ayn al-Sha'bawi]

[Text] In the 27 August issue we dealt with the marine accident that took place in the Gibraltar Strait waters between Cypriot and Norwegian oil tankers. The accident caused the spillage of large quantities of fuel, which, driven by high westerly winds, drifted toward the Spanish coast. Beginning in mid-August, the oil slick settled in the coastal areas of Tetouan, Tangier, Shafshawan, and al-Hoceima and is still there to this day.

The marine accident, which caused heavy damage to the tourist and fishing sectors, attracted little attention from the quarters concerned, which did not go beyond a superficial inspection. A committee of Spanish experts,

presumably working on its own, visited the Strait port and enquired from some seamen about damage caused by the oil slicks and their effect on fishing yields. A French expert who was referred to in our article entitled: "Marine Authorities and Official Media Indifferent Toward Coastal Pollution and Poisoning of Shallow Waters Fish" also visited the area. After a tour of the area the expert returned to where he came from.

Now after three months have passed, damage caused by tar clumps and oil spots is continuing to increase due to the fact that oil, drifting with the winds and sea currents, has turned into spots and then into clumps. Some of these were washed by the sea along the northern coasts, and others settled at the bottom of calm waters, forming an obstacle to surface and deep-sea nets and destroying deep-sea fish spawning grounds.

What is to be done after fishing in al-Hoceima, Jebha, al-Shma'lah, Oued el-Loh, Oued el-Asla, Martil, the Strait, and el-Ksar al-Sagher became impossible. The seamen, whether using surface boats, tug boats, or deep-sea fishing nets, are afraid to cast their nets for fear of getting stuck in the tar clumps, whether floating on the surface or settled at the sea bottom. Those concerned can inspect the nets that are no longer serviceable in the ports of the Strait, on the coasts between Tangier and al-Hoceima.

The serious consequences of the marine accident are not limited to preventing [people from] swimming and seamen from using their boats for fishing. Indeed, they go beyond that to affect internationally protected fish and whales, such as the dolphin. We saw some types of dolphin and al-Baghlah fish dead in the areas of el-Ksar el-Saghir and Asla. Tug-boat nets in the Oued Loh area caught quantities of dead and decaying al-Kanatiru fish, which is of the tuna type. Also, surface, drag, and deep-sea fishing nets were not spared the effects of tar clumps; as they are pulled out, the nets become stuck together.

We have been informed that a certain department in Casablanca was charged with compensating those who suffered damages and that those concerned have only to write to it or contact it in order to define the type of loss and the amount of compensation. But this department, which is unknown to those who suffered damages, took no initiative, such as informing them through offices of the ministry of sea fishing in al-Hoceima, the Strait, Jebha, and Martil or through the professional and labor unions in those areas; it was content with adopting an onlooker attitude. Meanwhile, Spanish authorities granted very substantial compensation to those who suffered from this accident, whether seamen, touristic establishments, or municipalities, whose beautiful beaches were tarnished by a single drop of oil.

Agadir Desertification Conference Outlined

91WN0075A London AL-MAJALLAH in Arabic
24 Oct 90 pp 58-60

[Article by 'Ali al-Mawzah: "Desertification Belt Covers One-Third of World"]

[Text] Despite the fact that this phenomenon is not new, as man has recognized it from ancient times, it has become more disquieting now than at any time in the past. It is the phenomenon of desertification, which results from drought, the constant advance of sand, and increased demographic pressure. This has become a real threat to the lives of man, animals and plants, in more than one spot on the face of the earth.

Since the seventies, world public opinion has become aware of the dangers of this phenomenon, which has turned more than one place on earth into an arid desert or semi-desert. Since that time, forums, debates, and conferences have been held on the international and local levels, in order to avert this danger lurking in countries and entire continents.

In the city of Agadir in southern Morocco, the latest of these meetings was held, organized by the Moroccan "Ayligh" Association. International experts from Algeria, Tunisia, Mauritania, Spain, France, the United States, Niger, and Morocco were invited to discuss all aspects connected with desertification and encroaching sand, and their ramifications on the environment, as well as successful methods to combat them. AL-MAJALLAH has followed the activities of these conferences and the decisions that have emerged.

According to a study presented by Muhammad al-Shakuri from UNESCO to the Agadir Conference concerning desertification, the world had not known this phenomenon since ancient times, until a wave of drought, which swept the world during the seventies, especially among the African littoral countries, made world public opinion attach maximum importance to desertification. Accordingly, in August 1977, the first UN forum concerning desertification was held in Nairobi, the capital of Kenya, in which more than 600 experts and specialists participated. They studied the possibility of finding appropriate solutions to combat desertification. This forum came up with a program of integrated action for this purpose.

The Nairobi Conference defined desertification as "the phenomenon of decreasing the life-giving qualities of soil, or their complete destruction, leading to the creation of conditions that change a region into desert or semi-desert." The conference also enumerated the most important factors from which desertification results, defining them as climate, geographic location, wasteful grazing, negligent crop rotation, and the human factor.

According to the statistics of the UN Program for the Environment, which this scholar cited, more than one-third of the world's surface in arid or semi-arid regions

(40 percent of them are inhabited by one-third of the world's population), have become exposed to the danger of desertification resulting from encroaching sand which, in certain areas of the world, amounts to 20,000 hectares annually.

Muhammad Najim, the distinguished director of the Arab Organization for Agricultural Development, defines desertification as a "phenomenon that is revealed by the decline of life-giving qualities in the soil, or their complete destruction, resulting in creating conditions that change a region into a desert or semi-desert." Muhammad Najim adds that as an international phenomenon, desertification is more harmful to Arab countries, because most of their lands are located within the desert belt."

The desert belt within Arab territory constitutes 400 million hectares, i.e., approximately 50 percent of the area of the Arab world; arable land represents 25 percent, approximately 50 million hectares, with 10 million hectares irrigated and 40 million fallow.

This scholar warned that this area itself is exposed to the dangers of desertification, resulting from problems of wasteful grazing, soil stripping, and encroaching sand which, in Sudan for example, amounts to one kilometer per year. The scholar added that desertification is one of the most important factors preventing the achievment of food security in the Arab world.

A forum on food security in Islamic countries was organized by the Islamic Development Bank and held along with its 12th conference last February in Rabat. During this forum, one of the experts, Professor 'Abdallah Ahmad 'Abdallah, former director of Khartoum University and former minister of agriculture, food, and medical supplies in Sudan, warned that several countries of the Islamic world would face numerous challenges during the next two decades, unless a solution was found to the increasing and pressing demand for food, in order to meet the needs of a population whose numbers are rapidly increasing.

The same expert thinks that the most pressing need in the Arab world, which is estimated at 14 million square kilometers, with an arable area of 198.2 million hectares, will be found in three Arab countries, Sudan, Morocco, and Algeria, in which only 46 million hectares (19 percent) of the general area are utilized. The expert noted that growth averages in basic food production and agricultural products are quite close among Islamic countries. He attributed this to the difference in medical factors, and the agricultural resources of each country.

In countries such as Egypt, Libya, and Saudi Arabia, where most area is arid or semi-arid, we find that these countries exploit whatever arable land they have using irrigation. These three countries are considered to be the Arab countries that make the best use of fertilizers. Saudi Arabia has achieved an astonishing increase in grain production, with that country having achieved an exportable surplus. This has been done at high cost, thanks to government subsidies to farmers.

This agricultural policy, which is being pursued by several Arab states, comes within the framework of a serious plan of action to combat desertification in cooperation with the Arab Organization for Agricultural Development.

At the international conference on desertification held in Agadir, 'Adil Qartas, the distinguished representative of the Food and Agricultural Organization in Morocco, was asked about the reasons preventing the success of the war against desertification. He replied: "In order for us to eliminate this phenomenon, we must pay sufficient attention to research aimed at combatting desertification. We must place the utmost importance on planting trees. Plants are the element threatened most by the danger of desertification, and they are the basic ally of man in his battle with desertification."

Several of the participants referred to the role played by plantlife in combatting desertification. These plants include the date palm, considered to be a fundamental element around which man's life centers in desert or semi-desert areas. It is impervious to the heat of dry climates, and creates its own climate, which is moister than the desert climate.

Barik Nubal from the University of California stated that the date palm is the plant element best adapted to combat desertification, in view of its adaptation to the desert climate. Muhammad al-Sa'idi from Morocco pointed out that man has not yet found anything better than date palm fronds to stop shifting sand dunes. In addition to the date palm, there is another type of tree called the "Arghan," which is widespread in the Sus area of southern Morocco, covering an area of 2,600 hectares. However, this type of tree, which is compatible with dry climate, has become threatened with extinction. During the past 10 years, 3,000 hectares of Arghan trees have been destroyed.

In view of the special characteristics of this tree, making it suitable for dry climates, which qualify it to resist desertification, the Agadir Conference recommended the necessity of protecting that tree from extinction, in view of its utmost importance as a unique treasure in the world.

The following are appropriate ways to combat desertification, as put forth by the conference in several resolutions:

1. Establishing an integrated program to combat desertification, especially one that includes planting trees, agriculture, and cattle breeding;

2. Participation of those concerned in an anti-desertification program, either with regard to planning, implementation, or maintenance;

3. Resolving problems connected with real estate construction, which prevent the desertification program from succeeding;

4. Encouraging serious studies, including field research, with regard to vegetation for dry areas; and,

5. Concentrating on the use of local varieties suitable for dry conditions, and working to develop them, along with developing agricultural methods to increase productivity of those varieties in dry regions.

The conferees unanimously agreed that growth cannot take place without protecting the environment, and ending the effects of human pressure, which is considered one of the most difficult environmental problems that must be faced by the international community. Accordingly, they believe that the problems of desertification cannot be separated from general development problems in regions threatened by this phenomenon.

International Environment, Development Conference Opens in Hanoi

BK0312153190 Hanoi VNA in English 1458 GMT 3 Dec 90

[Text] Hanoi VNA December 3—A three-day international conference on environment and sustainable development was opened here today jointly by the Vietnam State Commission for Sciences and the United Nations Development Programme (UNDP) office in Hanoi.

It was attended by more than 200 delegates, including 70 from 30 countries and various international as well as non-governmental organizations such as UNDP, Swedish International Development Authority (SIDA), International Union for Conservation and Natural Resources (IUCN), Worldwide Fund for Nature (WWF) [as received] and United Nations Environment Programme (UNEP).

After the opening speech delivered by Vice Chairman of the Council of Ministers Vo Nguyen Giap, the UNDP, SIDA and IUCN representatives took the floor pointing to the need to promote environmental protection and support activities in Vietnam as well as the world over.

Vice Chairman of the State Commission for Sciences Le Qui An read a report on the situation of Vietnam's environment and national environment action plan.

South Korea, China Agree To Study Yellow Sea Pollution

SK0612081990 Seoul YONHAP in English 0744 GMT 6 Dec 90

[Text] Seoul, Dec. 6 (YONHAP)—South Korea and China are to jointly investigate pollution in the Yellow Sea for five years from 1991 in their first-ever academic exchange, the director of Korea National Teacher's University's Institute of Natural Science said Thursday.

Four Korean universities and a research institute will set up jointly with four Chinese universities a study team to research pollution in the Yellow Sea, known as the West Sea in Korea, said Chong Yong-sung.

Chong said he had signed an agreement on the project with Tang Xiayao, Beijing University's director of Environmental Research Center, in Shanghai in late October, when he and four colleagues attended a conference on atmospheric science and its application to air quality.

Under the agreement, Korea National Teacher's University, Seoul National University, Yonsei University and Pusan National University are to contact Beijing University, Beijing Teacher's University and Qinghua University to line up 10 to 20 researchers from each side, he said.

The joint team will begin research in March or April next year and its research will cover migration of contaminants, soil pollution, environmental change, water pollution and agricultural damage, he said.

The necessity of a Sino-Korean team to study the Yellow Sea has grown since the two countries began to release contaminated water into it, he said.

Greenpeace Intercepts Japanese Whaling Vessel in Tasman Sea

OW1312111590 Tokyo KYODO in English 0912 GMT 13 Dec 90

[Text] Sydney, Dec. 13 KYODO—A ship belonging to the Greenpeace environmentalist group has intercepted a Japanese whaling research vessel in the Tasman Sea, Greenpeace reported from New Zealand on Thursday.

The Greenpeace ship Gondwana found the No. 3 Nisshin Maru on Wednesday some 300 nautical miles southeast of Sydney.

Greenpeace members aboard the Gondwana are intending to force the Japanese vessel to turn back by jumping into the water ahead of it as it sails through the Tasman Sea toward whaling grounds in the south, the environmental activists said.

In Tokyo, Fishery Agency officials said a ship apparently belonging to the environment group is cruising parallel to the No. 3 Nisshin Maru, at a distance of 200-300 meters. Officials said they are being kept informed of the Japanese vessel's movements but have not yet confirmed whether the Gondwana has carried out any sabotage activities.

The International Whaling Commission (IWC), a world body supervising whaling affairs, adopted a ban on commercial whaling in the Antarctic in 1982, but allows whaling for scientific research.

Norway and Japan carry out scientific whaling activities, while the Soviet Union is also planning a research project, the agency officials said.

Under increasing antiwhaling sentiment throughout the world, Japan withdrew from commercial whaling in 1988. The decision came after talks with the U.S., which warned Tokyo to cut Japan's fishing quota in American 200-nautical-mile sea zones if Japan was to keep commercial whaling.

The Japanese ship, dispatched by an independent research foundation authorized by the Agriculture, Forestry and Fisheries Ministry, left Japan last month for the Antarctic, where it plans to catch some 300 minke whales for scientific purposes until around April, the officials said.

BOTSWANA

Minister Defends Plan To Drain Okavango Swamps

MB0712183290 Johannesburg SAPA in English 1819 GMT 7 Dec 90

[Text] Gaborone Dec 7 SAPA—Botswana's water affairs minister on Friday defended a plan to drain the world famous Okavango Swamps to supply water to, among others, industries and farmers.

In a statement to the Botswana Parliament on Friday afternoon on the "Southern Okavango Intergrated Water Development Project," Water Affairs Minister Archie Mogwe stressed the project, which has stirred world interest, had been planned over a long period.

He also denied news reports the project was being conducted "under a veil of secrecy".

The plan involves the dredging of the lower 40 kilometres of the Boro River as part of a water improvement project, but it has generated disquiet among residents in Maun, Botswana.

Mr. Mogwe pointed out Maun and surrounding villages near the Okavango swamps had often suffered from insufficient water for domestic use during low flow years.

He said residents had requested access to the swamps, but the government had resisted "due to its serious potential damage to the delta".

Consequently, in 1986, said Mr. Mogwe, the government examined means to secure reliable water supplies for local communities on the southern periphery of the Okavango.

The minister said a tender had been awarded to Green Industrial Enterprises Corporation—valued at about R[rand]50 million—for river improvement works along the bottom 40 kilometres of the Boro River.

He said the benefits included a regular supply of water for Maun, the leading the tourist centre in Botswana, increased irrigation and fisheries potential, improved livestock watering as well as water for wildlife, especially in the Makgadikgadi Game Reserve.

Two years ago, about 50,000 wildebeest and zebra died of thirst during a severe drought, Parliament heard.

It was also decided, Mr. Mogwe said, that the dredging of the Boro River should not go beyond 25 kilometres inside the buffalo fence, which demarcates the area set aside for wildlife.

He added government had also endorsed a recommendation that no further river improvement works should be undertaken in the delta.

GUINEA-BISSAU

Minister on Need To Regenerate Tropical Forest

AB0612202290 Dakar PANA in French 1645 GMT 4 Dec 90

[Text] Bissau, 4 Dec (ANG/PANA)—Mr. Carlos Correia, Guinea-Bissau minister of state for rural development and agriculture, has described the forestry sector as one of the key sectors in his country by virtue of its economic and ecological role. Mr. Correira was speaking in Bissau on Monday at the opening ceremony of a roundtable conference on the plan of action for preserving the tropical forest.

The ceremony was chaired by Mr. Vasco Cabral, minister of state at the Presidency responsible for coordinating social affairs. The minister of rural development and agriculture believes that there is a need, in the face of the fast depletion of the forest, to adapt the exploitation of natural resources to opportunities for regenerating them. He deplored the ineffectiveness of actions taken so far to preserve the tropical forest in Guinea-Bissau, where 2.6 percent of forest resources are encroached upon by the desert.

The four-day meeting, organized by the Guinea-Bissau Ministry of Rural Development and Agriculture, is being attended by local and international experts on matters relating to ecosystem conservation and the timber sector.

IVORY COAST

Complete Deforestation Anticipated by Year 2000

91WN0145A Antananarivo MADAGASCAR TRIBUNE in French 2 Nov 90 p 12

[Article by Raphael N'Guessan and Christophe Naigeon: "A Forest Sacrificed for an Economic Mirage"]

[Text] Will anything remain of the Ivory Coast's forest by the end of the century? Not if the current rate of destruction persists: Today, only one-sixth of the dense forest that covered 16 million hectares 100 years ago still stands.

Despite the replanting efforts begun several years ago, each year 500,000 hectares fall to the logger's ax or go up in flames as farmers clear land for cultivation. Using simple arithmetic, one arrives at the conclusion reached by officials at the ministry of water and forest resources: "If no energetic measures are taken, the Ivorian forest will have totally disappeared by the year 2000." In 10 years, the country will be a savanna threatened by desertification like any other country in the Sahel. The harmattan now blowing through Abidjan is seen as a disturbing omen. The "ecodisaster" is for the most part already in progress. The last vestiges of forest barely cover more than 2 million hectares.

Directly or indirectly, logging is largely responsible for this ecological catastrophe. For more than 30 years, trees were felled in the Ivorian forest without any concern for the future. While the tropical forest has a tremendous ability to regenerate, it must be given the means to do so: New growth must be given time to develop; clear-cut areas must be replanted; logging permits must be respected as they prevent the same area from being logged two and even three times. These measures have been lacking for years in the Ivory Coast.

"No more than 3 million cubic meters of wood may be cut for commercial purposes," the Ivorian agricultural minister decided three years ago. "That is all the forest can spare us without being destroyed." The number of authorized loggers, as many as 800 until recently, has been cut in half.

But in order to halt any further deterioration in the Ivorian forest, trees must also be replanted.

The idea of reforesting, launched in 1965, was already coming into acceptance shortly after independence. Farsightedness was not enough, however: The Forest Cultivation Development Company (SODEFOR) had to be given the means to carry out the policy. For a lack of money, this state-run company was able to reforest only 70,000 hectares out of the 300,000 set as its target. That is far from the rate of 20 percent a year at which the country was to have been reforested in order to offset losses. Today that rate is 16 percent. The deforestation process has been slowed, but not arrested, much less reversed.

Yet, efforts have been stepped up: In the south, forest officials have opened up trails through the remaining stands of forest and are planting quality species in the shade of the surviving trees. They protect the saplings by gradually poisoning other trees that threaten to inhibit their growth.

Near marketing centers, large cities, and ports, where the destruction has been almost total, the forest services, aided by heavy machinery, are starting industrial plantations spanning hundreds of hectares to be used in construction, wood products, and as firewood. That means that much less for the natural forest to supply.

In addition to its reforesting activities, SODEFOR is now charged with managing the natural forests that show some potential for being restored. Preliminary experiments in the "cultivation" of natural forest were convincing and the company has been asked to apply the method full-scale on a 10,000-hectare tract of forest at Yapo, in the south of the country.

Finally, the last measure has been to turn more than 2 million hectares into national parks.

These measures have not sufficed. The primary culprit, therefore, is not logging, but farming and its accomplice—the brush fire. Two figures put forward by specialists offer proof of this theory:

1) For every cubic meter of wood cut for commercial purposes, four cubic meters are destroyed by farmers cutting down remaining trees or burning trees in order to plant their crops; and

2) counting fallow land, nearly 10 million hectares that used to grow yams, coffee, cocoa, rubber trees, and palm trees have been ravished from the forest.

The industrial exploitation of the forest has now reached its limits. Entire sectors of "cash-crop" farming are threatened by the crisis in agricultural commodities. In both cases, the forest was sacrificed for economic activity, but in both cases as well, the sacrifice has not been rewarded by development on a large scale or economically and ecologically durable in nature.

The Ivory Coast's public officials are now trying to remedy the problem by intensifying and modernizing the cultivation of food crops. By enabling farmers in the savanna to remain on their lands, a large portion of the forest in the south can be saved.

Much hope rests on the "intellectuals" who are returning to the land. In the Ivory Coast, many young people do not complete their studies or do not find work after they graduate. Forced to return to the land after living in the city where they came into contact with new ideas, they are much more receptive to the changes that must be made in the agricultural sector. It is hoped that they will be better managers of nature.

MAURITIUS

MMM-JM Organizes Environmental Group

91AF0236Z Port Louis LE MAURICIEN in French 31 Oct 90 p 4

[Article by Habib Mosaheb: "National 'Militant Youth' Campaign for Environmental Defense"]

[Excerpt] Militant Youth (JM), the youth wing of the MMM [Mauritian Militant Movement], will launch a nationwide campaign for the defense of the environment in the next few days, according to an announcement made yesterday at a press conference by the organization's president, Mr. Steve Obeegadoo.

On the agenda: forums, seminars, posters, T-shirts, and spot actions to sensitize the population to the need to protect the environment. JM will also support NGOs [nongovernmental organizations] engaged in ecological work.

The first open forum in the campaign will be held in mid-November at Saint-Pierre with the MMM, other progressive parties, trade unions, and NGOs participating.

"Then we will go to Mahebourg and Roche-Bois," Mr. Obeegadoo added.

JM will also hold a workshop for trade unionists and labor activists on the theme "the working class and the environment," he said.

JM militants held a congress recently to put together an ecological platform in preparation for the environmental defense campaign, Mr. Obeegadoo noted.

"We would like to emphasize that we are not against economic growth, but at the same time we believe growth should not come at the expense of the environment," the JM president added.

In that connection, JM believes that "unbridled liberalism" leads inevitably to the degradation of the environment and that the quality of the environment affects all levels of society.

The JM ecological platform has 12 planks, according to Mr. Obeegadoo.

JM calls for strengthening the Ministry of Environment by endowing it with more personnel, funds, and equipment and passing stronger laws.

The JM ecological platform also deals with other subjects. Among other things, it calls for the introduction of an "environmental impact assessment" for all industrial and touristic projects; stricter controls over the disposal of waste products and refuse; recycling and reutilization of certain products such as old newspapers and magazines, cardboard boxes, bottles and used engine oil; better control of "noise pollution;" encouragement of research in the field of "organic farming" in order to minimize recourse to insecticides and fungicides; continuation of the "save-energy" campaign after the Gulf crisis; zoning for rational land use....

JM also demands that the government get effective control over the importation, manufacture, and transport of toxic products. Workers have a right to know the chemical makeup of toxic products they are required to handle in the course of their work, according to JM. [passage omitted]

Pollution From Sugar Refinery Remains Unchecked

91AF0253Z Port Louis WEEK-END in French 11 Nov 90 p 16

[Article entitled: "Bagasse Dust Bothers Highlands Residents"; first paragraph is WEEK-END introduction; italicized passages published in English]

[Text] Anyone traveling to the Highlands these days, more precisely to the neighborhood of the area's sugar factory, would do well to take along a muffler and wear glasses. The reason: during cutting season, the area is showered daily with bagasse dust coming from the factory. According to residents affected by this highly disagreeable situation, which we saw for ourselves last Saturday, bagasse pollution in the Highlands has been going on for 10 years and nothing has been done, either by the factory's management or government authorities, to put a stop to it.

In a letter to the Ministry of the Environment dated 8 August, 1990, a resident of Dispensaire Street described the situation this way: *"I would like to inform you that I am not living peacefully and healthly. The reason is that dust of bagasses belonging to the sugar factory are swirling everywhere in the vicinity of my yard, resting on kitchen utensils, and wet clothes hanging on the ropes. We are forced to shut our doors, unable to go outside and do household work outside. It is a threat to my health and to my children also who are allergic to dust."*

In his letter, the resident added the following: *"Second, the river is polluted with waste matters from the sugar estate and it gives a bad and intolerable smell, mainly at night."* Moreover, the letter's signatory criticized the dirtying of Dispensaire Street by the bagasse "foams" transported by the factory's trucks. When it rains, the main road becomes slippery and dangerous.

According to two other residents, Mssrs. Bussawon and Appadoo, the Ministry of Health has been advised of the situation, but has not responded to their letter. The Ministry of the Environment, on the other hand, informed Mr. Bussawon in a piece of correspondence dated 6 September, 1990 that: *"the matter is under consideration and that action, as appropriate, is being taken."* Residents are still waiting!

A petition was addressed in July 1989 to the factory's management; this was followed by a meeting with the manager, Mr. Hardy. The meeting proved to be a total failure, since the factory's management had no desire to make any concession.

Given the current situation, the residents concerned are considering contacting a lawyer to take legal action. "This is the last year we are going to be martyrs," they said, claiming they are the only Mauritians forced to endure such conditions for 10 years.

Questioned about the grievances of the residents, the manager of the sugar factory, Mr. Hardy, explained that the factory is aware of the situation, made worse this year by a lack of rain, according to him, and he assured us that a building would soon be constructed to house the bagasse. The project, which will cost 2.5 million rupees, will be completed before the next cutting.

As for pollution of the river, equipment to treat wastewater will be installed in the near future. The operation will cost 2 million rupees. Here, Mr. Hardy pointed out that his factory was not solely responsible for the present state of the river, and called on residents who wash their trucks or throw garbage in the river to participate in the environmental clean-up of the Highlands.

Although Highlands residents will be pleased with Mr. Hardy's statement, it does seem that a great deal of

bitterness could have been avoided had there been a minimum of dialogue between the parties. It is never to late to do things right, so....

SOUTH AFRICA

Government Reacts to Ciskei Plan To Import Toxic Waste

MB0412120190 Johannesburg THE STAR in English 4 Dec 90 p 2

[Report by Brendan Templeton: "Government Moves To Halt Toxic Waste Dumping"]

[Text] The Government has stepped into the furor over Ciskei's plans to import 200,000 tons of toxic waste for disposal each year, in an attempt to prevent the deal going through.

A senior official in the Department of Foreign Affairs, Chris Storm, said it flew in the face of recently stated policy to end all imports of toxic waste for dumping, pending an investigation into the practice.

The deal was one of the topics discussed by President de Klerk when he met Ciskei military ruler Brigadie Oupa Gqoza last month.

It has also brought to the fore the question of the adequacy of current legislation to control the importation of toxic waste for dumping.

The conservation movement Earthlife Africa intends bringing the full weight of international law to bear on the South African Government.

According to Maritzburg Earthlife branch spokesman Chris Albertyn, the waste will include lethal polychlorinated biphenols (PCBs), toxic heavy metals and contaminated industrial sludge.

PCBs are capable of withstanding very high temperatures and are not readily degraded in the environment. They can cause liver damage, skin lesions, darkened skin and eye discharge which can be genetically transmitted.

Mr. Albertyn said the Government wished to be a signatory to the pending Basel Convention—an international code of conduct controlling the importation of toxic waste—which meant it would have to stand by regulations.

The code required the signed agreement of the importing and exporting countries involved in a toxic dumping deal, and Ciskei could not do this because it was not internationally recognized.

His movement, therefore, intended to force the Government either to openly agree to the dumping and risk its membership to the convention or to prevent the deal from going through.

Earthlife director of environment conservation Koos Stander said although there were no laws currently aimed at controlling toxic waste importation, other legislation could be brought to bear.

Law, Order Minister Halts Marijuana Chemical Spray Program

MB1112052290 Johannesburg SAPA in English 2156 GMT 10 Dec 90

[Text] Durban Dec 10 SAPA—Law and Order Minister Adriaan Vlok has bowed to pressure from enviromentalists by suspending the controversial technique of spraying chemical substances to wipe out dagga [marijuana] plantations.

Mr. Vlok made the decision on Monday after a meeting lasting over one hour with representatives of Earthlife Africa and SA [South African] Rivers Association at Louis Botha Airport in Durban.

"It was agreed that all aerial spraying of chemical substances to eradicate dagga will be stopped until a further meeting is held," Earthlife said in a statement.

"We are very pleased that a process of discussion has begun," said Mr. Chris Albertyn, of Earthlife after the meeting. "We brought home the sociopolitical implications of the spraying programme.

"We asked the police if, for instance, the had considered being faced with claims for compensation from peasants whose food crops could be detroyed by drifting chemicals."

The statement said possible alternatives to spraying included the establishment of a herb-growing industry.

Conservation Group To Protest New Cape Nuclear Plant

MB1212090890 Johannesburg SAPA in English 0855 GMT 12 Dec 90

[Text] Cape Town Dec 12 SAPA—Earthlife Africa is up in arms at an announcement by Eskom [Electricity Supply Commission] that it had completed a study to establish a second nuclear reactor about 70km east of Hermanus in the Cape.

It said in a statement on Wednesday the study was "universally decried as the area is known as an international heritage site".

"Of greater concern to Earthlife, however, is the proximity to the holiday resort of Hermanus. Although the town is beyond the 50km exclusion zone recognised by the Council for Nuclear Safety (which does not account for Koeberg—South Africa's only nuclear power station), Soviet officials have recently admitted the necessity for evacuation of all people up to 200km from Chernobyl.

"Furthermore, we believe that the Southwestern Cape has been targetted for an excessive build-up of military and industrial complexes. Witness the Somchem [expansion unknown], Kentron and SADF [South African Defense Force] presence in Somerset West, Grabouw, De Goede Hoop and lately, Rooiels."

Earthlife—a major South African conservation body—said it was accordingly planning a public meeting at the Hermanus High School on December 27. Speakers would include Prof. Chris Hartnady of the UCT's [University of Cape Town] Department of Geology, Mr. David Fig of the ANC [African National Congress], and Co-chairman Mike Kantey of Earthlife's Cape Town branch.

"We demand that the Southwestern Cape be cleared of all military and chemical weapons complexes and be constituted as a nuclear-free zone. This is in line with the declared intention of the Organisation for African Unity—to rid the country of weapons of mass destruction."

Auditor General's Report Cites Waste License Violations

91WN0131 Toronto THE GLOBE AND MAIL in English 31 Oct 90 p A4

[Article by Geoffrey York]

[Text] Ottawa—Federal negligence is allowing polluters to dump waste into northern rivers in clear violation of their licenses, Auditor-General Kenneth Dye says.

In his annual report yesterday, he blamed the Department of Indian Affairs and Northern Development [DIAND] for failing to enforce its regulations for waste discharge.

In one case, the Justice Department recommended that charges be laid against a company in the Northwest Territories that had dumped excess waste for about 100 days in 1989, including arsenic for 50 days. But Northern Development renewed the company's licence this year "in spite of the seriousness of the licence violations," Mr. Dye reported.

In another case, a major municipality dumped excess waste into the Yukon River on seven occasions in 1989 and 1990. Mr. Dye did not identify the municipality, but he cited its actions as another example of "enforcement inadequacies."

In a third example, a mining company violated its water licence by abandoning its mine site without cleaning up piles of waste, open wells, sewage-treatment tanks and empty buildings.

The department estimates it will cost $20 million to clean up the site. The company had posted a $400,000 bond, but the indemnity company refused to give the money to the government.

Inspections of industrial waste dischargers were so lax that they were being performed at only 25 percent of the recommended rate, Mr. Dye said.

"A single toxic discharge can have devastating effects through migration of contaminants into other areas.

"Consequently, we expected to find a tight application of inspection procedures and forceful remedial action where licence violations were found.... We are concerned that DIAND's credibility and the effectiveness of water licencing may have been eroded by nonenforcement of licence terms and conditions."

Across the country, fewer than half of Canada's mines were complying with effluent regulations in 1988, a serious decline from 1982 when 85 percent of mines were obeying the rules, Mr. Dye reported.

Mr. Dye complained that a confusion of jurisdictions between Ottawa and the provinces had muddled the question of "who's minding the store" on the environment.

Environmental Radioactivity Below International Norms

OW1312225090 Beijing XINHUA in English 1322 GMT 13 Dec 90

[Text] Beijing, December 13 (XINHUA)—Research conducted nationwide has revealed that the level of radioactivity in China's natural environment is normal, and in fact lower than international standards.

The large-scale research project conducted by 1,500 experts from the State Bureau of Environmental Protection took eight years to complete.

The bureau released information today showing that over 28,000 sites, which were evenly distributed across the country, were chosen as locations for monitoring environmental radioactivity levels.

Scientists analyzed thousands of mud and water samples and concluded that radioactive levels in China are well within international standards.

The scientists report that the density of major radioactive substances such as uranium, thorium, radium and radon in the monitored areas is below what is commonly considered safe.

A data bank and a sample bank detailing China's environmental radioactivity levels has been established based on the research.

Officials with the State Bureau of Environmental Protection say that the research will assist the government in efforts to draft new policies and measures aimed at strengthening environmental management.

PRC To 'Seriously Consider' Hong Kong Fears About Daya Bay Nuclear Plant

HK1312022590 Hong Kong HONGKONG STANDARD in English 13 Dec 90 p 1

[By Fan Cheuk-wan]

[Text] Beijing will seriously consider Hong Kong public opinion on the proposal to expand the Daya Bay Nuclear Power Station, Chinese Energy Minister Huang Yicheng said yesterday.

In an interview with the HONGKONG STANDARD at his hotel yesterday, Mr. Huang said: "The central government will not sponsor any money to Guangdong for the construction of the second plant; I don't see much chance for the province to be able to build a second plant by 2000."

Mr. Huang said no Guangdong plan for a second nuclear plant had been incorporated in the Eighth Five-Year Plan nor the 10-year energy development blueprint.

Mr. Huang is also the deputy head of the State Council's Leading Group of Nuclear Power Plants, which is headed by Zou Jiahua, minister in charge of the State Planning Commission.

Mr. Huang arrived on Sunday for a six-day private visit in Hong Kong at the invitation of Lord Kadoorie, chairman of China Light and Power.

Lord Kadoorie had invited him to visit Hong Kong in 1987 during a Beijing visit.

"We have only discussed about the latest progress of the construction of the two Daya Bay nuclear reactors and the future management of the plant," he said.

Leading a seven-man delegation in Hong Kong, Mr. Huang will pay a courtesy call to the Governor, Sir David Wilson, on Friday.

"I come to Hong Kong to study the operation, facilities and management of the power stations in the territory," he said.

After leaving Hong Kong on Friday, Mr. Huang will make a one-day stopover in Shenzhen to inspect progress at Daya Bay.

Mr. Huang said the Beijing authorities had been alerted to the strong Hong Kong reaction against last week's reports expansion at Daya Bay.

"We immediately contacted the Electricite de France (EDF) and clarified that the Ministry of Energy had never asked the EDF to conduct any feasibility study on Guangdong's plan to build a second nuclear plant," he said.

"The existing two nuclear reactors are located at Daya Bay because their nuclear power will be supplied to Hong Kong.

"If the second nuclear power plant in Guangdong is to serve other parts of the province, there is no need for it to be located at Daya Bay."

Dr. Simon Chau Siucheong of Green Power last night welcomed Mr. Huang's reassurance.

However, he urged the Ministry of Energy to rule out the possibility of another nuclear plant or extension of Daya Bay.

"We hope the Chinese government will look for alternative sources of energy instead of relying on nuclear power," he said.

Improvement in Energy Conservation Work Urged

HK0512014090 Beijing RENMIN RIBAO in Chinese 21 Nov 90 p 2

[Article by Liu Xueyang (0491 1331 7122) and Luo Haiyan (5012 3189 1484): "The Alarm for 'Saving Energy' Has Sounded"]

[Text] Last year China's energy consumption outstripped the GNP growth rate, and its energy-saving rate was minus 5.55 million tonnes of standard coal. In other words, last year's energy consumption rose as compared with that of the previous year. In the first half of this year, GNP growth was still lower than the increase in energy consumption, with an excess of 6 million tonnes of standard coal being consumed. This year's national energy-saving volume is estimated at zero.

Since the alarm for saving energy has sounded, all departments should take serious account of this problem.

There are mainly three reasons why energy-saving work has worsened. The first is the continuous increase in use of high-consumption material and energy for basic industries. From January to June, an increase of over six percent was registered in such industries as coal excavation, power supply, steam and hot water production, ferrous metal smelting, and mangle processing. Whereas low energy-consuming industries, such as food processing, textiles, and machinery, increased very slowly. The second is a weak market. Many enterprises do not have full production tasks to undertake; thus the problem of low energy efficiency, originally concealed under a high growth rate, has now come to light. The third is relaxation in the supply and demand for coal and electric power. Because of this relaxation, enterprises have loosened their management over energy-saving work.

Economists have strongly called for saving energy! In view of the Eighth Five-Year Plan, energy supply in China will still be a serious problem. According to an estimate, there will be a shortage of 100 million tonnes of standard coal in 1995. To keep the sustained and stable development of the national economy and improve economic results, there is a need to strengthen energy-saving work.

Comparatively speaking, the contradiction between the supply and demand for energy has been alleviated as a result of improving the economy and adjusting the economic structure. But in the long run, energy-saving work should not be relaxed because the present energy shortage has not fundamentally turned for the better. Premier Li Peng said: "In the energy industry it is necessary to apply the principle of simultaneous development and saving." All trades and undertakings should give prominence to energy-saving work and persist in energy saving for a long time.

During the Eight Five-Year Plan, energy saving should be given priority in the course of technical innovations. All trades, undertakings, and localities should ensure certain funds for the implementation of energy-saving measures. The state should also make trial assessments of the energy-saving ability taking shape in trades and undertakings after implementing their energy-saving measures. This will help examine the results of investments in technical innovations for energy-saving purposes. Fujian Province has exercised strict management over its investment in energy-saving technical innovations; it has set up a special fund to update and transform high energy-consuming equipment, and regularly examines key enterprises. The province has made good achievements in reducing energy consumption. Its experience is worth studying.

Macromanagement over energy saving should be strengthened. All departments in charge are required to strictly examine the energy-saving effects of newly built, rebuilt, or expanded projects. Energy-consuming indices for construction units should be set according to world advanced standards of the 1980's. Projects whose energy-consuming standards do not correspond with the prescribed requirements should not be allowed to pass the acceptance test. Energy consumption for production in the industrial and communications fields should be subjected to a standard assessment, and the results should be announced regularly.

China's industrial production is still in the stage of rough operation. There is much energy-saving potential in enterprises. In some localities, the energy use rate is low, energy consumption for production is high, economic results are not good, and the waste of energy is serious. Energy consumption for the production of high energy-consuming products in our country is higher than advanced countries' by 30 to 90 percent. The efficiency of air blowers and pumps in China's industrial fields is 20 percent lower than advanced countries'. This alone has caused an additional 30 billion kilowatt hours of electricity each year. The potential to be tapped lies here. This gap can be filled as long as we improve our management and pay attention to technical transformation. In this respect, leaders are required to enhance their awareness of saving energy and to work out a responsibility system with fixed targets. Enterprises, workshops, production groups, and individuals must have a clear idea of their energy-saving targets, work for the fulfillment of these targets, and ensure that energy-saving work will proceed well.

Anhui Environmental Protection Meeting Summarized

OW1112203490 Hefei Anhui Provincial Service in Mandarin 1100 GMT 9 Dec 90

[By reporters (Ma Zhimin) and (Zhou Lingyu); from the "Provincial Hookup" program]

[Text] The third environmental protection meeting sponsored by the provincial government was held in Hefei from 5 to 7 December.

The main purpose of this meeting was to further implement the guidelines set at the third national environmental protection conference; sum up the environmental protection work in our province during the Seventh Five-Year Plan period; study and map out the work

targets, tasks, and measures for the Eighth Five-Year Plan period, especially the next two years; and commend advanced units and individuals in this field of work.

Present at the meeting were responsible persons of the provincial party, government, and army organizations, including Lu Rongjing, Fu Xishou, Wang Guangyu, Shi Junjie, Du Hongben, Long Nian, Ma Leting, and (Xu Shiqi). Zhang Kunmin, deputy director of the State Environmental Protection Bureau, also attended the meeting.

On behalf of the provincial government, Vice Governor Long Nian delivered a work report entitled "Strive To Implement the Two-Nine-Five-Seventy Project and Declare a War Against Environmental Pollution." His report began with a general review of our province's environmental protection work during the period of the Seventh Five-Year Plan. He said: Our province has achieved remarkable results in pollution control during the period of the Seventh Five-Year Plan. The environment of cities has been improved, and work to protect the natural environment has been strengthened. Administrative regulations and rules for environmental protection have been gradually established and improved. Considerable achievements have also been scored in monitoring environmental conditions and in environmental science research. However, he pointed out, the problem of a deterioriating environment in certain parts of our province should not be overlooked.

With regard to our province's environmental protection targets and tasks for the period of the Eighth Five-Year Plan, Comrade Long Nian said: The targets of environmental protection in our province for the period of the Eighth Five-Year Plan can be summarized as a two-nine-five-seventy project. This means improvement of conditions of two water systems, namely, the Huai He and Chao Hu; improvement of all aspects of the environment in the nine cities directly under the provincial government; reduction of the amounts of contaminants discharged by the five main polluting industries, namely, power generation, metal smelting, papermaking, chemical fertilizer production, and fermentation; and establishment of seventy test sites for preserving the ecosystem. We hope to use this project to lead the way in developing the environmental protection work throughout the province.

Fu Xishou, deputy secretary of the provincial party committee and governor of Anhui, made a speech at the closing session of the meeting. After emphasizing the need for a coordinated development of economic construction and environmental protection, he stressed: To achieve a coordinated development of economic construction and environmental protection, we should not merely depend on the environmental protection department; this is a task for the entire society and an obligation of every citizen. It requires the joint efforts of all levels of government, all departments and enterprises, and all sectors of society. At the present time and throughout the entire period of the Eighth Five-Year Plan, we must do well in the following work:

1. In drawing up plans for economic and social development, all levels of government should include environmental protection in the plans, set up a clear-cut target for this, and ensure that funds and materials are available to meet the requirements in this regard.

2. In discussing, examining, and approving new projects, departments charged with overall responsibilities should not only consider the costs and benefits of the projects, but also analyze what the projects will cost our society and what price society has to pay for the projects. It is necessary to receive economic, social, and environmental benefits if at all possible. In accordance with the relevent laws, economic and administrative measures should be taken to restrict or even ban construction projects of industrial enterprises which have low economic efficiency, waste resources, and cause serious pollution. Instead, it is necessary to guide and encourage the development of industrial construction toward the direction of no environmental pollution and no damage to the ecosystem.

3. More efforts should be made to promote propaganda and education with respect to environmental protection in order to enhance the awareness of the entire nation, especially leading comrades at all levels, about the need for environmental protection.

4. It is imperative to strictly enforce the relevant laws so as to truly put the work of environmental protection on the track of the legal system. Any unit or individual ignoring the environmental protection regulations, acting against them, and violating discipline should be firmly dealt with according to law.

Concluding his speech, Comrade Fu Xishou said: As long as we have a clear-cut objective, brace ourseleves to overcome difficulties, and work in a down-to-earth way, we will be able to achieve a coordinated development of economic construction and environmental protection, and a clean, quiet, and fine environment is bound to appear before us.

Chengde City Heating Plant Reduces Pollution

OW0912174590 Beijing XINHUA in English 1328 GMT 9 Dec 90

[Text] Shijiazhuang, December 9 (XINHUA)—The scenic and historic city of Chengde is expected to once again see green mountains, clear water and blue skies once the city's 20 million yuan central heating system is completed.

Chengde, which is located 200 kilometers northeast of Beijing, was once the imperial mountain resort of Qing Dynasty (1644-1911) emperors. The city was popular because of location, beautiful scenery and cool summers.

The city's growing population and industrial development resulted in increasing amounts of dusty smoke

emissions. This was especially true in winter, when over 500 boilers and 40,000 to 50,000 heating stoves were in use. During this period the air was not only filled with smoke, but to make matters worse, the mountains that encircle the city obstructed the air circulation.

Consequently, the city decided to take action and by early November this year the first-phase of the heating plant had been completed and was operational. Residents in the city's downtown areas will be able to enjoy centralized heating this winter.

Calculations indicate that the first-phase of the project alone will reduce pollutants by 800 million cubic meters of smoke, 10,000 tons of dust, and 4,800 tons of sulphur dioxide.

When the entire project is completed, all units and families in the city will have access to central heating, and the blue winter sky will again appear above the city.

Key Liaoning Environmental Project Passes Appraisal

91WN0116A Shenyang LIAONING RIBAO in Chinese 18 Oct 90 p 1

[Article by reporter Li Dan (2621 0030): "One Million People of Dalian Tame Pollution"]

[Text] One million people of Dalian City have in concert begun to bring environmental pollution under control. After more than two years of arduous effort and an investment of 159 million yuan, more than 10,000 sources of pollution have been brought under control, making this beautiful seaside city take on a fresh look. It became the first "524" environmental protection project to be appraised. On 14 October, on behalf of the provincial government, Vice Governor Lin Sheng [2651 5116] announced: The Dalian "524" environmental protection project has passed its appraisal.

The province's "524" environmental project to improve the quality of the atmosphere (namely, setting up in the province a 500-square kilometer atmosphere smoke layer control zone; setting up 21 model counties, districts, and enterprises; and bringing under control four areas seriously polluted by smoke and dust) is a strategic goal set by the provincial government in view of the state of Liaoning's environment. In the last part of June 1986, the project began in 14 cities in the province. Dalian City's party committee and government had felt that, following the growth in production, the city's problem of environmental pollution was becoming more prominent day by day, and that it had to be taken seriously. To improve as fast as possible the environment in connection with the policies of opening up to the outside world and of protecting the people's health, they got an early start on the project. Fully arousing the initiative of all departments, they concentrated manpower, materials, and financial resources. Through various propaganda activities they made the "524" environmental protection project a household word known to everybody, thereby raising the environmental consciousness of the city's residents. At the top the leaders, and at the bottom the staff and workers, students, and Young Pioneers, vigorously took part in voluntary labor and consciously protected the environment.

In environmental protection, funds are a difficult problem. In line with the principle "whoever causes pollution must bring it under control," the Dalian City government, making raising funds by itself primary, raised funds through many channels. Of the city's total investment of 159 million yuan, the city raised 126 million yuan by itself, accounting for 79.25 percent of the total investment. A project to construct a 122.4-square kilometer smoke and dust control zone was completed, as were two environmental protection model projects in Zhongshan and Xigang districts. Four environmental protection model enterprise projects were completed in Dalian at the No. 2 Cement Plant, No. 2 Electrical Machinery Plant, Rolling Stock Plant, and Rubber and Plastic Machinery Plant. Projects to bring pollution under control by eliminating pollutants in key industrial enterprises in the city were all completed, bringing under control the problem of pollution, which had not been solved for a long time, in the Ziyou River, Malan River, and Laohu Beach. By conserving energy and comprehensively utilizing the "three wastes" [waste gas, waste water, and industrial residue] the city can save 443.5 million yuan a year.

In a speech Vice Governor Lin Sheng highly commended the people of Dalian City for their environmental consciousness, which brings benefits to the contemporary era and achieves results for centuries to come. He said that, of all the 14 cities in the province, the task of Dalian's "524" environmental project was the heaviest. In less than three years' time, the city overcame one difficulty after another, raised over 100 million yuan, and mobilized a million people to take part in the battle. This was a very difficult thing to do. For many years, in the work of protecting the environment there have been many "bills due," and on top of that funds have been tight. Many people thought that improving the environment was "a sea of bitterness without bounds" and did not know where to begin. Today we can see from the environmental changes in Dalian City—blue skies overhead, green trees in leaf on the streets, and flower garden-type factories everywhere—that the key to doing good work in protecting the environment is the determination and action of the leadership. Mayor Wei Fuhai [7614 1381 3189] and Vice Mayor Li Zhenrong [2621 2182 2837] resolutely made decisions, vigorously coordinated, surmounted difficulties, and took charge of the work until it was finished. They presided over many meetings, mobilized and deployed people for project construction, and resolved difficulties wherever they cropped up. By doing so they caused all departments and units to overcome difficulties by all ways and means and to squeeze out money for the "524" project.

Lin Sheng said that the masses are both the victims of environmental pollution and the masters who bring it

under control. Another experience in connection with Dalian City's success was that the leadership fully aroused the masses to action and depended on them. He hoped that everywhere there would be a conscientious study of Dalian City's experience and a hard struggle to win overall victory in the province's "524" project.

Jin Jianming [6855 1696 2494], deputy director of the State Environmental Protection Bureau, made a special trip from Beijing to attend the meeting. He fully affirmed that Liaoning "524" environmental project is a new idea in the work of environmental protection. He congratulated Dalian City for heading the list of 32 key cities in China that have been assessed as having comprehensively improved the environment, and then having passed a province-level appraisal.

Shandong Improvements Pollution Control

SK0612094290 Jinan Shandong Provincial Service in Mandarin 2300 GMT 5 Dec 90

[Summary] During the Seventh Five-Year Plan period, Shandong Province, by vigorously enforcing the responsibility systems, has effectively blocked the environmental pollution and ecological damage under a situation where energy resources consumption has shown a 58 percent increase and the yearly average increase of industrial production growth has been 17 percent.

Over the past two years in which the responsibility system of environmental protection has begun, investments made by enterprises and establishments across the province in preventing pollution have reached 620 million yuan which surpasses the total accumulated during the 1981-1987 period and profits resulted from the comprehensive utilization of these investments have reached 150 million yuan. After having brought their 141 key pollution sources under control, the seven cities and prefectures, including Qingdao, Weifang, Zibo, and Yantai, have shown a more than 22 million ton increase each year in their capability of disposing the waste water; and a more than 1,800 ton decrease each year in their smoke and dust discharges. As for the old pollution sources committed by the outdated enterprises, the province has mainly enforced the system of giving them a stated time to improving their equipment or facilities. During the 1988-1989 period, the province sorted out 1,062 pollution discharge facilities which should be improved within the fixed time. The rate of facilities which have been thoroughly renovated has, to date, reached more than 80 percent. Since 1989, the province has investigated or dealt with 63 more serious pollution incidents and handled 33 motions raised by the provincial People's Congress and the provincial Chinese People's Political Consultative Conference Committee with regard to eliminating pollution. In 1990 the province has received near to 2,000 pollution cases through the letters from the people and the visits paid by the people. The rate of the handled cases in the year has reached 87 percent.

Shanxi Announces Environmental Protection Provisions

91WN0053A Taiyuan SHANXI RIBAO in Chinese 6 Oct 90 p 2

[Announcement of New Provincial Government Order: "Shanxi Province Provisions for Managing Environmental Pollution Control Facilities"]

[Text] Shanxi Province People's Government Order No. 19, "Shanxi Province Provisions for Managing Environmental Pollution Prevention and Control Facilities," passed on 3 August 1990 by the 25th session of the Standing Committee of the provincial people's government, is hereby issued, effective from the date of issue, by order of Wang Linhao [3769 2651 3185], governor, 22 September 1990.

Article 1: These provisions are formulated for the purpose of strengthening the management of and ensuring the effective operation of environmental pollution control facilities (hereafter referred to as control facilities), in accordance with provisions of the "PRC Environmental Protection Law," applicable statutes and regulations, and actual conditions in this province.

Article 2: What these provisions refer to as control facilities are the various facilities constructed for controlling environmental pollution through treatment, purification, control, and comprehensive utilization of polluting substances, and facilities which prevent other kinds of environmental pollution.

Article 3: These provisions are applicable to control facilities of all units within this province.

Article 4: The people's government at all levels should make managing control facilities an environmental protection objective of the job responsibility system and view it as an important part of the assessment.

Article 5: Environmental protection departments at all levels of the people's government are the organizations that exercise unified supervision and inspection over control facilities. Units being inspected must reflect the actual situation, furnish data, and neither refuse nor obstruct the normal progress of inspections.

Responsible industrial departments at all levels of the people's government should manage and supervise the control facilities of their subordinates and branches.

Article 6: Units with control facilities should formulate standards for assessing and integrating management of control facilities into the unit's management scheme.

Article 7: All control facilities should fill out and submit registration forms through their units. After they have been inspected and verified by the responsible industrial departments, and after their standards have been examined and approved by environmental protection departments, units will receive certificates of inspection (hereafter referred to as certificates).

Article 8: Responsible industrial departments should conduct annual reviews of control facilities that have obtained certificates. Environmental protection departments may look at the situation and conduct spot checks at any time. Those who do not meet standards during the review or inspection will be ordered to attain qualification standards within a set period. If they still fail to qualify at the end of this period, the certifying organization will withdraw the certificate. They will also double the fee charged for exceeding pollution emissions standards. The certificate will be reissued only after these standards are met.

Article 9: Units with control facilities should accomplish the following:

1. Discharges treated by control facilities must meet emissions standards set by national or local regulations, and the actual treatment capability of control facilities and the concentration of discharged pollutants must meet the planning requirements for control facilities;

2. Control facilities will operate concurrently with facilities that produce pollutants, and provide appropriate safeguards;

3. Personnel and managers with technical skills will operate the control facilities, and there will be sound systems of personal responsibility, equipment maintenance, operating rules, surveillance, monitoring, etc.;

4. Control facilities will set up daily action logs, and complete and submit them on schedule to the responsible industrial departments and environmental protection departments.

Article 10: After examination and verification by the responsible industrial departments, the closure, dismantling, idling, transformation, or renovation of control facilities should be approved by environmental protection departments.

Article 11: Control facilities that have ceased operations because of an accident should take immediate measures to remedy the problems and send a situation report to the responsible industrial department and the local environmental protection department within 24 hours. When a halt in operations at a control facility poses a potential environmental pollution problem, the discharge of pollutants should be stopped immediately.

Article 12: Environmental protection departments at all levels of the people's government are responsible for supervision and inspection in their jurisdictions. Their main responsibilities are:

1. Issuing certificates of inspection for control facilities and arranging annual inspections;

2. Supervising and inspecting the operation and use of control facilities;

3. Setting up files on control facilities within their jurisdiction.

Article 13: Responsible industrial departments at all levels of the people's government are responsible for inspecting and managing their own system of control facilities. Their primary responsibilities are:

1. Formulating assessment measures and a system for managing control facilities, and organizing their implementation;

2. Examining the operations of their system of control facilities and taking charge of annual inspections;

3. Guiding and assisting subordinate units in solving problems with control facility management.

Article 14: Environmental protection departments and related sectors at all levels of the people's government are to give commendations and awards to units and individuals with the following accomplishments:

1. Those with outstanding accomplishments in control facility management;

2. Those who maintain the regular operation of a control facility or who administer it with remarkable success;

3. Those who institute important innovations, improvements, or outstanding benefits;

4. Those who actively research and popularize new types of control facilities, and who make outstanding contributions to reducing discharges of pollutants.

Article 15: Units guilty of the actions listed below are to reprimanded, and may be fined a minimum of 500 yuan and a maximum of 30,000 yuan, in addition to being required to correct discrepancies by an imposed deadline. Responsible unit personnel and those directly in charge, against whom administrative action has been taken, may be fined a minimum of 100 yuan and a maximum of 300 yuan. The actions governed by this article include:

1. Refusing inspection or obstructing the inspections of environmental protection departments;

2. Failing to become recertified before the imposed deadline expires;

3. Violating related regulations in Article 9, causing environmental pollution and hazards.

Article 16: Units guilty of the actions listed below are to be issued a notice of criticism, and also may be fined a minimum of 30,000 yuan and a maximum of 50,000 yuan, in addition to being required to correct discrepancies by an imposed deadline. Responsible unit personnel and those directly in charge, against whom administrative action has been taken, may be fined a minimum of 300 yuan and a maximum of 500 yuan. The actions governed by this article include:

1. Refusing to report or making a false report on control facility operations, or practicing deception during an inspection;

2. Dismantling or idling control facilities without concurrence from the environmental protection department, which causes pollutants to exceed established discharge standards;

3. Violating the provisions stipulated in this order and causing a pollution accident.

Article 17: When environmental pollution control projects who have enjoyed exemptions and whose appropriations have been replaced by bank loans have control facilities that cannot operate regularly six months after set up, the original exempting unit will cancel the projects' exempt status and withdraw the loans, in addition to penalizing them as specified in these provisions.

Article 18: Correction deadline orders, reprimands, notices of criticism, and fines will be carried out by environmental protection departments according to relevant regulations. Administrative punishments which are proposed by environmental protection departments will be administered in accordance with their jurisdiction over cadre management.

Article 19: Fines imposed on a unit will be paid out of the unit's own funds; fines imposed on an individual will be borne by the individual.

All fines will be turned over to public finance and channeled into a special fund for environmental protection. The funds will be used by environmental protection departments according to relevant regulations. They are not to be diverted for use by the recipient, but supervised by the finance department at the same level.

Article 20: Units punished for violating these provisions are not exempt from paying discharge fees, excess discharge fees, or other obligations specified by laws and regulations.

Article 21: Personnel in environmental protection departments and related departments at all levels of the people's government who violate these provisions, abuse their power, engage in fraudulent practices for their own benefit, or are guilty of dereliction of duty should be given administrative punishment.

Article 22: The Environmental Protection Department of Shanxi Province is responsible for interpreting these provisions.

Article 23: These provisions are effective from the date of issue.

Shanxi Sets Up Network Overseeing Environmental Protection

91WN0053B Taiyuan SHANXI RIBAO in Chinese 6 Oct 90 p 2

[Article: "Shanxi's Environmental Monitoring Network Takes Shape"]

[Text] This reporter learned from the province-wide environmental monitoring conference, held on 25 September, that Shanxi has had marked success in the past nine years of environmental monitoring. Departments concerned provide the following statistics: At present the province's environmental protection network has been set up in one-tenth of the province, with 11 monitoring stations at the town level and 32 at the county level. These have province-wide responsibility for monitoring the quality of surface water of 28 major rivers and 12 major reservoirs, and subterranean water of 11 towns. In addition, they monitor the air quality of 12 major towns and monitor sound pollution in five municipalities under the jurisdiction of the provincial government. They collect 75,500 pieces of data concerning water, air, and noise quality annually. At the same time, more than 100 stations which were set up by businesses, departments, and enterprises to monitor pollution in conjunction with the environmental protection network collected 165,560 pieces of data reflecting the situation concerning industrial pollution emissions.

In order to ensure that the environmental monitoring effort progressed successfully, environmental monitoring stations at all levels expanded scientific research activities. They obtained positive results in 43 cases, two of which won national level prizes, while 12 won provincial department level prizes, and 10 won local and city level prizes. Some made significant achievements in science and technology. One case investigated sources of industrial pollution throughout the province. The investigation involved 40 industries, more than 8,000 enterprises, 306,000 survey charts reflecting all kinds of pollution sources, and more than 9,000,000 pieces of data. It then established provincial, local, city, and county level files on sources of industrial pollution.

Tianjin Uses Wetland Reeds To Purify Sewage

OW1412123290 Beijing XINHUA in English 1211 GMT 14 Dec 90

[Text] Tianjin, December 14 (XINHUA)—Environmental protection scientists in Tianjin said that they have effectively purified sewage water with wetland reeds.

The project was conducted by researchers from the Tianjin Institute of Environmental Protection. They used the natural purification functions of microorganisms that exist in wetland soil and plants to help treat sewage discharged from local factories and residential houses.

In an experimental zone covering eight hectares, a patch of reeds is being used as the central system. This natural central system is supported by diversion pipes, pretreatment devices, a ground water monitoring well, and water discharging facilities. Reeds are said to possess the fine characteristics of the organisms.

Researchers noted that they can achieve better effects by using a slow filtration method, by which chemicals such as nitrogen and phosphorus can be thoroughly washed away. Local farmers have pumped the purified water into fishing ponds and agricultural fields and achieved satisfactory results.

The cost of constructing such a sewage treatment system amounts to one-third of that of a sewage treatment plant, and this natural system consumes 60 percent less electricity, the institute reported.

It was learned that the wetland sewage treatment technology has also been adopted by other provinces and cities.

FRENCH POLYNESIA

French Sampling Water Near Mururoa for Radioactivity

BK0812054690 Hong Kong AFP in English 0537 GMT 8 Dec 90

[Text] Mururoa, French Polynesia, Dec 7 (AFP)—French monitoring services have begun taking samples of sea water off this Pacific atoll, site of French nuclear testing, and will submit them to an independent laboratory for analysis, officials here said on Friday.

Greenpeace activists, aboard the environmental group's vessel Rainbow Warrior II, on Thursday said traces of radioactivity had been found in plankton, microscopic sea organisms, gathered 20 kilometers (12 miles) off Mururoa.

The vessel is currently in waters near this atoll on a mission to monitor levels of radioactivity around the Mururoa testing site. It must remain outside the 20-kilometer (12-mile) exclusion zone surrounding the atoll.

In Paris, the French Defense Ministry on Friday, responding to the Greenpeace claim, said French authorities would be gathering samples to be submitted for analysis to an "internationally recognized laboratory."

In a statement, the ministry said the Greenpeace analyses had been completed in a "surprisingly short time, given the usual complex procedures" of such testing.

On board the Greenpeace vessel, U.S. oceanographic physicist Norman Buske said access to Mururoa's lagoon for samples was necessary for more conclusive results.

"It is really scientifically very difficult to try to investigate something from far away when the obvious thing is to go look at the source," he said.

The French Defense Ministry statement said the Greenpeace findings ran counter to the "results of very numerous tests regularly conducted by French authorities."

Greenpeace has received no official response to its latest plea for permission to enter Mururoa lagoon, a campaigner aboard the vessel said.

Greenpeace Defies France, Enters Mururoa Nuclear Test Zone

BK1112032090 Hong Kong AFP in English 0058 GMT 11 Dec 90

[Text] Sydney, Dec 11 (AFP)—The environmental group Greenpeace said here Tuesday it had entered the territorial waters of France's South Pacific nuclear test site, Mururoa Atoll.

Greenpeace said in a statement received here that an inflatable dinghy carrying five crew members from the Rainbow Warrior II had entered the 12-mile (20 kilometre) territorial exclusion zone around Mururoa at 2300 GMT Monday.

French authorities, who had refused Greenpeace permission to cross the 12-mile limit, were informed of the action shortly before the boat entered French waters, the group said.

They were told the object of the mission was to collect samples from the lagoon at Mururoa to check for possible radioactive contamination, Greenpeace said.

Alain Connan, 57, of Greenpeace France and captain of the Rainbow Warrior II, said in the statement that the team he was leading was unarmed and non-violent and had no intention of landing on the atoll itself.

"We have to find out the truth about the (radioactive) damage to Mururoa and the only way to do that is to take samples in the lagoon itself," Capt. Connan said.

He said Greenpeace had "found indications of radioactivity in plankton 12 miles (20 kilometres) out", notably Caesium 134 and Cobalt 60.

Greenpeace said the most likely cause of the contamination "is the French nuclear testing program."

France has conducted some 120 nuclear tests at Mururoa since it took its test program underground in 1975.

It has maintained a program averaging two series of four tests each year, with devices ranging from 30 kilotons to around 100 kilotons.

On board the dinghy were Capt. Connan, Norm Buske, 47, of the United States, Martin Gotje, 41, a New Zealand resident from the Netherlands, Beth Higgs, 29, of Australia, and Remuna Tafariua, 37, of French Polynesia.

French Navy Escorts Greenpeace Out of Nuclear Test Site

BK1112061490 Hong Kong AFP in English 0524 GMT 11 Dec 90

[Text] Mururoa, French Polynesia, Dec 10 (AFP)—A Greenpeace dinghy which crossed into territorial waters around France's Mururoa nuclear testing site on Monday was halted by the French Navy and escorted back to its mother vessel, an AGENCE FRANCE-PRESSE correspondent here said.

The dinghy sailed into the 12-mile (20-kilometer) limit around Mururoa Atoll in defiance of French authorities, in a mission to check for radioactive contamination around the tested and non-violent [as received], and had no intention of landing on the atoll itself.

The French Frigate Lieutenant De Vaisseau Lavallee, one of three vessels shadowing Rainbow Warrior II, warned the Greenpeace flagship several times that it and the inflatable boat were not to enter French waters.

Rainbow Warrior II was told by radio that should the team try to land at Mururoa or remain inside the 12-mile (20 kilometre) limit, they faced arrest and possible imprisonment.

Mr. Connan said before leaving the flagship: "We have to find out the truth about the (radioactive) damage to Mururoa and the only way to do that is to take samples in the lagoon itself."

France has conducted some 120 nuclear tests at Mururoa since it took its test program underground in 1975.

It has maintained a program averaging two series of four tests each year, with devices ranging from 30 kilotons to around 100 kilotons.

Greenpeace Claims Radioactive Contamination Near Nuclear Test Site

BK1112152790 Melbourne Overseas Service in English 0800 GMT 11 Dec 90

[From the program: "International Report"]

[Text] Five Greenpeace activists captured by French commandos inside the 12-mile territorial limit around France's nuclear testing site, Mururoa Atoll, have been released. The five, including the director of Greenpeace, France, had been attempting to reach Mururoa Lagoon in an inflatable dinghy. Helene Chang asks our South Pacific correspondent, Jemimah Gareth, how the chase began:

[Begin recording] [Gareth] Well, it began when Greenpeace decided to launch its inflatable and head for the atoll. It let the French Armed Forces that have been there shadowing the Rainbow Warrior [Greenpeace ship], which has been outside Mururoa for about a week making tests, know that the inflatable was heading for the lagoon. The inflatable set off trailing a net for plankton. So did the French. Eventually, they were given one warning, told to turn back. They refused and the French pounced, sending out inflatables to capture the Greenpeace activists and the scientists aboard.

[Chang] But why was Greenpeace there in the atoll in the first place?

[Gareth] Well, as I mentioned, the Rainbow Warrior has been sitting in international waters off Mururoa Atoll for the last week trying to catch some lagoon plankton to test to tell just how seriously, if at all, radioactive [changes thought] The lagoon has been affected by radioactive contamination. Now it found that there was Cesium-134 and Cobalt-60—both radioactive isotopes—and in particular, the Cesium-134 could only have come from underground tests. That seriously worried Greenpeace and because the French had decided that they would not give them access to Mururoa they decided that they would just have to make a dash for it.

[Chang] Just how serious, though, is this finding of contamination?

[Gareth] Well, I think the whole thing revolves around the question of whether the underground tests are leaking. France has conducted more than a hundred and it always said there were no leaks and that it would take hundreds of years for radioactive material to come to the surface. There has been growing evidence from outside because, of course, the French do not release information about the test site. So that was it the case that the hard basalt core of Mururoa is in fact cracked and fractured and this is what Greenpeace has come to make some independent studies of? [sentence as received]

[Chang] Finally, Jemimah, do you think that the members of Greenpeace will abide by the conditions of their release?

[Gareth] Well, essentially, the commander in chief of the French forces said that he had released them as a sign of good will and if they do it again he will be more forceful. I think they have been told to go in no uncertain terms. At this stage, it is really unclear. They are determined, but really what they want to do is get France to agree to a comprehensive joint testing program, which would take about six weeks, and more tests over the years that would allow Greenpeace to do independent tests with the French in partnership. [end recording]

Prosecutor Releases Greenpeace Activists

BK1312041990 Hong Kong AFP in English 0351 GMT 13 Dec 90

[Text] Mururoa, French Polynesia, Dec 12 (AFP)—Five Greenpeace activists arrested near the French Pacific nuclear test site at Mururoa have been released, and are awaiting arrangements for their departure from the atoll, Public Prosecutor Jean-claude Duval said on Wednesday.

Mr. Duval said the five were still on Mururoa Atoll, where they had been questioned by police. He said they were released from detention on Tuesday.

The Greenpeace activists were "in a position of freedom (on Mururoa) while awaiting their transfer" off the Atoll, he told journalists here.

The five were arrested Tuesday when their rubber dinghy entered territorial waters around the site in a search for samples of marine organisms to test for possible radioactive contamination.

Mr. Duval said the Greenpeace flagship Rainbow Warrior II, still cruising off the atoll, did not want to take the five back on board.

He said the French authorities would therefore have to decide where they would be taken.

The five, including Greenpeace France President Alain Connan and U.S. scientist Norman Buske, entered the waters around the atoll in defiance of French authorities.

They earlier said they had found traces of radioactivity in plankton collected in waters outside the territorial limits.

In Paris, a French military spokesman criticized Greenpeace for its apparent refusal to take the five back on board the Rainbow Warrior II.

"The boat did not want this crew (of five) to go back on board," he said. That was a "legal provocation against France."

He said he "wondered to what extent the (Greenpeace mission) was scientific."

Greenpeace Increasingly Concerned for Detained Members

BK1312073490 Melbourne Overseas Service in English 0500 GMT 13 Dec 90

[Text] The Greenpeace organization says it is increasingly concerned about the fate of five of its activists arrested near the French nuclear test site at Mururoa Atoll yesterday. Radio Australia's South Pacific correspondent Jemimah Gareth says despite French claim the five have been released, they have not been able to make any contact with the outside world.

The French public prosecutor claims the Greenpeace ship, Rainbow Warrior II, sitting just off Mururoa, did not want their five crew members back on board. He said the five were released yesterday and that since then they have been in position of freedom awaiting transfer off the atoll. However, Greenpeace describes the French claim as propaganda and disinformation.

(Stephanie Mills) aboard the Rainbow Warrior says the French authorities have made no effort to contact the ship or any Greenpeace office. She said the five agreed their first demand after arrest would be for contact with the ship, but as yet the boat has had nothing. Miss (Mills) said that after the five were being held incommunicado on a military base, it was a little difficult not to consider them to be prisoners.

JAPAN

Manufacturer's Legal Obligation Proposed for Waste Disposal

OW1012183590 Tokyo KYODO in English 1522 GMT 10 Dec 90

[Text] Tokyo, Dec.10 KYODO—A government advisory body on Monday recommended that manufacturers take legal responsibility for large waste products and industrial waste.

The Livelihood Environment Council at the Health and Welfare Ministry also recommended that local autonomous bodies increase the collecting of garbage by category, and that waste treatment centers be constructed in every prefecture.

The recommendation, urging a drastic shift in waste disposal administration in the country, was presented to Health and Welfare Minister Yuji Tsushima Monday.

The report constitutes the outline of a draft amendment to the present waste disposal law, which will be submitted to the current Diet session, Health and Welfare Ministry officials said.

The recommendation stressed the need for an effective national movement to discourage people from simply dumping products after they have been used and to counter the excessive wrapping of merchandise in order to combat the problems of household and industrial waste, which have assumed serious proportions.

Producers of large television sets, refrigerators, automobiles, bikes and other products difficult for local governments to dispose of should collect them for treatment and disposal partly at their own expense, it said.

Treatment of used paper and other waste from offices, a major factor behind the fast-growing garbage problem, should be handled by those companies whose garbage it is, the advisory body recommended.

Local governments in cities, towns and villages nationwide should be held legally responsible for collecting garbage according to categories, such as size and inflammability. General consumers should be charged a fee for dumping large objects like furniture, the recommendation said.

It further pointed to limitations in having the private sector undertake construction of all industrial waste treatment plants in light of growing urbanization and land price spirals every year, and urged active cooperation between central and local governments.

More specifically, the recommendation proposed joint treatment of such waste through a center to be created in each prefecture by the authorities, manufacturers, offices and garbage disposers.

Home electric appliance makers responded rather coolly to the proposals, as anticipated.

It will be difficult to instantly create a system for makers to gather waste products on a national basis, and time will be needed before it can be realized, the Association for Home Electric Appliances said.

But automakers reacted against the proposals, with Takao Tominaga, vice president of the Japan Automobile Manufacturers Association, saying it is unfair to expect the automobile industry to be responsible for the problem of vehicle disposal.

The local autonomous bodies welcomed the proposals in principle, with national societies of mayors and village heads accepting them as common sense.

At present, some 90 percent of such local governments collect garbage in flammable and nonflammable categories, but only 20 percent of them select garbage for recycling.

NORTH KOREA

Seminar on Industrial Pollution Held in Pyongyang

SK0812110090 Pyongyang KCNA in English 1018 GMT 8 Dec 90

[Text] Pyongyang December 8 (KCNA)—A seminar on observation and prevention of industrial pollution in the DPRK was held at the Grand People's Study House from December 5 to 8.

It was participated in by scientists and technicians engaged in environmental protection, the representative of the United Nations Development Programme (UNDP) in Pyongyang, the UNDP representative in the Southeast Asian region, and the deputy representative of the United Nations Environment Programme (UNEP) in the Asia-Pacific region.

Introduced at the seminar were achievements and experience gained in the researches for preventing industrial pollution and protecting the people's health in Korea.

Several papers were read out by Korean scientists and technicians.

Environmental Protection Achievements Lauded

SK1212152190 Pyongyang KCNA in English 1459 GMT 12 Dec 90

[Text] Pyongyang December 12 (KCNA)—Korea regards enviromental protection as an important task of state activities.

Shoals of fish teem in the clear water of streams meandering around ore mines and big rivers flowing by modern factories, and mountains and fields, streets and villages, parks and recreation grounds are clothed in verdure, with beautiful flowers in full bloom.

In recent years alone, thousands of more hectares of woodlands have been created and parks and recreation grounds built in Pyongyang, Hamhung, Sinuiju and other major cities, industrial districts and residential areas.

The forest area has increased by more than 78,000 hectares through an all-people movement this year. Working people in different parts of the country cut down useless and dead trees and planted 250 million fast-growing trees of great economic value including juglans cordiformis, deodar and larch in the tree-planting months of April and November.

More than 500,000 trees have been planted in the capital city of Pyongyang alone. Parks and recreation grounds in Mt. Taesong, Moran Hill and the banks of the Taedong and Potong Rivers are now covered with green foliage, and trees and green spaces in streets and residential quarters form a large green zone.

The area of green space per head of the population in the city is 48 square metres.

Ten odd purification grounds and settling basins, including the Pyongchon sewage purification ground with a capacity of dealing with an average of 300,000 tons a day, have been newly built in the city. And antipollution facilities have been built or rebuilt more modernly at the Sunchon vinalon complex, the Namhung youth chemical complex and other chemical factories, the Pyongyang thermal power complex, the Chollima steel complex and all other factories and enterprises in the country.

Today the air pollution of the country measures less than one tenth of the international tolerable limits for atmospheric protection. The sanitation of water and soil is on the world's advanced level.

Thanks to the popular environmental protection policy of the Workers' Party of Korea, some 220 observatories have been built in different parts of the country and a well-refined environmental observation system has been established to observe atmospheric and water pollution.

In particular, the environmental protection law of the DPRK adopted at the Fifth Session of the Seventh Supreme People's Assembly in 1986 provides a lawful guarantee for enviromental protection of the country.

SOUTH KOREA

Officials Urge Changes To Meet Environment Standards

SK1312035490 Seoul YONHAP in English 0212 GMT 13 Dec 90

[Text] Seoul, Dec. 13 (YONHAP)—South Korea needs to develop a whole new line of industrial products within the next few years in order to survive the international drive for a safe and clean global environment, government officials said Thursday.

World bodies have adopted stringent environmental protection laws that become effective in the early 1990s, regulating use of chemicals destructive to the ozone layer and air safety, Economic Planning Board (EPB) officials said.

These laws cover some of Korea's major exports, such as household appliances and automobiles, and unless Korea can fully adapt to the new rules, trade will suffer, the officials warned.

One of the major changes will result from the Montreal protocol, adopted by 24 countries in September 1987. The protocol freezes world production of the most commonly used chlorofluorocarbons such as freon and

halon, which are commonly used in refrigerators and air conditioners and as aerosol propellants.

The protocol will apply to all non-signatory countries from 1993, including Korea, which promises to regulate imports and exports of all products using the chemicals.

While Korea's sales of halon, which is to be completely banned by 1992 under the protocol, and freon are estimated at 40 billion won (56 million U.S. dollars), the market for products using the chemicals is approximately 4 trillion won (5.6 billion dollars), according to the officials.

The international convention on climate change, which proposes protection from carbon dioxide, methane and nitric oxide resulting from heavy petroleum and coal use, is highly likely to be concluded in the 1992 UN environmental program, they said.

The convention, aiming at a 10 percent to 20 percent reduction in these pollutants by 2005, will affect the petrochemical and transportation industries, they predicted.

A bill passed in October by the U.S. Congress places stiffer standards on imported automobiles, requiring anti-polluting devices that will last 10 years or 100,000 miles (160,000 kilometers), up from the current five years or 50,000 miles.

The measure will require drastic changes in production in order to keep exporting cars, the officials said.

Other nations are preparing for last year's Basel Convention, which restricts the use and trade of harmful heavy metals.

Health Ministry Limits Chemicals in 28 Imported Products

SK1112011190 Seoul THE KOREA HERALD in English 11 Dec 90 p 3

[Text] The Ministry of Health and Social Affairs has set official limits on the residual levels of 16 chemicals in 28 imported agricultural products.

The newly set limits will go into effect Jan. 1, 1992 after a one-year grace period, the ministry said. From that date, the imported agricultural products tainted with the chemicals will be destroyed or returned to their exporting countries, officials said.

The 28 agricultural items include grapefruit, peanuts, cherries, melons, flour, lemons, oranges, pineapples, bananas, raisins, sesame, kiwi fruit and watermelons.

The 26 agricultural chemicals to be regulated include daminozide, widely used for grapefruit, dicofol, dichlorovos, methidathion, methomyl, benomyl, omethoate, tetradifon, carbofuran, and falpet.

With the measure, the number of agricultural products and chemicals which will be placed under strict control has risen to 53 and 33, respectively.

The ministry has strengthened safety checks on imported agricultural products which have flooded into the domestic market in a bid to protect the people from agricultural produce contaminated with large amounts of harmful substances.

Nuclear Dumps To Be Built on Uninhabited Islands

SK0112095890 Seoul THE KOREA HERALD in English 30 Nov 90 p 1

[Excerpt] The government plans to build nuclear waste treatment facilities on uninhabited islands, one official said yesterday.

In response to lawmakers' questions, Chon Pyong-il, director of the Ministry of Science and Technology's office of nuclear power, said the ministry has decided to build nuclear waste dumps on uninhabited islands to avoid protests.

The government will select sites for nuclear waste dumps after consultations with domestic and foreign nuclear specialists, he said.

He said the government has scrapped plans to build a "science research complex" on Anmyon Island.

Rep. Yi Hai-chan of the opposition Party for Peace and Democracy demanded that the government make public where nuclear waste dumps will be built.

During a parliamentary inspection of the Ministry of Science and Technology, Rep. Yi called for tight safety measures.

He alleged that the government had deceived the people in connection with the plan to build a nuclear waste dump on Anmyon Island on the west coast.

Reports of government plans to construct a nuclear waste dump there triggered Anmyon islanders' violent protests early this month. [passage omitted]

Ministry Revises Nuclear Power Programs

SK1112095590 Seoul THE KOREA ECONOMIC JOURNAL in English 11 Dec 90 p 4

[Text] The Science-Technology Ministry has drastically revised its nuclear power related programs, according to data submitted to the National Assembly.

Under the revised programs, the ministry has nullified its original plan to develop a module-type sea-bed nuclear reactor.

Korea Nuclear Fuel Co., which has only been involved in nuclear fuels for light-water nuclear reactors, also is entitled to do business with heavy-water nuclear reactors, ministry sources said.

At the same time, the ministry has canceled its original plan to select within this year a site for the construction of nuclear waste disposal facilities by 1997.

According to the revised programs, a second nuclear power research institute will be equipped with a storage facility of intermediary nuclear fuel waste following consultations with residents nearby, while a storage facility of low- and medium-level nuclear fuel waste will be built on an uninhabited island, the sources said.

All end-user radioactive isotope waste will be collected and disposed of by the Korea Research Institute for Nuclear Energy, the sources said.

The revised programs would postpone the ministry's efforts to increase the country's self-sufficiency rate on nuclear power technology from 79 percent in 1989 to 95 percent in 1995, the sources said. Korea now depends upon nuclear power for about 51 percent of its electricity needs, the sources added.

Titanium Producers Bow to Environmental Concerns

SK1412062290 Seoul YONHAP in English 0521 GMT 14 Dec 90

[Text] Seoul, Dec. 14 (YONHAP)—The death knell has rung for plans to build titanium dioxide plants in South Korea, where fears of poisoned water supplies have ignited vigorous grass-roots opposition at a time of overproduction.

Foreign and domestic investors in plants projected by Du Pont, Ishihara of Japan, Hankook Titanium Co. and Lucky Metals Corp. are either reconsidering the projects or want to move the plants abroad, industrial sources said Friday.

Since Du Pont's project was approved by the government, local environmentalists and civic groups have warned that waste from the manufacture of titanium dioxide, widely used to whiten paints, plastics and paper, could leak into the land and the water supply, stirring up nationwide concern about contamination and pollution.

Korea Du Pont, an 80-20 joint venture between E.I. Du Pont de Nemours of the United States and Korea's Hanyang Chemical Corp., was scheduled to begin building a plant with an annual capacity of 60,000 tons of the chemical in Ulsan on the southeast coast early this year, but dare not break ground because of the strong outcry among residents of the area, the sources said.

The firm, which has waited for four years since applying to build the 150 million-U.S.-dollar plant in 1986 for environmental reasons, has four employees based in the industrial city just to persuade citizens, but their efforts have not paid off so far.

The prospects for construction look even gloomier when it is noted that Du Pont has not reached complete agreement with Hanyang on the joint venture and a construction permit has not been issued.

Ishihara, which has committed 40 million dollars to build an 80-20 joint-venture titanium dioxide plant with an annual capacity of 18,000 tons, is reconsidering its investment as the international price of the chemical continues to be driven down by a production glut.

Things have also soured for Union Chemical Corp., Ishihara's Korean partner, which has been trying to get out of the deal since being fined 3 billion won for violating environment laws.

Hankook Titanium turns out 25,000 tons of the chemical a year and planned to construct a plant for high purity titanium dioxide at Onsan, another southeastern industrial city, but is now looking at sites in China because of strong local opposition.

Lucky Metals Corp., which is to construct a 40,000-ton plant to process titanium dioxide in a technical tie-up with the British chemical producer SCM Chemical, is the sole firm going ahead with a plant and plans full-scale production in 1992.

Lucky does not expect any pollution problems as it will make the chemical from semi-finished product from the United States and Australia, Lucky officials said.

With the establishment and expansion of chemical plants since late last year, domestic production is double domestic demand.

LAOS

Phoun Sipaseut Addresses Meeting on Tropical Forests

BK1412131290 Vientiane KPL in English 0924 GMT 14 Dec 90

[Text] Vientiane, Dec 14 (KPL)—The Ministry of Agriculture and Forestry, in collaboration with the Ministry for Foreign Affairs, held here yesterday a consultation on [the] tropical forest area project [TFAP] in Laos.

In addition to representatives from Lao ministries and organisations, the consultation brought together delegates from Sweden, Japan, France, Australia, the United States of America, the USSR, Germany, the Asian Development Bank (ADB), the World Bank, the Mekong Committee, the Food and Agriculture Organisation [FAO], the UNDP [United Nations Development Program], the European Community and the Narcotics Control Organisation.

Delivering the opening speech, Mr. Phoun Sipaseut, vice chairman of the Lao Council of Ministers and minister of foreign affairs, expressed thanks to the UNDP, the FAO, the SIDA [Swedish International Development Authority], the ADB, and the World Bank for their assistance to Laos so far, and to the Lao and foreign experts for their participation in establishing the TFAP in Laos.

The CM [Council of Ministers] vice chairman noted that the tropical forest and environment degradation throughout the world for the time being posed a threat and harm to life. For instance in Laos, forest land shrinks alarmingly due to the war and the continued forest destruction in various forms. The practice of slash-and-burn cultivation on 300,000 hectares annually by 253,000 families brings about forest fires on vast areas, drought, torrential floods, rivers and streams drying up soil erosion growing up [as received], thus worsening the natural environment and directly threatening agriculture, hydroelectric power generation, navigation, and consumption of water in some localities.

Mr. Phoun Sipaseut also spoke of the Lao Government's continuous and utmost efforts to replace the poppy planting by mountainous people in remote areas with fixed farming and substitute crop programs. These projects still at the first stage have so far received limited assistance from some antinarcotic organisations and [a] few countries, he said.

He expressed the Lao Government's opinion regarding the TFAP measure to solve global environment [problems]. TFAP is beneficial not only to Laos, but also to the countries in the lower basin of [the] Mekong and the world.

The Lao CM vice chairman voiced hope for more assistance to the Lao PDR [People's Democratic Republic], so that the government and the people of Laos would be in a better position to solve this forestry and environmental problem.

The participants, during the consultation, will hear views from the donors, the policy on foreign cooperation and investment in Laos, the guidelines and policy on the future socioeconomic development in Laos, the future forestry and environmental priorities and others.

The meeting will wind up here today.

THAILAND

Environmental Policy Recommendations Examined

BK1112021790 Bangkok THE NATION in English 11 Dec 90 p A8

[By Oranut Anusaksathian and Ann Danaiya Usher]

[Text] Now that the Thailand Development Research Institute's [TDRI] year-end seminar on the environment has passed, its long-term impact can be judged only by whether policy-makers take the think tank's recommendations to heart.

It is doubtful whether many of the participants of last weekend's conference read through all 1,500 pages of 11 voluminous reports, filled with both data on the state of Thailand's forests, industry and mining as well as proposals for solving the country's intractable environmental ills.

Daunting though the mass of information, a pattern does emerge from the reams of data and analysis—of three different types of policy recommendations.

The first is a critique of subsidies that contribute directly to environmental degradation; the second is a call for reform of existing institutions to handle natural resource and waste management; the last includes various suggestions on how to finance, and who should pay for, the clean-up.

Indeed, every indicator listed in the TDRI studies—from air pollution to deforestation—suggests that Thailand's environment is in a critically fragile state and badly in need of a clean-up.

While all areas may be equally needy of immediate action, chronic "political pollution," illustrated by the uncanny timing of Prime Minister Chatchai Chunhawan's resignation, which was announced half-way through the conference, forces anyone serious about the environment to set priorities.

Harmful Subsidies

Of the three types of policy proposals offered by TDRI, the first would appear to be the most obvious starting point—to stop using tax-payers' money to underwrite environmental destruction.

TDRI's research revealed several types of subsidy, direct and indirect, by which this occurs.

One example is lignite.

While this domestic energy source is at least 2.5 times cheaper than other conventional fuels, it produces 4.5 times as much sulphur dioxide as coal, and nine times as much nitrous oxide as natural gas.

Private mines in particular fail to restore old mines, precluding future land use, while sulphur emissions cause damage to forests and agriculture through acidification of soils and waterways, as well as to human health.

But the low price of lignite, which has encouraged many industries to switch to this "dirty" energy source, does not reflect the high environmental costs that are not borne by the manufacturers.

"(Lignite's) pollution disadvantage is a social cost that is not paid by the users, but by society at large," a TDRI report states.

Another case is the absurdly low rent in forest reserves used by companies planting eucalyptus, set by the government at Bt10 per rai per year as an incentive for private commercial tree farms.

Extensively criticized for several years now, this policy has led to social conflict, by forcing landless villagers off their land and leaving them with no option but to encroach on other good forest.

Furthermore, while the authors of the strategy have claimed that plantations will increase rural employment and alleviate poverty, TDRI and other studies show that both these claims are false.

Thus TDRI proposes that "the policy of granting public forest land for commercial plantations should be discontinued... cheap public land, capital subsidies, and tax holidays are neither necessary nor warranted".

The third, perhaps one of the most original bits of information to come out of the conference, is the link between Board of Investment [BoI] privileges and the increase in toxic waste-generating industries.

One report states that the proportion of investments approved for factories that produce hazardous waste increased from 25 percent in 1987 to 55 percent in 1989.

Currently, 1.9 million tonnes of toxic waste are added to Thailand's environment every year, of which 1.3 million tonnes are concentrated in the Bangkok area. Less than two percent of this is treated, and TDRI predicts that the total annual load will triple in ten years time.

"Environmental criteria should play a more decisive role in investment project selection. It is critical that the government restructure the BoI promotional policies to favour environmentally sound investments and to promote industries that minimize pollutants per unit of value added," a report states.

Otherwise, in the absence of laws, enforcement and facilities to treat waste, the board will continue to use public money to subsidize highly polluting industries.

Weak Institutions

The second type of policy option proposed by TDRI focuses on the strengthening of four government institutions involved directly with the formulation and enforcement of environmental laws. But the recommendation will be more difficult to realize than it appears.

The institute has clearly demonstrated that the four major players—the Industrial Works Department, the National Environment Board, the Industrial Estate Authority of Thailand, and the Board of Investment—are inefficient to prevent, control and tackle industrial pollution.

But the inefficiency lies at the most fundamental level. These agencies are constrained structurally, financially and functionally to exert their roles in environmental protection.

Firstly, their responsibilities are largely overlapping. The Industrial Works Department (IWD) and the Industrial Estate Authority of Thailand (IEAT), for instance, are in conflict over the environmental control of factories operating in industrial parks.

The industrial estate authority is the single agency that controls factories in registered industrial zones. The department of industry, which is supposed to be responsible for environmental regulations through the licencing of factory permits every three years, is therefore, unable to perform its duty.

Within the authority, according to TDRI, there is no real commitment toward environmental responsibility because a specialized environmental unit is lacking. Only a minimum requirement for each industrial estate to set up a central waste water treatment plant is imposed. The question of hazardous waste and gaseous emissions are left to the factories themselves.

Some of the four agencies do not have the legal mandate to assert a greater role in environmental protection. The National Environment Board, for example, which has expertise and capability to impose and monitor environmental standards, does not have the authority to either enforce relevant laws or punish industries that fail to comply with requirements.

The Board of Investment and the Industrial Works Department, on the other hand, have different excuses for their failure to integrate environment into their policy and for ailing law enforcement.

The excuses, however, are similar in nature.

BoI says it lacks technical knowhow to judge the level of technology, raw materials and the types and amount of wastes discharged by companies seeking the government promotional privileges although the Board of Investment Act does broadly stipulate that the agency takes into account environmental implication when giving out promotion certificates.

Similarly, the Industrial Works Department says it does not have adequate technical workforce and budget to regulate pollution from over 50,000 factories around the country.

These institutions were set up in the 1960s and 70s when environment was overlooked in the single-minded attempt to promote investment and accelerate industrial development. Therefore, environmental laws and related institutions were devised to accommodate such moves.

To overhaul the fundamentals would require the amendment of existing laws which form the legal basis for operation of these agencies. This process would be

extremely time-consuming and almost impossible to succeed under the best of political circumstances.

The highly volatile political situation at the moment makes it even more difficult to put the environemnt at the top of the political agenda.

Moreover, environment does not take prominence in the public sector's budgetary allocation. To change the structure of budget allocation would require not only strong political will, but also cooperation from other government offices, which may see their allocations dwindle.

A New Machine

The third type of recommendation—concerned with how to pay for cleaning up the mess—by TDRI envisages the establishment of an environmental fund to which industrial polluters are required to contribute.

Although the institute argues that the proposal is practical, given the affordable cost and proposed taxes to induce industries to treat industrial waste, it remains difficult to imagine the mechanism being implemented without huge political will.

Indeed, industries and the four responsible government agencies will have to start from scratch.

The framework for the administration and operation of the fund would have to be laid; the antipollution taxes, which have never existed before, would have to be mapped out.

This differs from the cases of low-lead and low-sulphur fuel, where the Fiscal Policy Office has the exise tax available at hand that can be used to encourage consumers to shift from heavily polluting petrol and fuel oil to less-polluting energy.

The institute has cited the willingness of the Federation of Thai Industries to cooperate as one of the major factors that would contribute to the successful implementation of the scheme.

But such a new privately-run mechanism for auditing environmental controls would have to supplement, or even replace, the duties of existing government agencies.

Compared to simply cancelling existing subsidies, the creation of a whole new bureaucratic machine appears infinitely more complicated.

REGIONAL AFFAIRS

International Ecologists End Inspection in Ruse-Giurgiu Region

AU0112153190 Sofia BTA in English 2204 GMT 30 Nov 90

[Text] Ruse, November 30 (BTA)—Today the two specialists, appointed by UNEP [United Nations Environment Program] to find out what the ecological situation in the Ruse-Giurgiu region is, completed their work. In two days Mr. Robert Boldt, a Canadian chemical engineer, and Dr. Cornelius van der Hijden, a toxicologist from the Netherlands, visited the industrial enterprises in Ruse which are considered sources of pollution.

Earlier this week the two experts visited Giurgiu. They will present their report by the end of the year.

The causes for the air pollution in Ruse are complex. Environment should not be cleaned at the expense of imposing restrictions on industry, but by improving technology and the organization of management, the experts told journalists. In reply to the question if the Bulgarians have grounds to make claims on the Romanian side, the Dutch specialist said that he would not give a direct answer and pointed out that in Holland, as it is in many other countries, people prefer to see the mistakes made by the others rather than their own mistakes.

BULGARIA

'Serious Pollution' From Bukhovo Uranium Mining Revealed

AU0412202090 Sofia BTA in English 1901 GMT 4 Dec 90

["Secrets Around Uranium Mining Disperse"—BTA headline]

[Text] Sofia, December 4 (BTA)—The problems of the radioactive pollution caused by uranium mining are the subject of a second meeting at the Ministry of Environment in the last five months. Today's meeting discussed the alarming situation in the region of one of the first Bulgarian uranium mines in the village of Bukhovo (near Sofia). Uranium extraction started there immediately after World War II. Until 1966 the village was also the site of the only works for processing the extracted uranium ore. Several months ago families with children aged under 15 living in this region were offered to move.

In spite of the fact that the "state secret" around uranium mining did not concern ecological pollution, but the defence industry and relations with the Soviet Union, for years on end this secrecy served to cover a number of violations.

The first signals about serious pollution of the three villages near the mine date back to the 1950's. The first measures were also taken when a tailing dump was built and the most contaminated lands were expropriated, fenced and afforested. But what was most important was not done—the population was not informed of the serious danger to which it was being exposed. Despite the prohibitions the people continued to use contaminated waters for irrigation and to till the expropriated lands. The population was not subjected to regular medical check-ups. Only in the last few years were the children living in this region examined, but only for heavy metal contamination.

The conclusion of the specialists is that at present the extent of the radioactive contamination of the region is not irreparable. They insist on the drafting of a package of measures for the concrete work of the government in this field by January.

Parliament Ratifies Convention on Wild Species Protection

AU1312094990 Sofia BTA in English 2301 GMT 12 Dec 90

[Text] Sofia, December 12 (BTA)—This evening the Grand National Assembly ratified the Convention on International Trade in Endangered Species of Wild Flora and Fauna.

Bulgaria approved this convention at its signing in 1973. With a special resolution of the government of August this year Bulgaria joined the convention.

Bulgarian-Japanese Seminar on Waste Disposal

AU1312174190 Sofia BTA in English 1712 GMT 13 Dec 90

[Text] Sofia, December 13 (BTA)—Today a Bulgaro-Japanese seminar on air pollution and the disposal of waste took place here. It is part of the programme of a group of Japanese specialists who have been in Bulgaria since December 9. The purpose of their visit is to see the equipment for the protection and cleaning up of the air and for processing industrial and household waste. They will draw up a special report, making recommendations to the Ministry of Environment. Having in mind that the Japanese Jetro Foreign Trade Organization is co-organizer of the seminar, it can be expected that some Japanese companies will make concrete offers.

The disposal of harmful waste is the most alarming problem awaiting its solution. Most of the waste is rendered harmless and liquidated on the spot in the different enterprises. There is not a uniform system for collecting and transporting harmful waste; there are not centralized installations for their destruction and controlled storage.

According to the projects of the Komunaltechmach Company, most of the annual amount of household waste (about 59 percent) is rendered harmless by keeping it in controlled storage. It is planned to construct 91 warehouses for this purpose. The rest will be reprocessed

by making a maximum use of the recycled resources. The collection of waste separated by types has been organized in one city only. The construction of two plants for burning household waste has been stopped due to financial considerations.

Bulgaria expects to be given aid under the Phare Programme for building up an automated system for monitoring and controlling the air and for the equipment of some regional laboratories where smoke-gas pollution will be analysed.

CZECHOSLOVAKIA

Austrian Experts Find Slovak Bohunice Plant Unsafe

AU1312133990 Vienna Domestic Service in German 1100 GMT 13 Dec 90

[Franz Siebenbuerger report]

[Text] The Austrian commission drew a really dreadful picture of the Slovak Bohunice Nuclear Power Plant in the report that it presented to Chancellor Franz Vranitzky today. Commission Chairman Manfred Heinler listed the deficiencies. Thus, the plant does not have a stand-by cooling system, or a protective container.

[Begin Heinler recording] Thus, the leakage of radioactivity in the primary circuit cannot be prevented in the event of an incident. As far as safety measures to prevent incidents are concerned, the commission discovered a number of deviations from modern standards, such as a missing redundancy of safety systems. [end recording]

In case one safety system fails, there is no stand-by system. Protection against fire is also insufficient, Heinler pointed out.

[Begin Heinler recording] Another point that has turned out to be particularly serious for this reactor type is the embrittlement of the pressure vessel and of welding seams, induced by radiation, which has taken place to an extent that was not expected by the owner of the plant. This questions the safety philosophy which is based on the belief that no accident can occur. Embrittlement means that the danger of breakage increases. Parts of the plant were not examined at all. The final point that seemed particularly serious to us is the insufficient protection against earthquakes of a strength that cannot be ruled out in the region where the plant is located. The commission concluded that the power plant is to be considered unsafe to an extent that is considerably higher than what can be expected of a modern nuclear power plant, and that the consequences of an accident, such as the leakage of radioactivity as a result of the failure of the primary circuit of the pressure vessel, would affect Austria as well. [end recording]

Heinler stated that consequences for Austria are not mentioned in detail in the report. He only hinted at possible consequences, referring to the consequences of the reactor failure in Chernobyl.

[Begin Heinler recording] The mere geographic proximity and the fact that a similar release of radioactivity must be assumed in the event of an incident, of a serious incident—this was also part of our study—one must assume, or fear that the consequences for Austria would not be limited to the extent of damage caused by the Chernobyl disaster. [end recording]

The usual weather situation is favorable for Austria, Heinler stressed. However, parts of Austria might have to be evacuated in the event of an accident. Environment Minister Marilies Flemming, who also attended the meeting, pointed out that an incident at the Bohunice plant would fully affect Vienna.

What are the conclusions that the Austrian Government will draw from this report?

[Begin Vranitzky recording] The government must vehemently and emphatically work for the closure of the Bohunice plant. Austria's readiness for cooperation with the CSFR must be reaffirmed and renewed. As early as tomorrow morning, Professor Heinler and a close aide of mine will present this report to CSFR Premier Calfa. Thus, no time will be wasted. [end recording]

To underline Austria's desire concerning the closure of Bohunice, Austria must provide help to the CSFR. In specific terms, this means that the Economics Ministry will be instructed to examine the possibility of free supply of electricity to the CSFR, and to create these possibilities. In the CSFR, measures aimed at reducing the consumption of energy are being explored with Austrian help. Austria will help the CSFR to expand and build hydroelectric power plants. In addition, an early radiation warning system should be developed in the CSFR at Austria's costs. In Austria, a semiautomatic weather information system will be established at the same time. However, Austria's clear goal is the closure of the Bohunice Nuclear Power Plant in the near future.

Radioactive Waste Dump Discovered in Resort Area Near Srbsko

AU0712222190

[Editorial report] Several Czech dailies on 4 and 5 December carry reports on an unprotected radioactive-waste dump in a pit of the Kozel quarry on the left bank of Berounka River near Srbsko.

Prague ZEMEDELSKE NOVINY in Czech on 4 December on page 1, under the headline "Chernobyl in Czech Kars," publishes an 800-word article on the topic by Jan Bauer. According to him, radioactive waste from the Nuclear Research Institute in Rez and from the national enterprise Leciva [Medical Drugs] was dumped here with permission from the District Hygienic Station from 1959 to 1963. Bauer's informant claims, however, that "some of the barrels were placed in the pit in the

1970's." The only warning, according to Bauer, is a sign with the yellow disc. "Among the substances in the dump are cobalt 60, strontium 90, and cesium 137." The article concludes by decribing the area as a popular holiday resort.

It is followed by a CTK release promising that all approaches to the quarry will be immediately secured, and a proposal for a definitive solution to the problem must be submitted to the district hygienist by 31 January 1991.

Prague SVOBODNE SLOVO in Czech on 5 December on page 3 publishes a 350-word report on the same dump by Jana Schillingova. She elaborates on the contamination and quotes readings of 122.9 Bq [Beckuerel] per liter of water as early as 1984, while the highest limit acceptable by Czechoslovak standards is 1 Bq per liter.

Prague RUDE PRAVO in Czech on 5 December on pages 1 and 5 publishes an 800-word report on the topic. It specifies that the dump contains more than 2,000 barrels of waste, and describes the emergency measures taken by the authorities to protect the public. According to the report, the pit was walled in and the case is being investigated by the police.

POLAND

Summary of Environmental Protection Laws Presented

91WN0050A Warsaw GAZETA PRZEMYSLOWA in Polish No 20, 30 Sep 90 pp 10-11

[Article by Elzbieta Dobrodziej: "Statement on the More Important Laws Pertaining to Environmental Protection"]

[Text] We are presenting the more important normative laws now in effect. In addition to the regulations, which are legal acts of the highest order, we are also including the most important executive orders.

I. Law on the Protection and Management of the Environment dated 31 January 1980 (Dz.U. No. 3, Item 6; Dz.U. No. 44, Item 201, 1983; Dz.U. No. 33, Item 180, 1987; Dz.U. No. 26, Item 139 and No. 35, Item 192, 1989; Dz.U. No. 34, Item 198 and No. 39, Item 222, 1990).

This is the basic law that governs the problems of environmental protection as a composite unity. It contains regulations defining both the principles of conservation and rational management of the environment, including land surface, mines, waters, marine environment, air, landscape and fauna and flora, and protection of this environment from noise, vibration, refuse, radiation, etc. It also indicates the responsibilities of organizational units and individuals involved with these problems. The law also provides for determining responsibility for disturbing the environment and financial means for environmental protection and its organization.

1. Executive order of the Council of Ministers dated 30 August 1980 governing environmental protection against refuse and other pollution and maintenance of cleanliness and order in towns and villages (Dz.U. No. 24, Item 91 with subsequent amendments).

In addition to interpreting basic concepts pertaining to refuse and rendering it harmless, regulations are given pertaining to protecting the environment from refuse and on problems related to maintaining cleanliness and order in towns and villages (for example, responsibilities in the area of maintaining cleanliness and order at construction sites, the locale and the object being constructed, and materials serving trade, restaurants, stores, and production, etc.). The decree also covers responsibilities of organizational units and individuals who own or manage property located within the administrative boundaries of towns or villages, including:

- Removal of refuse from open sections of the property and construction materials intended for common use, assembling this refuse in suitable places or rendering it harmless.
- Providing the property with adequate equipment for collecting refuse and maintaining it in a satisfactory state with respect to sanitation and order.
- Keeping the vicinity of the property free of snow, ice, mud, and other contamination, including slipperiness (this pertains to sidewalks located along the property, etc.).

The regulations specifically define the scope of responsibilities connected with maintaining cleanliness and order in towns and villages and the rules on responsibility in this matter.

2. Executive order of the Council of Ministers dated 30 August 1980 governing environmental protection with respect to noise and vibration (Dz.U. No. 24, Item 90).

This contains regulations defining the concepts of noise and vibration and providing a basis for protection against their damaging effects if the allowable limits specified in this decree are exceeded.

3. Executive order of the Minister for the Protection of the Environment, Natural Resources, and Forests dated 12 February 1990 governing the protection of air from pollution (Dz.U. No. 15, Item 92).

This established allowable concentrations for substances polluting the air and organs authorized to make decisions defining the types and amounts of air- polluting substances allowed to be emitted into the air. It also contains schedules of allowable concentrations of substances polluting the air and other emissions.

4. Executive order of the Council of Ministers dated 25 June 1990 governing payments for use of the environment and resulting changes (Dz.U. No. 42, Item 245).

This decree defines the scope, rate, and manner of making payments for emitting pollutants into the air, storage of refuse, and removal of trees and shrubs. It also contains schedules defining the types of pollutants emitted into the air covered by surcharges, division of refuse into categories according to severity of pollution, and the unit rates of payment connected with this as well as rates of payment for removing trees.

5. Executive order of the Council of Ministers dated 25 June 1990 amending the decree governing the amount, principles, and method of assessing and collecting monetary penalties for environmental protection violations (Dz.U. No. 42, Item 246).

This amends the decree dated 23 December 1987 that regulates the amount of monetary penalties for damaging the environment and the procedure in this matter. The change pertains in particular to an increase in the penalty as well as the time limit for their being imposed by the provincial governor.

II. Law on Environmental Protection dated 7 April 1949 (Dz.U. No. 25, Item 180; Dz.U. No. 33, Item 180, 1987; Dz.U. No. 34, Item 198, 1990).

This law deals with the general problems pertaining to environmental protection, including, in particular, the object and scope of this protection, and specifies the organs for environmental protection and the procedures. It also specifies the legal, including penal, consequences for damaging the environment.

III. Law on Water dated 24 October 1974 (Dz.U. No. 38, Item 280; Dz.U. No. 3, Item 6, 1980; Dz.U. No. 44, Item 201, 1983; Dz.U. No. 26, Item 139, and No. 35, Item 192, 1989; Dz.U. No. 34, Item 198 and No. 39, Item 222, 1990).

This law is one of the more important regulations in the area of preservation of inland waters. It contains regulations on general principles pertaining to these waters, issuing of water-right permits, resolving disputes in water-right matters, using the waters, their preservation, regulating and maintaining the waters, construction on the water, joint water enterprises, water records, and other water equipment as well as penal regulations.

1. Executive order of the Council of Ministers dated 13 January 1986 governing payments for specific use of waters and water equipment (Dz.U. No. 37, Item 295, 1988; Dz.U. No. 42, Item 243, 1990).

This decree contains a schedule of payments for drawing water from marine inland waters, waters from the territorial sea, and payments for effluents from mine waters containing pollutants and chemical effluents.

2. Executive order of the Council of Ministers dated 14 December 1987 governing water classification, conditions effluents must meet, and monetary penalties for infractions of these conditions (Dz.U. No. 42, Item 248).

This act establishes three classes of purity for inland surface waters and sets rules covering introduction of effluents into inland surface waters and into the territorial sea. Prohibitions in this area and responsibility (monetary penalties) are also set. This act also contains addenda pertaining to allowable indices of contamination of inland surface waters in specific classes of purity, allowable indices of contamination in effluents introduced into canalization equipment that is the property of the state, allowable concentrations of vapors and gases and division of the contamination indices into groups, categories, and amounts of so-called unit loads of pollutants.

3. Executive order of the Council of Ministers dated 25 June 1990 governing monetary penalties for infractions against the conditions that effluents into waters or land must meet (Dz.U. No 42, Item 244).

This decree contains regulations defining the principles of legal responsibility for introducing effluents containing components harmful to the environment into waters or the land.

IV. Law on Preservation of Agricultural and Forest Land dated 26 March 1982 (Dz.U. No 11, Item 79; Dz.U. No. 35, Item 185, 1984; Dz.U. No. 24, Item 169, 1988; Dz.U. No. 34, Item 198, 1990).

This law contains regulations pertaining to the management of agricultural and forest lands, including, among other things, limiting the use of lands for nonagricultural and nonforest purposes, excluding lands from nonagricultural and nonforest production, preventing their degradation, recultivation of the lands and their management. It defines the basis for creating a fund for environmental protection and sets standards on supervision of the implementation of the decree regulations.

1. Executive order of the Council of Ministers dated 28 June 1982 governing implementation of the regulations of the Law on Preservation of Agricultural and Forest Lands (Dz.U. No. 20, Item 149).

This is an executive order amending the law cited above with regards to regulating the method of its implementation.

V. Law on Spatial Planning dated 12 July 1984 (Dz.U. No. 17, Item 99, 1989; Dz.U. No. 34, Item 178, 1989; Dz.U. No. 35, Item 192, 1989; Dz.U. No. 34, Item 198, 1990).

Within the meaning of this law, the goal of spatial planning is, among other things, preserving the natural equilibrium. The law defines the method of developing and adopting plans for spatial management, a national plan (its purpose is, among other things, to ensure environmental protection, taking into account the areas

subject to special protection and areas that are especially threatened, preservation of deposits and their proper exploitation, and agricultural and forestry development), as well as the so-called regional plan which considers, among other things, the conditions and demands in the area of environmental protection with regard to areas subject to special protection. This law also includes the rules that govern the so-called local plans and the method of siting enterprise development.

1. Order of the Minister for Protection of the Environment, Natural Resources, and Forests dated 23 April 1990 governing enterprise development especially damaging to the environment and public health and conditions that must be met by an expert's evaluation of the impact of development and construction on the environment (M.P. [MONITOR POLSKI] No. 16, Item 126).

This order defines the nature of enterprise development recognized as being particularly damaging to the environment and public health, subject—before determining siting—to agreement with the Minister for Protection of the Environment, Natural Resources, and Forests as well as the Main Sanitation Inspector. The amounts of contaminants that are the criteria for designating an enterprise as especially damaging to the environment and public health are also specified (this includes emissions of pollutants into the air and effluents as well as excessive drawing of water, generating electromagnetic fields, intensifying noise, etc.).

VI. Law on the Creation of the Office of the Minister for Protection of the Environment, Natural Resources, and Forests dated 20 December 1989 (Dz.U. No. 73, Item 433).

This law creates the office of minister of the department indicated in its title. It also defines the scope of its activities and the method by which the responsibilities entrusted to it are realized, and entrusts it with responsibilities in the area of geology which it will implement with the help of the Main State Geologist.

VII. Law on the Distribution of Responsibilities and Competencies, Defined in Specific Laws, Among the Organs of Gmina Councils and the State Administrative Organs and on the Amendment of Certain Laws dated 17 May 1990 (Dz.U. No 34, Item 198).

The intention of this law was to transfer certain responsibilities and competencies formerly belonging to regional state administrative organs to gmina council organs and regional and voivodship offices. Thus, transfer to gmina council organs of responsibilities in the following areas should be noted:

- Hunting laws and breeding and protection of game animals.
- Management of forests not belonging to the state.
- Matters in the area of water law.
- Protection and management of the environment, specifically: issuing permits for removal of trees and shrubs from property; establishing limits with respect to working time or use of technical equipment and methods of transport that impact on the environment by noise and vibration; ordering the operator of machinery or technical equipment to take measures to limit environmental impact; and imposing monetary fines for unauthorized removal of trees or shrubs.
- Spatial planning (for example, approving local plans for spatial management, issuing recommendations on local enterprise siting, making decisions on determining siting of enterprises).
- Protection of agricultural and forest lands, including, among other things, defining the conditions and exclusion of agricultural and forest lands from production, imposing penalties for unauthorized exclusion of these lands from production, appropriating such lands for the state, and recording ownership rights in the real estate register.

This law also provides for the transfer of certain responsibilities and competencies of national councils and basic-level regional organs of state administration to regional organs of general government administration, called regional offices[1] in matters pertaining to, among other things:

- Making proposals concerning responsibility for infractions cited in the law on environmental protection.
- Complaints in matters of conflict with respect to compensation and repairing damage resulting from geological procedures.
- Agreements on acquisition of agricultural property by a legal entity.

This law transferred to the competency of voivodships the responsibilities and competencies that formerly belonged to national councils and basic-level regional state administrative organs in the area, among other things, of:

- Imposing prohibitions and orders in certain areas arising from the requirements of protection from floods
- Modernization and maintenance as well as preservation of voivodship roads within town boundaries.

Footnote

1. Seats and territorial scope of activity of regional offices in all voivodships are contained in the executive order of the Minister, Chief of the Office of the Council of Ministers dated 1 August 1990 in the matter of designating seats and territorial scope of activity of regional offices (Dz.U. No. 54, Item 316).

BRAZIL

Environmental Council Members Named, Programs Detailed

PY0912221490 Brasilia Domestic Service in Portuguese 2100 GMT 6 Dec 90

[Text] (Ayrton Crenachi), national coordinator for the Indian Tribes Union, is the newest member of the National Environment Council [Conama]. Osmarino Amancio Rodrigues, chairman of the Xapuri Rural Workers Union, will be the alternate member. (Crenachi's) name appeared in a decree signed by President Fernando Collor that was published in the official gazette. The decree says (Crenachi) and Amancio Rodrigues will be full members of Conama as representatives of the Forum for the Alliance of the Peoples of the Forests.

According to (Crenachi), his designation as a Conama member represents progress in the sense of guaranteeing the participation of the peoples of the forests in planning the country's environmental policy. Brazil will have a national program for the protection of the peoples of the forests, which embraces rubber gatherers [seringueiros], Indians, social workers [estrativistas], and rural producers who do not depredate the environment.

The first step in establishment of the program will be the creation of a technical department within Conama, with representatives from the Forum for the Alliance of the Peoples of the Forests, the Potiguara Association of Friends of Nature, the Environment Secretariat, IBAMA [Brazilian Institute for Environmental Affairs and Renewable Natural Resources], the Justice Ministry, and the governments of Acre and Goias States.

The idea of creating a program for the protection of the peoples of the forests was adopted today in Brasilia at this year's last meeting of the National Environment Council.

At that meeting a resolution was also approved to allow the participation of states and nongovernment environmental organizations in the commission in charge of reviewing the decree that bans economic exploitation of the Atlantic Forest. The proposal was submitted by the Brazilian Association of Environmental Entities, which comprises the state environment secretaries. This association believes the decree does not specify the type of vegetation that can be exploited.

Conama also approved a resolution that establishes maximum limits for the emission of pollutants into the air. These limits will be valid for new industries controlled by the state environment secretariats, which will be able to restrict the emission of different types of pollution agents even more.

Defendant Confesses to Murder of Environmentalist

PY1212203090 Madrid EFE in English 2022 GMT 12 Dec 90

[Text] Xapuri, Brazil Dec 12 (EFE)—One of the men accused of killing renowned Amazonian environmentist Chico Mendes Wednesday [12 December] confessed to the crime on the first day of the murder trial in a remote Brazilian town.

Darci Alves de Silva Pereira, 23, confessed to gunning down Mendes on December 22, 1988 in the rubber tapper's tiny makeshift hut in the Amazon jungle town of Xapuri located in the state of Acre, 2,400 km northwest of Rio de Janeiro.

The confession surprised dozens of rubber tappers, ecologists and foreign journalists who have flocked to Xapuri for the trial, because de Silva has previously denied any part in the murder. Observers said they thought the confession was a tactic prepared by the defense to help the case of rancher Darli Alves de Silva Pereira, Darci's father, who is accused of ordering the murder. The landowner is allegedly responsible for other murders in the state of Acre.

Wealthy landowners and cattle ranchers have reportedly hired gunmen to kill landless peasants and rubber tappers in their bid to control the resource-rich forest.

Mendes' struggle to stop the rainforests being razed by ranchers brought him international fame, while his brutal death highlighted the plight of the threatened jungle.

Developers destroying large tracts of the Amazon are also displacing huge numbers of peasant farmers in a country with an estimated 12 million landless poor. Scientists say wiping out the rainforest contributes to global warming, also know as the "Greenhouse Effect."

Prosecutor Marcio Thomaz Bastos said Tuesday that the current trial would show the world that "justice exists in the Amazon jungle." He said the da Silvas' eventual conviction would lead to the arrests and trials of others involved in Mendes' murder.

Bastos added that in the past 20 years 1,200 peasants and rural workers were assassinated in Amazon land conflicts, but only seven gunmen were convicted of murder—none of them the landowners who contracted the killers.

Acre Union Leaders Still Receiving Death Threats

PY1312235090 Sao Paulo FOLHA DE SAO PAULO in Portuguese 6 Dec 90 p A 13

[By Emanuel Neri]

[Text] Almost two years after the murder of union leader and ecologist Chico Mendes, rural union leaders from Acre are still receiving threats. This information was

released yesterday at a meeting of the Sao Paulo Bar Association (OAB) by Osmarino Amancio Rodrigues, 33, secretary general of the National Council of Rubber Tappers. He released copies of death threats sent to him and three other union leaders.

Amancio Rodrigues said his house in Brasileia (142 km southwest of Rio Branco) was surrounded by gunmen on 1 December. He said one of the people responsible for the threats is Gentil Alves da Silva, alias "Tilin," the son of Alvarino Alves da Silva, who has been accused of instigating the murder of Chico Mendes. Amancio Rodrigues said two eyewitnesses who saw "Tilin" near his house will testify within the next few days. At the request of the Brasileia police chief, however, he declined to release their names. Alvarino Alves is reportedly at large. Darli Alves da Silva, (Alvarino's brother), and his son Darci—who have also been accused—are under arrest and will be tried on 12 December.

Chico Mendes was murdered on 11 December 1988. Amancio Rodrigues has said that there are two other people involved in the crime, including businessman Joao Branco, who was the UDR [Rural Democratic Union] leader in Acre and a shareholder in the newspaper O RIO BRANCO. FOLHA was unable to contact Branco yesterday, and "Tilin" was not found either.

Amancio Rodrigues accused three other people of being involved in crimes against union leaders in Acre: farm owner Crispin Reis, who was arrested for the death of Jesus Matias in 1982; State Deputy Joao Tezza (Liberal Party); and Federal Deputy Narciso Mendes (Liberal Front Party). Reis and Mendes could not be contacted, while Tezza said: "I have never even thought about killing anyone."

The union leader released copies of the three notes threatening him and the other union leaders. The first was found on 4 November near the house of union leader Abraao dos Santos Cardoso in Brasileia. The following day, another letter was left in front of the town's union office. The last message was found at the house of the acting president of the Brasileia union.

Osmarino and Federal Police Chief Romeu Tuma yesterday participated in a debate on violence in this sector at the Goethe Institute.

Oil Refinery in Curitiba Shut Down for Polluting Air

PY0912205090 Rio de Janeiro Rede Globo Television in Portuguese 2200 GMT 7 Dec 90

[Summary] A Parana State court has shut down a lubricating oil refinery that has been polluting the air. The company was warned several timess, but did not heed the warnings. The refinery is in Colombo, a metropolitan district of the city of Curitiba. This plant recycles 26,000 liters of lubricating oil each day, releasing polluting and bad-smelling substances into the air.

GRENADA

Government Supports Waste Conversion Concept

FL1212163090 Bridgetown CANA in English 1347 GMT 12 Dec 90

[Text] St. George's, Grenada, Dec 12, CANA—Grenada is still interested in using waste to produce electricity, after shelving a controversial project. Health and Environment Minister Kenny Lalsingh said "the idea is to have a project that will be of benefit to Grenada by providing electricity to the consumer, but it has to be environmentally safe."

The government, he said, was "convinced that converting non-toxic waste to energy and re-cycling offer new opportunities." He added: "The technology must meet our needs and it must also be clean and environmentally sound."

The Grenada Government recently shelved plans for the establishment of a plant intended to convert waste to electricity, after complaints from political and environment-conscious groups that said Grenada could not generate all the waste needed and the state could not guarantee toxic materials would not be imported for the project.

The plant was to have been established by Waste Conversions Systems of the United States. Lalsingh told CANA [CARIBBEAN NEWS AGENCY] the agreement with Waste Conversions was placed on hold because of "a lack of information about the partners and public criticism of the structure of the agreement."

He said most of Grenada's foreign exchange was going to petroleum-based energy, noting that the current Gulf Crisis and the slowdown in the world economic activities "are forcing us to focus on alternative energy supplies." His message at the recent Miami Conference on the Caribbean was that sources of energy must fit into Grenada's scope for improvement and "must help to improve the environment policy that is sound and will encourage private sector involvement without negative impact on our natural resources." The health minister said Grenada is looking to woo investors who are set on a course of "sustainable and sound development" but will respect the environment in the process.

"The 1990's will be a very challenging decade and economic growth will have to be underwritten by environmentally conscious policies," Lalsingh asserted.

VENEZUELA

Draft Environmental Legislation Criticized

91WN0077A Caracas EL DIARIO DE CARACAS in Spanish 26 Oct 90 p 4

[Commentary by Alberto Arteaga Sanchez]

[Text] To date, except for marches in support of the draft law on environmental crimes, no other reasonable or

reasoned evidence of support of this proposal has been evident. Possibly many of the people who have read the text did not become aware of the ridiculous aspects which might be termed veritable legal silliness and a very serious threat to the freedom and security of the citizens—values which have been seriously damaged in our precarious, or nonexistent, state of law.

From a personal point of view, I have formulated various critical comments regarding this proposal which will doubtless make me appear to be one of the enemies of the environment and defenders of the dark interests of the enterprises which profit at the expense of ecological deterioration.

Regrettably, this whole ecological matter is marked by fanaticism, irrationality, and a crusading spirit which sees enemies everywhere.

However, despite all the risks it entails, I will simply come forward in opposition to the present draft which has been submitted to the Chamber of Deputies for discussion. This is a proposal which is theoretically ill-conceived, absurdly repressive, damaging in the highest degree to personal freedom and safety, in violation of constitutional requirements, and totalitarian. It is therefore inapplicable, except in those cases in which it could serve as a tremendous tool for judicial terrorism and abuse.

The proposal establishes criminal liability for the deeds of others without specifying in any way what deeds have been outlined for punishment. It provides for an entirely vague system of penalties, contains numerous useless provisions, and defines as criminal conduct simple administrative injustices and behaviors which are merely socially reprehensible.

If this law were approved, it would almost complete the ensemble of new legal tools for keeping the citizens, who already suffer from enough legal threats to their freedom and safety, in a state of anxiety. On the basis of this new law, an individual could be arrested without anyone knowing exactly why, and his penalty would, in the final analysis, be left to the best knowledge and beliefs of the judge. Also, it would be possible for actions to be taken to suspend the activities of an enterprise or to order it to cease its activities, thus affecting workers, stockholders, creditors, and customers.

Despite the heresy this implies, and inasmuch as a law is still supposed to serve some purpose as a tool for establishing reasonable control over the citizens' conduct, it is necessary to rise up against this threat and to initiate broad and democratic discussion of the draft of the Environmental Crimes Law. It cannot be improved, moreover, by simple amendments or corrections, because the errors contained within are basic, involving theoretical orientation and basic knowledge of the realm of legislative policy and the requirements of criminal law in the modern world.

UNEP Director on Soviet Ecology Issues

LD1112202390 Moscow TASS in English 1949 GMT 11 Dec 90

[By TASS parliamentary correspondents Mikhail Ivanov, Andrey Orlov and Leonid Timofeyev]

[Text] Moscow 11 December TASS—Visiting executive director of the UN Environment Programme (UNEP), Mostafa Tolba, described Moscow talks on ecological problems as "very useful'.

Speaking at a news conference here today, Tolba said he discussed during talks at the USSR Foreign Ministry, the Supreme Soviet, public organisations and government agencies problems of the Black Sea, the Aral Sea, Lake Baykal, and some other regions.

The UN Programme pays special attention, Tolba stressed, to organising and coordinating aid in eliminating the consequences of the Chernobyl Nuclear Power Station accident.

He called on non-government organisations to stop criticising and to come up with concrete measures for governments to save the environment and determine what they themselves can do in this field. He acknowledged that the UN has many projects, which are yet to be translated into reality.

Speaking about environmental problems in the USSR, Tolba stressed that none of them is unique. The point at issue is global problems of changing climate and ozone layer. At the same time, he said, global problems originate on national territories and should be dealt with at national level.

Tolba expressed hope that now that "Cold War" is in the past, part of the funds will be used to tackle ecological problems. He expressed readiness to support the Soviet public organisation "Ecological International", which proposed to create an airborne device to produce ozone in higher layers of the atmosphere, if the project proves scientifically feasible.

Government Officials Hold Talks With UNEP Head Tolba

LD1012224290 Moscow TASS in English 2126 GMT 10 Dec 90

[Text] Moscow December 10 TASS—Soviet Deputy Prime Minister Vitaliy Doguzhiyev, heading the Soviet Government's State Commission for Emergency Situations, today met Executive Director of the United Nations Environment Programme (UNEP) Mostafa Tolba.

They discussed cooperation with the UNEP in the field of environmental protection, especially in cleaning the aftermath of the Chernobyl disaster and ecological revival of the Aral Sea area.

Later in the day, Tolba met Soviet Deputy Foreign Minister Vladimir Petrovskiy, chairman of the interdepartmental commission at the soviet foreign ministry for foreign political and international legal issues of cooperation in environmental protection.

Petrovskiy conveyed a message by Soviet Foreign Minister Eduard Shevardnadze, suggesting the development of cooperation between the Soviet Union and the UNEP. It is necessary to increase practical results of such cooperation, the message reads.

They focused on specific aspects of practical interaction between the Soviet Union and the UNEP in resolving problems important for the Soviet Union, including cleaning the aftermath of the Chernobyl disaster, the Aral crisis, and the revival of Lake Baykal.

They agreed that the UNEP will coordinate efforts by all the sides concerned in working out a plan for ecological revival of the Black and Aral Seas, the Danube, the Volga and other rivers in the basin.

They discussed the idea to set up a centre for urgent ecological assistance at the United Nations and organise ecological space monitoring of the earth from space.

They also discussed preparation for the 1992 UN Conference on the Environment. The Soviet president proposed holding a summit conference. The sides agreed that the conference might result in signing two international conventions—on climate and on bilogical diversity.

The Soviet side noted the need to supplement efforts by governments of states with a broad spectrum of public movements and organisations, involved in environmental protection.

Procurator's Office Views Environmental Protection Oversight

LD0612221790 Moscow TASS in English 2159 GMT 6 Dec 90

[Text] Moscow December 7 TASS—The collegium of the USSR public prosecutor's [procurator's] office met here on Thursday to consider compliance with laws on environmental protection in several areas of the country.

Speakers pointed out that public prosecutors discovered some 26,000 violations of legislation on environmental protection in the country in the last 18 months. More than 21,000 officials have been held accountable for violating nature conservation standards. Administrative and disciplinary actions were taken against them and fines were imposed on some of them. Suits exceeding 24 million roubles were filed against culprits in courts.

Participants spoke about the need for public prosecutors to take even tougher measures against those responsible for breaching nature conservation legislation. They were asked to sort out the situation in places where such violations took place, analyse compliance with nature

conservation laws, the legality control by procuracy [as received] and to take all measures to enhance its influence on efforts to improve the environment in ecologically-unhealthy areas.

The attention of Moscow and Volgograd public prosecutors was drawn to the low level of control in this area of a public prosecutor's activity. It was emphasised that they underrated the gravity of the ecological situation in areas under their supervision. It was recognised as expedient to set up a specialised inter-district nature conservation public prosecutor's office in Moscow and the Moscow region.

Participants decided to make representations to the union ministers of power engineering and electrification and the petro-chemical industry to force them to repair the breaches of legality in the operation of enterprises, institutions and organisations.

Land Reclamation Planners Urged To Heed Effects on Local Conditions

91WN0037A Moscow PRAVDA in Russian 20 Sep 90 Second Edition p 3

[Interview granted to PRAVDA correspondent by Boris Stepanovich Maslov, VASKHNIL corresponding member and deputy director of the VNIIGiM [All-Union Scientific Research Institute of Hydraulic Engineering and Reclamation imeni A.N. Kostyakov]: "Improving and Not Flooding; Is the Odious River Diversion 'Project of the Century' Dead?"]

[Text] Over the past 20 years alone more than 20 million hectares of land have been drained and eroded through the efforts of the former Ministry of Land Reclamation and Water Resources so "zealously" that nearly one-third of them have become unusable. Any insight in this matter would be inconceivable without a courageous and honest realization of this fact. However, we should not pour ashes on our heads. Repentance means the restructuring of one's mind and deliberately taking another direction. The talk between PRAVDA's correspondent and B.S. Maslov, corresponding member of VASKHNIL and deputy director of the VNIIGiM imeni A.N. Kostyakov, began precisely with acknowledging the need for such a level of interpretation of the errors which were made, thus giving the land reclamation workers an opportunity for a qualitatively new start.

[PRAVDA] Boris Stepanovich, judging by all available information, the "project of the century," the diversion of river waters is continuing to be promoted. Some zealous managers are impatient, once again, to "amaze the world."...

[Maslov] The endurance of this project is a tragedy for our sector. From the very beginning it caused irreparable harm to the renovation of the land, for it removed huge capital investments and the efforts of land reclamation workers from the building and reconstruction of irrigation systems and water conservation projects. The amount of reclamation in the country dropped sharply although the need for it is tremendous, particularly in the Russian Federation. In terms of the development of reclamation, the nonchernozem zone is behind the republics in the Soviet Baltic area by 30-40 years.

[PRAVDA] However, "reclamation," in its Latin sense, means "improvement" and not "flooding." Entire settlements and cemeteries in which our ancestors are buried, not suspecting that no rest will be granted to their dust, are being eliminated because of the widening of water reservoirs....

[Maslov] Features of this "great flow" are showing up here and there. This must be ended. More moisture does not mean in itself a better harvest. Surplus water brings salinity to the land and turns it into a swamp, thus destroying it.

As early as 60 years ago, Academician A.N. Kostyakov, the founder of Soviet land reclamation science, wrote that in Central Asia the mentality in water utilization is such that the amount of water supplied is greater by a factor of 2.5 than necessary. Yet a harvest can be doubled and tripled through efficient irrigation with the same amount of water resources. In order to bring order in this matter, the scientist suggested that payments be made for the water and that extensive promotion of progressive water-conserving irrigation methods be practiced.

Because of excessively generous watering, we have already removed from crop rotation millions of hectares of land and drained by one-half many lakes, rivers, and seas. In that same Central Asia, water consumption could be reduced by 40-50 percent which, incidentally, would largely resolve the problem of the Aral. No transfers would help unless we introduce in the southern irrigated land cotton and alfalfa crop rotation, which scientists have been recommending for decades. Alfalfa is the best land reclamation agent. Wherever there is alfalfa there is meat and milk and more cotton.

[PRAVDA] It is being said that narrow departmental interests of land reclamation workers have taken the upper hand, for they are being paid not for providing improved land ready for use, but on the basis of the amount of capital they have invested. But why is it that this "narrowness" has become greater than the state interests? We are losing even the pride of Russia, its symbol, the Volga, where 13 canals have been built and another six are under construction.

[Maslov] And what, one asks, will the land reclamation workers be doing if for this five-year period they are allocated tens of billions of rubles for capital investments? Whether in Antarctica or on Mars, armadas armed to the teeth will be digging canals.

[PRAVDA] I recently found out that if even a single additional hydroelectric power plant is being built in Krasnoyarsk Kray, its water reservoir could destroy the

area inhabited by the Evenks. Russia no longer has any "spare" land, and we must stop its barbaric squandering.

[Maslov] For the time being, the reclamation sector has given up nothing but the former shingle of the Ministry of Land Reclamation and Water Resources, changing it into the Ministry of Water Construction Resources. This transformation appears like a mockery. The ministry was criticized for substandard building of reclamation systems. However, it was precisely such construction projects that became the main type of activities of the new ministry. Matters have not improved.

In order to counter the wave of criticism, the latest change of labels is being planned with the suggested creation of a concern which would replace the ministry. However, meanwhile the Union Ministry of Water Construction Resources, which is alive and well, is undertaking, without specialists on its staff, to lay gas pipelines (many of which blow up because of substandard installation!), the building of embankments, ports, etc.

[PRAVDA] When a pie maker begins to make shoes we are in trouble....

[Maslov] Precisely! With such an approach, in addition to the already familiar "Chernobyls" and other monuments to negligence, the land reclamation workers will add a mass of other projects. The aspiration to do this is confirmed by the resolution of the Ministry of Water Construction Resources Collegium, dated 3 November 1989. This document instructs the ministry's subdivisions to provide "steady assistance in mastering the style, traditions, and professionalism of the sector in implementing the new type of construction output, such as road building in the nonchernozem zone of the RSFSR." Is it not excessively conceited to promote within the heart of Russia the "style" which was exposed clearly a long time ago in Central Asia and along the Volga?

Homo and humus are words with the same derivation. Both of them come from the Indo-European term for land. There was a time when land and man had the same meaning, for man had come from the earth and was part of the earth. Today the ruined land by the pseudo-land reclamation workers is being forcefully separated from man and frequently becomes hostile to him. This process resembles cancer or AIDS and an indifferent attitude will not stop it....

[PRAVDA] The professions of physician and reclamation workers are related. Clearly, the time has come for reclamation workers to give an oath like the Hippocratic Oath of the physicians.

[Maslov] What oath.... What we need are laws for environmental protection, which would be effective. We must break the philistine instincts of the "cogs."

[PRAVDA] Nonetheless, to put the entire blame exclusively on the bureaucrats of the former Ministry of Land Reclamation and Water Resources and the philistines seems to me a simplification of the problem.

[Maslov] The decline of land reclamation is also related to many years of disrespect shown to the scientist. In 1966 the science of land reclamation was converted from VASKHNIL into a separate sector. It was separated from the other trends in the science of agriculture. Gradually (particularly after the ministry was taken over by P. Polad-Zade) scientists became simply an object of ridicule. Meanwhile, in Saratov and Volgograd Oblasts, where many hundreds of thousands of hectares are under irrigation, at the same time there was an intensive salinizing of the land. On a parallel basis, draining facilities had to be built on an area of some 100,000 hectares. But then, what kind of draining facilities, what parameters? In order to determine this, one needs experimental production sectors and systems. In all countries priority is being given to the construction of such facilities, but not in our country. Science makes demands, while the ministry merely stamps resolutions which, as it were, remain simply pieces of paper. A total of 12 orders and resolutions of the collegium were promulgated on the building of experimental draining sectors along the Volga. Not one of them has been implemented.

[PRAVDA] If you had sounded the alarm....

[Maslov] We did! In July 1981 we, a group of scientists from various parts of the country, submitted to the CPSU Central Committee Agricultural Department, a report in which we noted with concern the low productivity of reclamation work. Our "cry from the heart" was essentially ignored.

Today there are in the country 35 million hectares of land with hydraulic land reclamation systems, which require constant supervision and maintenance. They must be repaired in order to operate for the planned length of time. However, the operational services are dragging their feet. Without proper care we risk to lose before their time thousands and thousands of hectares of renovated land.

It seems to me that in matters of shaping a new sectorial policy the recently created USSR Society of Land Reclamation Workers could do a great deal.

[PRAVDA] What is science recommending?

[Maslov] Today land reclamation scientists hold the unanimous opinion that each area and field needs its "personal" set of land reclamation measures (taking into consideration natural-ecological and economic features). For that reason reclamation must become, on the one hand, differentiated and, on the other, comprehensive. It also must be ecologically clean. The task has been set to develop and test new reclamation systems at the basic farms in the different natural zones of the country. To this effect, VASKHNIL is developing the "Food" scientific and technical program. Changing the forms of economic management in the countryside and the

appearance of private farmers and lessees has predetermined the need to make corrections to the standard reclamation systems developed by the scientists.

It may sound incredible but it is a fact that so far there is no authority in our country in charge of the utilization and development of water resources. Is this not shortsightedness, to think last about what is vitally important, about the future of our very existence? In general, how is it possible to resolve land reclamation problems without dealing with water resources, without thinking about the ecology?

There is global experience. It is time to raise our sights from an overworked soil through hydraulic land reclamation to the good example of countries such as Great Britain, Hungary, and Finland, where a single ministry is in charge of both water resources and ecology.

We are neglecting our sole and unique habitat. There shall be no other. Although acknowledging in recent years many of our errors, we are limiting ourselves to the semi-truth in terms of the ills of our native land, that same land without which there is neither bread nor comfort nor belief in the well-being of our children and grandchildren.

Authorities Assailed for Stalling Halt to Protein Vitamin Concentrate Production

91WN0112B Moscow KOMSOMOLSKAYA PRAVDA in Russian 13 Nov 90 p 1

[Article by S. Razin: "The KGB Against the PVC"]

[Text] Can one trust the head of government?

I pose this question without any sarcasm as I would answer it affirmatively if it were not for the perfidious intrigues of the departmental lobbies which, it seems to me, have manged to create shortages throughout the country. Why, for example, have medicines disappeared from the drug stores? Is it not because Minmedprom (Ministry of the Medical and Microbiological Industry) has taken the pharmaceutical industry into its hands and is keeping it on short rations, while it invests enormous funds only in the ecologically dangerous production of protein vitamin concetrate (PVC), i.e., in food supplements made from petroleum?

How naive we were! A year ago the head of the government promised the people's deputies that the PVC plants would be reoriented. We thought that the informal organizations and the press had forced the prime minister to dare to take such radical measures in his support for the ecological war against Minmedprom. However, we did not suspect at that time what forces the prime minister was relying on and what forces would protect us from the inevitable reprisals.

Minister V. Bykov went to the top, using his ties with former members of the Politburo.

Today we understand why they did not fire us from our job. Document No 1696-K of 28 August 90, signed by V. Kryuchkov, chairman of the USSR KGB, says it all extremely clearly: "The Committee for State Security constantly monitors research on food protein. The KGB reported on the assessment by foreign specialists of problems in the production of PVC based on petroleum paraffins to the CPSU on 23 December 89 (No 25734) and on 11 May 88 (No 792-4)..."

Bravo, Chekists! A total of two reports which were made, incidentally, after mass rallies in Kirishi and presentations by the press, directed—unexpectedly for all—the development of this scandal in an unusual direction. The reports themselves, it is true, were impossible to obtain, but I can familiarize anyone wanting one with an extremely curious memorandum—No 151(4)5-30249. I will cite several extracts from it:

"For reasons of toxicity and the large capital investment required the developed capitalist countries have rejected the broad utilization of bioprotein made from petroleum paraffins."

Let us give Nikolay Ivanovich Ryzhkov his due—in this case you cannot accuse him of indecisiveness. It is true that the departmental officials seem to have interpreted this approach—so unusual for the prime minister—as an apparatus subterfuge. And there were weighty reasons for this. It was just at this time that the USSR Supreme Soviet confirmed the composition of the government, and the minister of the medical industry, V. Bykov, hung by a thread.

But the "bomb" set by the prime minister, nonetheless, went off. A year ago parliament unanimously approved a resolution: "Concerning Urgent Measures for the Ecological Recovery of the Country." It was decided to reorient PVC production in 1991.

What has begun here! In their death throes the departmental monsters are especially dangerous, and one should not feed the illusions of their might.

Every agency still has major forces behind it. The unsinkability of the PVC plants is explained by the fact that they, along with Minmedprom, are interwoven into the powerful structure of the chemical-forestry complex, which is a supermonopoly in an enormous sector of the economy. Doing without PVC production means losing billions in profits, it means undermining the financial power and weakening the positions of high officials-right up to one of the deputy chairmen of the USSR Sovmin (Council of Ministers), which directs this oligarchy.

The strong of this world will always find someone for their support base. The totalitarian system is so constructed that while it convulsed the country with some "project of the century," it fenced itself in with a living chain of "hostages," made up of thousands and thousands of scientists and specialists. In the 60's PVC production was raised to the rank of a strategic industry

and billions of rubles were forked over for its development. With this kind of money and power in their hands, the agencies drew into their adventures hundreds of institutes of the USSR Academy of Sciences, the USSR Academy of Medical Sciences, the All-Union Academy of Agricultural Sciences imeni Lenin, the USSR Ministry of Health, etc.

Such are the roots of the scientific-apparatus lobby, which ensnares all the structures of power, including the Union parliament, which has become the main direction of the departmental thrust. Among the agrarians and doctors there are quite a few deputies who were willingly drawn into the campaign to repeal their own resolution on ecology.

Under such pressure the prime minister could not hold out. For this reason USSR Sovmin Resolution No 189 of 14 February 1990 stipulated an obvious loophole for the department: close the PVC plants or limit the work to renovation only, this problem to be resolved by one more state expert commission, which USSR Gosplan willingly assigned USSR Goskompriroda (State Environmental Protection Committee) to hold.

But times are different now! This time the commission proved to be uncommonly objective and prepared to break up the polluting plants completely. Of the many murderous arguments put forward by the experts, we shall single out only two.

The first: PVC, which contains ethalates and arsenic, is a toxic preparation which is dangerous to consumers of agricultural products.

Second: it is much more profitable to supply the petroleum paraffins from which PVC is obtained and buy for hard currency the vegetable feed which is lacking—soybean meal.

It goes without saying that the departmental "guard" tried to forestall these conclusions in advance. The tactic chosen was simple: get the experts fighting among themselves and in the noise declare that the commission has not coped with its task. No sooner said than done. Goskompriroda obediently added to the independent experts one more subcommittee, composed of fierce defenders of PVC. Finally the "circus" started; it dragged on for several months. As a result, the conclusion that was sent to the government was unusually contradictory and ambiguous; it could be interpreted in any way: if you want it, go ahead, if you do not want it, that is fine, too.

One can only guess how the head of the government will want to read this apparatus masterpiece. If desired, one can take note of the key phrase in this document: "Further operation of PVC production units without renovation is unacceptable..." But acceptable renovation, as the example of the fruitless experience of the Kirishi Plant has shown, is impossible.

What will the prime minister's final word be? The scandal surrounding PVC clearly illuminates one of the real mechanisms of departmental sabotage, which has paralyzed the economy. But after all, is it not also a form of sabotage as well as absurdity that last year alone Minmedprom spent 600 million rubles on the development of the microbiological industry, but only one-third that amount to cover the shortage of medicines?

Where are the goods to come from? What kind of stabilization of the economy is this if the departmental monopolies pursue directly opposite goals?

Sabotage! There is a lot of talk about this now. Only there is no sense in looking for saboteurs. The root of the evil lies not in specific officials, but in the system, based on super exploitation of the individual and the diversion of the lion's share of the national income into departmental pockets. The departmental oligarchies have concentrated in their own hands unlimited financial power and will defend it not unto life but unto death. And until this absurd economic structure collapses and until we root out departmental coercion—all market reforms and promises of quick abundance will remain sweet daydreams.

Effort of Greens To Shut Down Industrial Polluters Criticized

91WN0036B Moscow IZVESTIYA in Russian 18 Sep 90 Union Edition p 1

[Article by V. Antonov: "Are the Greens Always Right?"]

[Text] Until recently, our country was substantially behind the other industrially developed countries in the volume of chemical output both as a percentage of the gross national product as well as in per capita output. Now, judging by available information, this lagging has worsened.

What is the reason? It lies in the not always considered actions of the Greens, under whose pressure it becomes necessary to close down ever new production facilities: shops, production lines, and entire plants. As a result of such mass close-downs, one of the basic sectors is being essentially eliminated, triggering a chain reaction in other related sectors.

Here are some figures. In less than four years of the present five-year period, for ecological reasons alone 300 enterprises, one-third of them chemical, have been closed down in the country. The sector has suffered losses totaling nearly 3 billion rubles.

But, some may say, what are such sectorial losses to us? We, who do not even smoke, are much more concerned with the following question: Why and for how long have disappeared, shall we say, filter cigarettes?

The reason for their disappearance is that the Vladimir Chemical Plant, which produces the raw material for

filters, became the victim of the Green offensive. Let us point out that in addition to raw materials for filters the plant also produced materials for frames for eye glasses. This means that we shall be soon threatened by another or, to be more specific, an intensified shortage of frames.

The textile workers are in a state of shock, for the Derbenevskiy Chemical Plant in Moscow, which holds a monopoly position in the production of some fabric dyes, is being closed down. As a result, you and I, the consumers, will be deprived of 400 million meters of woolen and 50 million meters of knitted fabrics worth approximately 9 billion rubles.

What about the shortage of soap? Publicly, in the press, the USSR Ministry of Foreign Economic Relations and the government as a whole, as well as God knows who else, were blamed for this shortage. What was ignored was once again the Green movement, under the pressure of which several shops producing synthetic fatty acids, which are the main component in the manufacturing of detergents, were closed down.

More such examples could be quoted, indicating the harm inflicted on our pharmaceutical industry, as well as the difficult situation prevailing in the protein-vitamin concentrate industry as well as the threat to the production of motion picture and photographic film. The overall amount of the losses in the chemical industry is such that it would be impossible to compensate for them through imports, since the country lacks the necessary foreign exchange for such imports.

Yes, nature must be protected. However, we must not forget common sense, as was the case, for instance, in Volgodonsk, where the public and the local authorities demanded the closing down of the chemical plant. The way this public opinion was shaped is quite indicative. Its origins may seem to be the good aspiration of the local department of the State Environmental Protection Committee to protect the city and the citizens and to give them an idea of the environment in which they live and are raising their children. To this effect, data on harmful industrial emissions began to be gathered from all city enterprises. The trouble, however, was that throughout the city, including the State Environmental Protection Committee itself, no entity had reliable means of controlling emissions. The only such means exist and are being applied by the chemical enterprise. Such means here are not being simply applied but also over the past three years, they have contributed more to reducing harmful emissions than during the 30 preceding years of the existence of the chemical plant. A major program for the treatment of the emissions has been planned and is being implemented. In this area the Volgodonsk chemists were recognized as the best in their sector. However, the local department of the State Environmental Protection Committee did not study all such details but acted simply: since the chemical workers were the only ones in the city with data on industrial emissions it means that they, the chemical workers, should be hit upon. Furthermore, such data were constantly being presented as worsening and the local newspaper described them as though another Chernobyl was in the making. This had its effect. Meetings and picketing at the gates of the city soviet began in the city. When they failed to close down the plant through direct efforts, the efforts were concentrated on closing the plant by making it pay fines in the millions of rubles.

But is this the case in Volgodonsk alone?

Speaking on Central Television recently, one of the deputies of a local soviet said that he opposes the building in his city not of a chemical plant or a nuclear power plant but of a shoe factory! He was so firmly against it that he was ready to wear sandals! This people's representative did not even ask us whether we were ready to follow his example.

In criticizing the Greens for the senselessness of many of their demands, recently LITERATURNAYA GAZETA pointed out that they should become "pinkish." To put it mildly, let us say that they should ripen. Had they known, had they taken into consideration, that the emissions of an average-sized thermoelectric power plant or of the city automotive transportation system are much more dangerous than the production, let us say, of protein-vitamin concentrates (BVK), public opinion around them, supported by the deputies and the press, might been different.

Despite glasnost, hiding behind all this is the problem of a stupefying lack of information on the part of the population and the failure to inform it of simple and even most basic concepts. This results in even more stupefying consequences, for today's democratic "street" lack of competence is no better but worse than concealed incompetence.

Fortunately, the shoots of a new way of thinking and acting on the part of social groups and the renovated soviets are already visible. In Moscow, for example, this can be seen in one of the most "polluted" rayons—Proletarskiy. Here, initially the Greens demanded the closing down of a number of enterprises. However, sober minds were found, headed by I.S. Lukin, party raykom first secretary, who were able to explain and prove to the people the groundlessness of such demands and, above all, to lead that same public to engage in constructive rather than destructive environmental protection activities.

Unfortunately, for the time being such examples are few. Had there been more, naturally, our story about them would have been longer.

Leader Explains Formation of Soviet 'Ecoforum for Peace' Affiliate

91WN0036A Moscow IZVESTIYA in Russian
26 Sep 90 Union Edition p 3

[Interview with Academician Boris Nikolayevich Laskorin, head of the USSR affiliate of "Ecoforum for Peace"; by K. Smirnov: "'Ecoforum for Peace' in the USSR"]

[Text] **The State Committee for Science and Technology, the USSR Union of Scientific and Engineering Societies, and the Kniga Publishing House have founded the Soviet national affiliate of the worldwide "Ecoforum for Peace" movement.**

This IZVESTIYA correspondent met with Academician B. Laskorin, who heads the "Ecoforum for Peace" affiliate.

[Smirnov] Boris Nikolayevich, what is this? Is it yet another organization claiming ecological leadership in the country?

[Laskorin] It is a question less of leadership than of a center for consolidation. The "Ecoforum for Peace," which was established in 1986, presumes the effective participation of scientists and political and social personalities, whatever their convictions and beliefs, and does not suppress anyone's interests.

However, here is a paradox: The USSR was among the founders of the movement. Academician I. Frolov is one of its co-chairmen, and represents our country. However, we had no national "Ecoforum for Peace" affiliate in the country, although the need for such an organization was great.

Today our numerous societal environmental protection movements are threatened by a dispersal of forces and funds. Yet the frightening ecological crisis which is threatening the world and the country recognizes neither state nor area borders nor the variety of political banners or religious ceremonies.

[Smirnov] What will be the first steps of the new committee?

[Laskorin] To organize the "Eco-Black Sea-90" expedition. This expedition is part of the long-term Danube River-Black Sea-Mediterranean "Ecoforum" project. The Bulgarians brilliantly completed the first such expedition with a ship which sailed up the Danube River. Now, starting with 1 October, the Soviet scientific vessel "Akademik Vernadskiy" will be sailing on the Black Sea from Sebastopol to Istanbul. On board ship there will be 120 scientists not only from all countries bordering the Black Sea but also from the United States, France, Italy, the Netherlands, Yugoslavia, and other countries. Scientific conferences and meetings with participants in ecological movements and municipal authorities are planned for Odessa, Constanta, Varna, and Istanbul. Incidentally, V. Simonenko, the mayor of Odessa, has issued invitations to the mayors of all major Black Sea cities. As the people of Odessa claim, not without reason, this will be the first meeting of its kind in history. The need for it is obvious, for bells warning of ecological troubles are ringing in a number of settlements along the Black Sea.

Discussions will be held aboard the "Vernadskiy" on the results of the maritime expeditions conducted in the summer (the Soviet and the Bulgarian) and a land expedition along our coastal line. The Soviet Peace Foundation is financing the "Eco-Black Sea-90" project.

'Noosfera' Organization Leader Explains Ecological International Goals

91WN0036C Moscow PRAVDA in Russian 9 Sep 90 Second Edition p 2

[Interview with Oleg Sergeyevich Khabarov, head of the "Noosfera" Intersectorial Engineering-Creative Application Association, conducted by Yu. Shabanov: "The Knights of the Green Cross"]

[Text] His name is known not only on the ground but also in the skies. Oleg Khabarov, head of the "Noosfera" Intersectorial Engineering-Creative Application Association, is patching, with his colleagues, as has been frequently described in the press, ozone tears. Back on firm grounds, he writes poetry in praise of the Orthodox Church. His collection of poems entitled: "Resurrection," which he wrote and published jointly with the Moscow Patriarchate, shows his ache for our insulted spirituality and is a prayer for the moral cleansing of man.

Who is Oleg Khabarov? A poet and an engineer and author of about 100 patents and authorship certificates dealing with ecology, and a Christian in the true meaning of the term. His thoughts are about eternity and the permanent values of man and his actions deal with earthly concerns. It is no accident that ecology has become one of his main concerns. He considers the harmony between nature and the animate world inhabiting it as the path to spirituality. He not simply is aware of but tries to create such a harmony. His new idea has the same purpose. The "Noosfera" Association became the organizer of the Ecological International and drafted the program and bylaws of this international association.

[Shabanov] Unless I am wrong, Oleg Sergeyevich, your intention is to create something like an international alliance between the green cross and the crescent. But does this make any sense, considering that in virtually every country and, in our country also in each rayon, there is a "Green" movement and that ecological problems vary from one area to another?

[Khabarov] Yes, the problems may be different. I am referring to specific problems. However, there also are common, global problems which cannot be resolved without unified action. In this case we must display a universal human will. I am speaking of ecological catastrophes such as the thinning of the ozone layer and the pollution of the air and water basins. Currently, according to scientific studies, the ozone layer over our planet has lost 4 percent of its thickness. According to projections made by foreign scientists, 50 years from now, given the same pace of development of machine technology, it will lose 20 percent. This will mark the beginning of the death of mankind, growing like an avalanche.

Actually, one of the most terrible enemies of the ozone layer are the chlorofluorocarbons, i.e., freons, which are being produced in huge quantities in various countries. The demand addressed to the industrialists to stop the production of freons and to find substitutes for them were included in the Montreal Protocol and the Vienna Convention for the Protection of the Ozone Layer. It is on this matter that the people of goodwill and all "Green" movements must unite in order to stop the ecological suicide which, alas, is being committed by our superindustrialized world.

[Shabanov] To the best of my knowledge, this year the creation of an international service for ecological mutual aid was announced at a constituent congress in Geneva. Now we have yet another one....

[Khabarov] In Geneva it was a question of creating such a service on a governmental level, on an intergovernmental level. We are creating it on a nongovernmental basis, i.e., on a public basis. This will be a broader movement and, to a certain extent, an alternative movement. In short, it will be something like a worldwide people's ecological parliament. Our draft program stipulates that "the Ecological International is a planetary movement of mankind, aimed at the prevention of a global ecological crisis." It will be an alliance of the progressive forces in the civilized world, which are prepared to participate in practical terms in the efforts to save life on earth from the ecological crisis.

[Shabanov] You mention practical actions by the Ecological International. How do you see them?

[Khabarov] Above all, through the unification of the residents of our planet for purposes of social action. This may influence governments and industrialists to end the use of polluting technologies and the production of harmful substances which are polluting the water and the air, and thus destroying the green lungs of the earth and its animal world.

We are totally fed up with the promises made by technocrats and politicians to develop wasteless technologies and closed production cycles. To begin with, at best such promises turn into halfway measures; second, with an uncontrolled machine civilization, any, even the most advanced technology, creates a threat. For that reason, the end objective of our activities is a conversion from uncontrolled-machine to a controlled biotechnological type of development of civilization.

[Shabanov] When will this take place, Oleg Sergeyevich? Today, specifically, what could your association do to prevent the sliding toward an ecological catastrophe?

[Khabarov] This could include international meetings, marches, and acts of civil disobedience or anything which could influence those who remain indifferent to the suffering caused to nature....

[Shabanov] Indeed, your statements are depressing. The people are holding meetings but most remain indifferent. Furthermore, they have become fed up with militant dilettantes who control some "Green" meetings. Without analyzing the essence of the problem, they claim one thing: close down and not build projects in our country. Occasionally, self-seeking people rise on the crest of such a wave to attain political heights as well.

Here is an example. A garbage burning plant functions in Biryulevo, on the edge of Moscow. It uses imported equipment. This is the cleanest enterprise in the rayon. However, even there, there are emissions not because of the imperfect technology but because such technology is being violated. For example, the garbage must be sorted before burning yet it is burned without it, following the Russian "deep thought" that this will be good enough.

On the eve of elections for the local soviets, some candidates called for closing down the plant and thus score points.

[Khabarov] I too am against militant amateurs. One should promote not the closing down of the plant but the efficient observance of technologies and use of public control. It is precisely as such—as sensible and lacking group egotism—that I conceive of international social ecological actions and, naturally, this applies to global problems as well. For example, a global reserve of fresh water could be created by preserving the purity of Lake Baykal.

And is the elimination of nuclear weapons and, in general, the total conversion of the military-industrial complex in all countries not the most important task?

One of the aspects of our joint activities is the ecological aid to be given to areas in difficulty, which are on the brink of ecological catastrophe, and to countries which are by themselves unable to cope with this trouble.

[Shabanov] How?

[Khabarov] By supplying them with clean technological systems, providing independent ecological expert evaluations, and, finally, finances. We are planning the establishment of international foundations which would finance long-term international aid programs. The activities of the Ecological International will be quite varied but, as a whole, aimed at the preservation of the environment and the prevention of sliding toward the ecological precipice to which the train of contemporary civilization is taking us. Our gates will be open to anyone who shares the ideas of the "Green" movement, regardless of nationality, religious beliefs, social status, and outlook.

In our country we have the support of the Soviet authorities, church leaders, and many newly-established public movements and parties. We are meeting with understanding abroad as well. Our immediate task is to hold a consultative roundtable with the public of Union republics and like-minded people abroad. By the end of the year we intend to convene an international constituent congress of the Ecological International, at which we

shall definitely come out with a program, bylaws, and plans which were published in the Greenpeace Bulletin, and with a structural organization. I hope that our movement will have a great future and that the green cross on our flag will have a mission just as noble as the Red Cross has on earth, i.e., the mission of ecological charity.

UN Committee Adopts Resolution on Chernobyl Aid

PM1012145790 Moscow IZVESTIYA in Russian 7 Dec 90 Union Edition p 4

[IZVESTIYA correspondent A. Shalnev report: "UN Resolution on Chernobyl"]

[Text] New York—Belorussia is prepared to seek a qualitatively different socioeconomic status within the UN than the one it currently holds—namely, the status of a developing country. This will enable it to count upon active assistance in solving its problems, primarily those resulting from the Chernobyl tragedy.

Belorussian Foreign Minister Petr Kravchenko told me about this during our conversation a few minutes before the draft resolution on international cooperation to alleviate and overcome the effects of the accident at the Chernobyl Nuclear Power Station was unanimously adopted at Wednesday's sitting of the UN General Assembly's Second Committee. The resolution must now be ratified by the full membership of the General Assembly, and this will take place within the next few days.

One of the main clauses in the resolution, which was sponsored by a record number of countries—120—contains an appeal to the international community to make voluntary contributions in order to boost the regular UN budget resources being used to soften the effects of the Chernobyl disaster. In essence, the issue at hand is the creation of a kind of Chernobyl fund, and, as far as I understand it, one of the UN secretary general's deputies will be tasked with coordinating its activities.

Significant though this resolution may be, its adoption is but a small step: The main task is just beginning. The main task being the organization of voluntary contributions which, as the Belorussian minister told me, would have to run into tens of millions of dollars.

This is undoubtedly a difficult task. One of the complexities resides in the fact that Belorussia's status is the same as that of the Soviet Union as a whole—a great power which should really be giving help to others rather than awaiting others' help. Hence Minsk's intention to change its status, although this, as Petr Kravchenko admits, is likely to take several years.

Meanwhile, the question of eliminating the consequences of the Chernobyl disaster has already been guaranteed a place on the agenda of the next, the 46th, General Assembly session. The next session will sum up the results of the work done in the year since the adoption of the current resolution and will determine the next stages. From the Belorussian minister's point of view, "it is very important to discuss the Chernobyl question at the next and, we hope, subsequent sessions. It is important because the international community's attention will remain continually focused on the issue."

In other words, it is unlikely that, having adopted the resolution, the United Nations will soon thereafter shift its attention to other matters.

Literally as soon as the voting in the Second Committee had finished, it became known that Japan is prepared to send medical equipment worth approximately $20 million to Chernobyl. True enough, this will be done along WHO lines and is not directly linked with the resolution which has just been adopted.

Chernobyl Union Holds Congress in Bryansk

LD0912143190 Moscow TASS in English 1412 GMT 9 Dec 90

[By TASS correspondent Yuriy Lodkin]

[Text] Bryansk December 9 TASS—Over 150 delegates from 48 Russian cities are taking part in the republic congress of the Chernobyl Union. The congress opened here today.

Delegates include participants in cleaning the aftermath of the Chernobyl disaster and people living in territories inflicted by the disaster and nuclear arms tests.

Bryansk, the administrative centre of the region bordering on the Ukraine and Belorussia, is the epicentre of the area in the Russian Federation hit by the Chernobyl disaster. Some 50,000 people in the region live on lands contaminated with radiation. Twenty-five per cent of them should be moved to other places of residence.

"We aim to protect the rights of citizens who fell victims to radiation, and do everything possible to prevent the repetition of such a disaster," Chernobyl Union Executive Committee President Lev Khitrov told TASS. "We are planning to establish close ties with similar foreign organisations."

The congress is expected to adopt the union's rules and elect its managing bodies.

Chernobyl Commission To Name 'Big Shots' Responsible

LD0612180790 Kiev International Service in Ukrainian 2200 GMT 5 Dec 90

[Excerpts] The parliamentary commission for investigating actions of officials linked with the Chernobyl disaster met today between morning and evening sessions.

Volodymyr Yavorivskiy, the commission's chairman, told our correspondent:

[Begin Yavorivskiy recording] I would like to focus on two points. First, as the commission's chairman, I am concerned over the fact that already I am beginning to feel that certain persons would like to clip our wings, to narrow the commission's terms of reference. Still, the commission has managed to complete the first part of its work, that is, to establish purely technical causes for the disaster. [passage omitted]

I can say today with all certainty that, proceeding from the technical data we have, the real culprits are not those who are serving their prison terms—for example, Bryukhanov—but those who enjoy freedom, some of whom have been pensioned off or elbowed into a protective shade. They include two persons who played the major roles in designing and structuring the RBMK-1000 reactor. They are Aleksandrov, former president of the USSR Academy of Sciences, and Academician (Salezhad). We have at our disposal the undeniable facts testifying that the reactor was designed so that it would, sooner or later, in lesser or greater degree, lead to a disaster.

More difficult is establishing the behavior of various officials. This part of the investigation has just started. The commission's mood is resolute. As its chairman, I would like to assure all electors and listeners that nothing will stop us in naming all those—at least all big shots—who silenced evidence and cultivated lies and who tried to conceal the real causes of the disaster. [end recording]

Ukrainian Commission Studies Chernobyl Effects

LD1112142790 Moscow TASS International Service in Russian 0636 GMT 11 Dec 90

[UKRINFORM-TASS correspondent Aleksey Petrunya reports]

[Text] Kiev, 11 Dec (TASS)—A decision has been taken to submit for examination by the Ukrainian parliament in the near future draft laws on the status of persons who suffered as a result of the accident at the Chernobyl Nuclear Plant, on the status of the ecological disaster zone, and on a blueprint for safe habitation in areas contaminated by radiation. On Monday the health commission of the republic supreme soviet instructed the Ukrainian government to elaborate the drafts.

It was noted at the session of the commission that as a result of the Chernobyl disaster there are still about 1.5 million people remaining under the direct influence of radiation, of whom 460,000 are children. Since the accident 93,500 people have been evacuated from dangerous areas, and it is planned to resettle a further 40,000. A complex of operations for decontaminating the territory has been carried out, a network of special medical establishments has been set up, and a program for the medical supervision of the population's health is being implemented. As a result it has proved possible to halve the actual influence of ionizing radiation on people.

However, the participants in the session stressed, research has shown that the situation in the areas of radioactive contamination remains difficult. The state of health of people who have suffered from radiation is deteriorating. As compared with 1988 the overall sickness rate among them has gone up by 45 percent, and mortality by 25 percent. There has been a particularly sharp rise in the number of such illnesses as diseases of the blood and of the blood-producing organs, hyperplasia of the thyroid gland, and various disorders of the endocrine system.

WHO Center in Obninsk Collecting Data on Chernobyl, Chelyabinsk Victims

LD1012230190 Moscow Television Service in Russian 1800 GMT 10 Dec 90

[From the "Vremya" newscast]

[Text] An international radiation medicine center under the aegis of the World Health Organization has been set up in Obninsk on the basis of medical radiology. Its aim is to study the cleanup of the Chernobyl disaster.

[Correspondent Prokofyeva] The scientists of the Institute of Medical Radiology in Obninsk, together with specialists of the Ministries of Health of the USSR, the Russian Federation, the Ukraine, and Belorussia, and doctors of oblast and rayon hospitals, have examined groups of all those affected during the Chernobyl disaster. The result is a large-scale program to set up a medical register. Data has been gathered on 531,000 persons. Medical specialists believe that, to date, all those who received a dose of radiation have been taken into account. The data are kept on magnetic tapes. An information retrieval system makes it possible to gain information on every casualty. Those who participated in cleaning up the aftermath of the disaster are specially monitored by the doctors. There are 87,000 of them. According to the scientists' data, the incidence of illness in this group has increased. Whereas, immediately after the accident, 22,000 people were considered ill, now the figure is 33,000. Among the victims, 16 percent are children and five percent adolescents.

Chernobyl left the greatest trace in Gomel, Mogilev, Kiev, and Chernigov Oblasts. You can see them now on this map. [video shows computer screen showing map] The spread of radioactivity and illness is shown. As you can see, the number of victims was spread between the three republics which experienced the consequences of Chernobyl in the following way: the Ukraine: 46 percent; Belorussia: 28 percent; and the Russian Federation: 18 percent. [video shows diagram showing more precise figures: Ukraine: 46.5, Belorussia: 28.3, RSFSR: 18.4, with 6.8 percent for other areas]

[A.F Tsyb, identified by screen caption as academician of USSR Academy of Medical Sciences] The institute's scientists have participated, over the last two to three years, in a whole series of studies of the ecological

situation and the medical-biological situation in Semipalatinsk, in Chelyabinsk, and these are also problems of radiation medicine. In Chelyabinsk Oblast, as a result of the activity of the well-known Mayak Production Association, there have been three radiation emergencies. All in all, taking Chelyabinsk and the territory of this enterprise itself and in the region surrounding its activity, at present, there is radioactive waste with an overall radioactivity of about 1 billion curies in the rivers, lakes, and swamps.

[Prokofyeva] This is the first time this figure has been heard. Until now it has been secret. The results of the work by the commission of scientists have been handed over to the USSR Supreme Soviet.

Delays in Resettlement of Chernobyl Population Noted

LD0812160890 Moscow TASS International Service in Russian 1012 GMT 8 Dec 90

[Stanislav Volnyanskiy, UKRINFORM-TASS correspondent, reports]

[Text] Kiev—The decisions by the Ukraine government on resettling inhabitants from the populated areas within the higher radioactive contamination zone are far from being fully implemented. This is the assessment of the republic's Council of Ministers Presidium following a sitting devoted to examining the implementation of these important decisions.

It was noted at the sitting that this year it was envisaged to resettle 4,910 families to ecologically clean areas, or 15,000 people from 14 populated areas of the Zhitomir and Kiev Oblasts with the highest level of contamination. It was planned to build especially for this purpose around 2,000 country-style houses, 950 multistorey apartments, and to reserve 2,000 apartments being built in the capital and the oblasts of the republic. Meanwhile, only 1,226 individual houses and 114 apartments have been commissioned. A considerable amount of the housing which has already been built cannot be commissioned because the public utilities are not ready for operation.

The Presidium has ordered the appropriate ministries and departments and the Kiev and Zhitomir Oblast Soviets of People's Deputies to guarantee before 15 December the commissioning of housing and engineering facilities constructed for citizens to be resettled. A number of measures have been outlined in order to guarantee the resettlement program in 1991.

Radiation Dosimeters Not on Sale as Promised

LD0212203290

[Editorial Report] Moscow Television Service in Russian at 1530 GMT on 2 December, in its regular "Vremya" newscasts, broadcasts a two-minute announcer-introduced report on the fact that there are no radiation dosimeters to be found on sale in the USSR, even though promises were made in the press to the effect that by the end of the year they would be available in every shop. According to official data, 20 enterprises have started manufacturing dosimeters for retail sale, and 15-20 types are to be produced.

Correspondent G. Klimov reports from the Elektron Works in Dnepropetrovsk Oblast, where meters for measuring ionizing radiation are in production. Deputy Chief Engineer Petrenko explains that every instrument produced has to be tested in a gamma ray field of up to 400 Roentgens per hour. Over video of some of the instruments in production, and of assembly workers assembling instruments, Klimov says that had such instruments been available, many cases of real sickness and of the new disease of radiophobia could have been avoided. The Sim dosimeter costs 50 rubles; from next year, Elektron will be manufacturing the Bella dosimeter, shown on screen, costing R97. Production of a whole series of dosimeters is planned, including some for installation in motor vehicles. The studio announcer comments that the reportage does not answer the question of when people will actually be able to buy these in the shops: there is a need for 1.3 million meters.

Official Updates Status of Foodstuff Radioactive Contamination in Ukraine

91WN0068B Kiev PRAVDA UKRAINY in Russian 24 Oct 90 p 3

[Interview with Professor Vladimir Ivanovich Smolyar, doctor of medical sciences and director of the UkSSR Ministry of Health's Research Institute of Nutrition Hygiene, conducted by Ukrainian Information Agency correspondent D. Kiyanskiy: "Nuclides, Away From the Table!: The Source of Polluted Foodstuffs That Get Into Kievites' Diets"; date and place of interview not given]

[Text] **According to a report by scientists who studied mushrooms following the accident at the Chernobyl Nuclear Power Station, they proved several times more contaminated by radionuclides than they had prior to 1986. Some news! those who have read these lines might think. The newspapers have repeatedly reported such facts already. Nonetheless, it really is surprising news: the place in question is the United States of America. Yes the Chernobyl disaster is global in scope. But, of course, its strongest impact has been on the "quality of life" of the population of the oblasts of Ukraine, Belorussia and Russia that suffered the disaster. Which products are we eating today, four and a half years after Chernobyl? How can the quantity of radionuclides in our diet be reduced? Professor V.I. Smolyar, doctor of medical sciences and director of the UkSSR Ministry of Health's Research Institute of Nutrition Hygiene, talks about this to a Ukrainian Information Agency correspondent.**

[Kiyanskiy] Today many people are worried about the quality of milk, meat and vegetables. I would like to get the latest information.

[Smolyar] Most unfortunately, right now, in October, there is still no information for the first half of the year. The reasons are the very simplest—complacency and our general disorderliness. Nonetheless, research done in 1989 indicates that during the time that had passed since the accident the level of cesium in foodstuffs had become substantially lower. The explanation is that at first contamination was on the surface, while in subsequent years radionuclides have entered plants primarily through the roots.

If you take foodstuffs on the average throughout the republic, right now their level of contamination is from two to four times as high as it was before the accident at the nuclear power plant (let me parenthetically note that, from the standpoint of the temporarily allowable level, it may be even 100 times as high, but one must not forget that we are talking here about norms for an **emergency** situation). The cleanest foodstuffs today are in the republic's southern oblasts. In the central and northern oblasts, contamination is four to six times the pre-accident level, while in the eastern oblasts it is three to four times as high. But I emphasize: on the average. As for individual foodstuffs, for example, mushrooms in Ukraine's forest zone remain 100 times more contaminated than before the accident. Moreover, Polish mushrooms and butter mushrooms accumulate the most radioactive substances. They are followed by chanterelles, birch mushrooms, edible boletuses and, finally, honey agarics.

Lately the newspapers have carried maps of radioactive contamination of the republic's forests. But even in places where consuming the forest's gifts is not forbidden, I nonetheless advise first boiling mushrooms two times for 10 minutes each, and pouring off the broth, before using them in prepared dishes. And I do not recommend gathering forest berries. In general, berries have proved more contaminated than fruits. That is due to their specific biological characteristics and their closeness to the soil.

[Kiyanskiy] In that case, what should one do with potatoes?

[Smolyar] Well, first of all, they are relatively clean. Moreover, at least half of the radionuclides are transferred to the water during boiling. Therefore, for soup it is best to first boil potatoes (as well as beets, carrots and cabbage) five to 10 minutes, and then to use fresh water.

[Kiyanskiy] Vladimir Ivanovich, speaking of food, we started with mushrooms. Shouldn't we perhaps return to more essential foot—meat and milk?

[Smolyar] Fortunately, throughout the republic as a whole, milk has become less contaminated: from 500 to 600 times less, compared to the end of 1986. Meat today is 125 times less contaminated.

[Kiyanskiy] Nonetheless, as you have already mentioned, even now they contain several times the amount of nuclides as before the accident. Just what were they like then, four years ago?

[Smolyar] Very contaminated, I think. Such figures were secret at that time.

[Kiyanskiy] All the figures cited above were calculated for cesium, yet there are also iodine and strontium.

[Smolyar] The iodine, fortunately, decomposed rapidly. As for the strontium, although there was much less of it than cesium in the fallout, a certain amount of it nonetheless did end up in foodstuffs, especially in the republic's central and northwestern regions. Therefore, that element should not be discounted, either, despite the fact that the methods for determining it are fairly labor-intensive.

[Kiyanskiy] As it has recently become known, the environmental situation that has developed in Kiev since the accident at the Chernobyl Nuclear Power Station is much worse than was previously thought. In this connection, the products that are being shipped into the city are obviously, by and large, uncontaminated, aren't they?

[Smolyar] I would not like to distress Kievites, but since you have mentioned the subject, we should dot all the "i's." When I first saw the results of research conducted by our institute and the city's sanitation and epidemiological service, I simply could not believe my eyes: I asked that it be repeated. Unfortunately the results were the same the second time. So, here are the data obtained in September- October. In 1989 Kievites consumed meat that was 47 times as contaminated, milk that was 44 times as contaminated, and vegetables that were 17 times as contaminated as before the Chernobyl disaster. Whatever you say, the situation is extremely alarming. It turns out that in the capital, whose residents have, so to speak, drunk fully from the Chernobyl cup, foodstuffs are much more contaminated than in other cities. I think that the Kiev City Soviet and the republic government should take the most urgent measures.

[Kiyanskiy] But why did that happen? What are the reasons for the situation that has developed?

[Smolyar] The first and, I dare say, principal one is complacency. Lately radiation monitoring has greatly deteriorated—both at food- industry enterprises and, especially, at markets. Yet Kiev is quite near to Chernobyl. Meat, milk and vegetables from strictly controlled regions can (and are!) shipped into the city. That must be constantly monitored. The supplying of the city must in no case be allowed simply to take care of itself. Today Kievites more than ever before need uncontaminated foodstuffs produced in Ukraine's southern oblasts.

[Kiyanskiy] The newspapers once published recommendations by the American doctor R. Gale about how people should eat following the accident. Some of the advice differed somewhat among different publications.

To what extent to R. Gale's recommendations accord with our own dietitians' viewpoint?

[Smolyar] By and large, they accord. However, one must take into account the fact that they were given immediately after the accident. Now, four and a half years later, some of the advice looks dubious. Why, for example, take one or two tablets of activated charcoal before eating? After all, it has now been proved that it does not remove radionuclides. It is incomprehensible why we would now need flax broth. The recommendation to drink a little red wine before dinner draws no objections in and of itself (if, of course, you can buy it somewhere). Such beverages really do contain a certain amount of polyphenols and anthocyanins, which may remove radionuclides from the organism. Yet there are much more of those useful substances in tea, dark varieties of grapes, pomegranates, black rowanberries and oatmeal.

R. Gale recommends eliminating beef, boiled eggs and jelled meat or fish from the diet. As for the jelled meat or fish, I probably agree with him, but beef is one of the basic and most valuable food products. It is true that it contains several times the amount of radionuclides as pork, say. But the amount of them can be reduced through special preparation. As for hardboiled eggs, the shells of which contain a very insignificant amount of strontium, that method of cooking allows one to guard against salmonella.

I fully agree with the American doctor concerning carrot and tomato juices which contain carotene; garlic and horseradish, which are sources of vitamin C, which increases the organism's resistance; and grated radishes, which contain many pectins. But I want to emphasize that all such advice makes sense only given a rational diet. Without a sufficient quantity of complete proteins, vitamins and mineral salts, their effect will be extremely minimal.

[Kiyanskiy] R. Gale's recommendations are good in that they are specific, simple and, therefore, comprehensible. Isn't it time for our specialists in nutrition to finally speak their piece, taking the present situation into account? And not in general terms, as is often the case, but quite specifically, by putting out special instruction booklets.

[Smolyar] Yes, that is essential. Our institute is presently preparing a popular brochure that will be published in a mass printing. And one more thing. The union-republic program for 1991-1992 of urgent measures to eliminate the consequences of the accident at the Chernobyl Nuclear Power Station sets the task of arranging the industrial production of products containing substances that accelerate the removal of radionuclides from the organism. They include special baked goods and pastries, beverage concentrates, and canned goods based on beets and carrots with carotene and pectin additives. The UkSSR Ministry of Health's Research Institute of Nutrition Hygiene is in charge of this problem. More than 80 the republic's enterprises will take part in carrying out the project.

Trainload of Four-Year-Old Radioactive Meat Found in Belorussia

LD1012130990 Moscow Domestic Service in Russian 0549 GMT 10 Dec 90

[Text] [Announcer] The situation which we are going to tell you about now can only be described as extraordinary. A half-forgotten trainload of radioactive meat is standing at Iolcha Railway Station in Gomel Oblast. Listeners to "Mayak" Radio telephoned to express their outrage when this news was reported. The kindest words they had for it were: barbaric and terrible. People want to know whether this is actually true, and, if so, how such a thing could happen. Let us try to get answers to these questions by going over live to Minsk where Petr Makritskiy is on the line:

[Makritskiy] Good day.

[Announcer] Hello.

[Makritskiy] In front of me I have a photograph of the ill-starred train. It consists of 29 refrigerated cars containing 518 tons of radioactive meat. It has been standing at Iolcha Railway Station since 4 April. Four years ago these trucks were despatched to Georgia from the Gomel and Kalinkovichi meat combines. But after a nomadic journey round the country, they arrived back where they started.

[Announcer] Everything about this story is amazing—the very fact that the train spent four years travelling around the country, the very fact that the meat survived its four-year journey. Is that not so? But what were the circumstances surrounding the dispatch of the contaminated meat?

[Makritskiy] Well, according to various official sources in our republic—and I rang round many of them, including the State Committee for Food and Procurement, the Council of Ministers, and Braginskiy Rayon Party Committee—there was nothing illegal about the dispatch of the meat. It conformed with VDU-86 in force at the time, in other words the level of radiation temporarily permitted in 1986. The meat was deemed to be fit for human consumption. Nevertheless, the consignees refused to accept it. That was when the train began its journey around the country. It seems that when a system of responsibility breaks down, such a game of ping-pong is possible. As a result, the train was shunted around from place to place.

[Announcer] I don't think this is a very funny joke, Petr.

[Makritskiy] No, it is not really very funny. Sad as it may be to consider and admit such things, it is a fact that our country is probably the only one in the world where such dire mismanagement is possible.

[Announcer] But there must have been some reasons for acting this way and, above all, the documents must have been signed when this frightful cargo was dispatched and when the time came to bury it. Is that not so?

[Makritskiy] Yes. The so-called VDUs, which I have already mentioned, have become considerably more stringent over the years. However, the problem of building a tomb has still not been settled. It is certainly difficult to justify such a delay. There has been so much correspondence on this subject within the central government, within the governments of the Ukraine and Belorussia. I suggest you listen to an authoritative voice: Viktor Nikolayevich Burovik, first deputy chairman of the Belorussian state committee responsible for dealing with the aftermath of the Chernobyl disaster, who is in our studio.

[Announcer] Hello, Viktor Nikolayevich.

[Burovik] Good morning, Moscow. Good morning, listeners. I am quite prepared to confirm the information which your correspondent has just given you. This information has been published in detail in our republic press. The fact is that over 20,000 tons of contaminated meat, whose radioactivity exceeded the level permitted in 1986, which you have just heard about from Petr Fedorovich, was indeed produced in our republic during 1986, immediately after the accident. On instructions from various all-union bodies, this meat was dispatched to various regions of our republic, including the 518 tons which, as you have heard, went to Georgia.

[Announcer] Is this train guarded at the moment? I believe that reports in the republic press are saying that seals have been broken on a number of cars, the doors have been opened, and the meat is actually being sold at nearby villages. After all, meat is in short supply.

[Burovik] It goes without saying that I...[changes thought] I would like to answer your question this way. Alas, there is no complete guarantee that the meat is being guarded properly, any more so than the entire closed zone, as the 30-km zone surrounded by barbed wire is known. Part of this zone lies within the republic, and part lies within the Ukraine. In fact, the place where the train is now standing is located within this very zone. Unfortunately, the entire zone is guarded very, very badly. Therefore, I cannot give you an absolute guarantee that this trainload is being guarded properly. As far as the other part of your question is concerned, the claims that this meat is being sold in nearby villages, i think this is an exaggeration—and this is why: The standards in force in our country—and indeed common sense—dictate that meat which has been in a frozen state for over a year is in principle no longer fit for human consumption. This is because its marketable state—its biological state, let's say—has changed. The meat we are discussing today has been unfrozen and frozen again many times during the many years it has now spent travelling around the country. So, you will appreciate what kind of state it is in now.

[Announcer] Yes. If this is so, one naturally wants to know when a tomb will be built for this product, if one may call it that.

[Burovik] Yes, that's a very good question. It has been under discussion ever since the train arrived back in the republic on 4 April of this year. That was when the argument about who should build the tomb started. The well-known Pripyat Scientific Production Association didn't want to build it itself. The Gomel Oblast Executive Committee insisted that the Ministry for the Nuclear Power Industry should take some part in the work, but the latter did nothing about it. Unfortunately this wrangling dragged on.

The situation as it stands today is as follows. The client has been clearly defined. It is the agricultural industry committee of Gomel Oblast Executive Committee. Land has been set aside for the construction of this burial site which, I stress, is a special one. It will be built within the 30-km zone. The main building contractor will be the Pripyat Scientific Production Association.

There is something else I would like to add. As you will recall, at the very beginning of our conversation I mentioned that over 20,000 tons of contaminated meat was produced in the republic as a whole during 1986 alone.

[Announcer] Yes.

[Burovik] More rigorous standards have already been set and, as a result of measures which are being implemented, the amount of contaminated meat has been steadily falling. In spite of all this, about 30,000 tons have been produced in the republic over the last four-and-a-half years. Stocks of this size have built up since then. But, according to the figures for the first 11 months of this year, only 80 tons has been produced. So, the difference is substantial, as you will understand. Nevertheless, the problem remains, because this meat has been lying at a number of cold stores in our republic since 1986. It is waiting to be buried.

[Announcer] Well, judging by the approach you are adopting today, this problem can be resolved. Let's hope that this will happen in the near future.

Chernobyl Association of Riga Founded

LD1012191390 Riga Domestic Service in Latvian 1830 GMT 8 Dec 90

[Summary] In the elimination of the consequences of the Chernobyl accident, 5,500 persons from Latvia—more than 2,500 of them from Riga—participated; and today the founding conference of the Chernobyl Association of Riga was attended by 220 of these "Chernobyl people." (Janis Mustis) was elected chairman of the association.

Energy Official on Nuclear Power Industry, Safety Issues

LD1612132390 Moscow Domestic Service in Russian 0900 GMT 16 Dec 90

[Interview with Professor Nikolay Sergeyevich Babayev, chief learned secretary of the Ministry of Atomic Energy and Industry, by correspondent Andrey (Vydutov); place and date not given—recorded]

[Text] Today is Power Workers' Day. As you know, for a long time the inhabitants of the Transcaucasian republics, North Caucasus, the Ukraine, the Far East, and other regions have been experiencing a shortage of electricity. To a great extent this is occurring because many nuclear power industry projects due to be commissioned have been halted and scheduled for redesignation. But what if, say, there is a cold winter and the pace of electricity consumption rises,—what then? Our correspondent Andrey (Vydutov) met with Professor Nikolay Sergeyevich Babayev, chief learned secretary of the Ministry of Atomic Energy and Industry.

[Vydutov] Over the past 10 years an enormous potential has been created in the nuclear power industry, but the Chernobyl accident showed that our stations are unreliable, and after Chernobyl our attitude toward atomic energy cooled so much that the construction of atomic power stations has been virtually halted at the present time. People are rightly demanding safety.

[Babayev] Stemming from our firm conviction that increased wellbeing in our country is connected with a constant increase in the generation of electricity, we do not see an alternative at present in the growth of electricity capacity to partial atomic power operations. Those measures that have been carried out at the existing atomic power stations already show that the repetition of such a tragedy is impossible. We realize that public opinion is serious and that to a certain extent it can determine power industry policy, too. It is, of course, a very hard and difficult issue.

I recently arrived back by air from China. We are developing afresh our contacts on matters connected with atomic science and technology. China has decided to speedily develop its atomic power industry. Next year the first generating set will be commissioned. In 1992 the first set of another atomic power station will be put into service, and in 1993 there will be a third set. The buildup of capacities will be fast.

[Vydutov] In citing the example of China we are forgetting the fact that in our country technology can be operated in a very slovenly fashion as compared with, say, China, where people are accustomed to precision. What then is the degree of safety of our atomic power stations.

[Babayev] If one is to speak of the man-and-machine factor which is very important in the operation of complex technology, a very great deal is now being done. It includes the introduction into service of simulators on which specialists are being trained. There is also the introduction of checks on shift workers. A very great deal is at present being done to return once more to the high level of the previous standards of specialists working at atomic power stations and at atomic reactors. Another thing that was not previously employed in our country is an insurance system against the interaction between man and machine—so-called containment or the final cover. This is very important and it is now being introduced at all stations.

If I am to speak of my own point of view, then it is unequivocal. A big problem is approaching for mankind. It is caused by ecological trouble. There are no boundaries between states in this respect. It will be impossible for one state to be safe while another pollutes its environment. All the globe's atmosphere is unified. A fairly noticeable climatic change is already occurring at the present time. Therefore, in order to ensure the progressive development of our society we must (a) increase, of course, capacities and (b) we must be concerned to protect the environment and the atmosphere against all problems. If we continue to develop using the old organic fuel, there will be no reduction in the pollution. New alternatives need to be sought. The search is on, but at the present time the only alternative from my own viewpoint is atomic power engineering.

[Vydutov] Finland's atomic power industry is successfully operating our Soviet generating sets. Why is it that our sets are operated safely in Finland, while in our countries they are being operated with stoppages?

[Babayev] Well, there are several factors involved here. It is indeed the case that most stoppages are connected to some extent with the personnel working at the station and a lesser number of stoppages with the imperfection of equipment and some defective things that need to be redone. It involves modern electronics. It is no secret that in respect to up-to-date computer processes, up-to-date automation processes, and so on, we are lagging noticeably behind our Western partners, and the automated systems in use even at our atomic power stations are being converted with account being taken of advanced Western technology.

There are in this respect, of course, some difference. But again I should like to repeat the following thought—namely, that with the proper training of personnel and with the proper responsibility on the part of operators, all the problems that occur in our country could not happen. There is indeed the example of the Finnish power station. It is a question of work standards and production standards.

Construction of 'Most' Nuclear Power Plants 'Suspended'

LD0912171690 Belgrade TANJUG in English 1627 GMT 9 Dec 90

[Text] Moscow, Dec 9 (TANJUG)—The Soviet Union has suspended the construction of most of its nuclear power plants, the Soviet news agency INTERFAX reports today.

Search for new locations has also been suspended, along with the works on the plants in Nizhniy Novgorod (earlier Gorkiy), Rostov and Zaporozhye, although they were almost completed.

The main reason for the move is public pressure following the tragedy in Chernobyl in 1986, the agency says.

The Soviet Union has 15 nuclear power plants, whose aggregate output is 37,425 mw. Nuclear power accounts for only 12.5 per cent of the country's total power output.

Referendum To Decide on Chelyabinsk Nuclear Power Plant Construction

LD0612102990 Moscow TASS in English 0724 GMT 6 Dec 90

[By TASS correspondent Yevgeniy Tkachenko]

[Text] Chelyabinsk December 6 TASS—Councillors in the city of Chelyabinsk in the South Urals after heated debates on Wednesday decided to hold a referendum on the construction of a nuclear power plant in the area.

The construction had been stopped after fierce local protests.

Wednesday's decision does not accord with a recent resolution by Chelyabinsk's Regional Council, which called for the resumption of the construction work, provided the Soviet and Russian governments meet several conditions.

These conditions include compensating the population for losses from radiation, rehabilitating contaminated territories and financing the plant's construction by the state, rather than by local authorities.

The deterioration of the ecological situation in the region over the past few years and the consequences of the 1986 Chernobyl Nuclear Power Plant accident have turned the population against nuclear power plants.

Chelyabinsk Nuclear Power Station Planned

LD1012185490 Moscow Television Service in Russian 1530 GMT 10 Dec 90

[From the "Vremya" newscast]

[Text] Under the influence of antinuclear feelings, the construction and planning of nuclear power stations, with an aggregate capacity of more than 100 million kw, has been discontinued to date. This is understandable—the fear of Chernobyl is still alive. The direct losses resulting from this come to 5 billion rubles [R], but the situation is changing. Following long debates, a decision has been taken in Chelyabinsk to begin building the Chelyabinsk AES [nuclear electric power station].

[Correspondent] This is how the construction site looks today. Several years ago, at the demand of the public, all work here was discontinued. To date, expenditure on the project, preparation of the site, and the creation of a base for the building industry has come to more than R250 million. Throughout this period the project has been carefully analyzed, one after another, by numerous expert commissions, including independent ones. It would appear that they did not find any flaws, and yet construction was not resumed. Finding themselves at an atomic crossroads, the people of the Urals did not want to make a mistake. Now, while discussing immediate measures to revive the ecological situation in the region at one of their sessions, a majority of deputies in the Chelyabinsk Oblast Soviet—two-thirds—spoke in favor of the AES. [video shows the building site, model of future station, commission in progress; cuts to interview with Yu.Ye. Tarasov, director of South Urals AES and deputy of oblast soviet]

[Correspondent] Why has this decision been taken?

[Tarasov] The majority of deputies realized that there is simply no alternative to building an atomic power station here in the south Urals. Prior to taking such a decision, the majority of them visited the site. Lifting the veil of secrecy made it possible to study all the materials. This led them to an informed decision.

[Correspondent] So, if I have understood you correctly, work on your building site will very soon be resumed?

[Tarasov] No, there is simply no one to resume work on the AES site. Those forces which it had been planned to use—that is, military construction units, a large number on detachment—are simply not here today. Secondly, industrial construction must proceed strictly in parallel with the construction of social and communal facilities, with raising the living standards of the population in the surrounding area. There are no such resources at present. Another important aspect is guaranteeing safety. Clearly, the oblast will appeal to the president, to the government of the country, and the government of the RSFSR [Russian Soviet Federated Socialist Republic] to provide real assistance to a region that has been declared an ecological disaster zone.

Engineers Examine USSR Power Industry Situation

LD1212194790 Moscow Domestic Service in Russian 1600 GMT 12 Dec 90

[Report from Moscow by Valeriy Kiosa on USSR power engineering congress]

[Text] The congress will last for two days. Delegates plan to discuss three issues: the state of and prospects for the development of the industry, a new draft program for power engineering, and a draft law on electric power engineering. Traditionally, the congress started with reports. There have been many. The minister of the country's power engineering and electrification and heads of the USSR Ministry of Atomic Power Industry and the USSR State Planning Committee spoke.

The main conclusion is that our power engineering is in a state of precrisis, if not actually in a crisis. This is a harsh reality which we have to acknowledge. Instead of the expected 12 to 13 percent, power reserves amount to only 2 to 4 percent. No improvement is in sight. The growth of power consumption exceeds by about 20 percent the growth of capacity in the country.

The power engineers are far from the main culprits here. I will remind you about the numerous decisions on closing stations for ecological reasons or stopping construction work. The problem of atomic power engineering, and closing down or stopping the construction of these stations, should also be mentioned.

One cannot deny that power engineering is not the cleanest industry of our economy, but let us look at the facts. The decisions to close stations or stop their construction have led to a situation in which, in the near future, we will be short of about half of the total electric power we have now. It is easy to close down, but there is nothing to replace these stations with for the time being and nobody is making any proposals on this subject.

Estimates show that, in the near future, we will be able to provide for our power requirements primarily through hydroelectric stations and atomic stations. What if we do not use them? What do you think? How many of our Soviet republics are capable of providing their own electric power? It turns out that there are only three: Russia, Kazakhstan, and Turkmenia. Another republic, Azerbaijan, has a zero ratio; that is, consumption and production of electric power are practically equal. For all the remaining republics, this ratio shows a great shortage: They cannot provide themselves with power; hence the natural conclusion that was voiced at the congress. The country's single power supply system—which makes it possible to somehow make up for these shortages of electric power—is simply necessary, although its potential has been stretched to the limit. This is the principal conclusion from the reports. This is reality, however sad it might be.

Plan for Thermal Power Station Construction in Moscow Green Belt Criticized

91WN0049A Moscow TRUD in Russian 28 Oct 90 p 2

[Article by Yu. Sysoyev, member of the Moscow State Assessment Board, and L. Shekhova, Mossovet deputy: "The Green Belt Is No Place for a Thermal Power Station"]

[Text] During the impact assessment of the Severnaya TETs [Heat and Electric Power Station] project, planned for construction in the green belt near Moscow, the commission of 49 people was divided into two groups. The first was represented by leading officials of the USSR Minenergo and Mosenergo, which also made the decision to build it. The second was independent. As a result, two directly opposite conclusions were submitted to the Council of Ministers: it is easy to understand who sent precisely which.

However, the conclusion of the group of independent experts was immediately called unfeasible and even harmful. The Council of Ministers, having not refuted either conclusion, is now trying to create yet another commission, which will be instructed to advance "new ideas" on the progress of the project. It goes without saying, the most active role once again belongs to the inspirer of the project, Yu.K. Semenov, USSR minister of power engineering and electrification.

At a meeting this August with L.D. Ryabev, USSR Council of Ministers deputy chairman, it was noted: "...we must conduct a careful study of the thermal balance in the cities of Moscow and Mytishchi in 1991-1995 and in the period until the year 2000, and of the balance of electrical power in Moscow Oblast." In this regard, let us recall that the Severnaya TETs is being built on the basis of a resolution by the Union Council of Ministers: "On Measures for the Further Development and for Increasing the Reliability of the Moscow Power Supply System in 1986-1990," adopted six years ago. It calls for eliminating the heat shortage in a time period that has already expired. However, the city has managed very well in this period even without the Severnaya TETs. Apparently, first we should build the TETs, and later we should determine whether or not it is necessary?

Now, it has been decided to conduct an international impact assessment with the assistance of a foreign firm, operating within the framework of the joint Soviet-Finnish-West German enterprise "Ekologiya, Energiya, Inzhiniring [Engineering]." The estimated cost of this impact assessment is 50 million hard currency rubles. Are there really no knowledgeable specialists in Moscow itself? Or are their opinions simply inconvenient for the inspirer of the project? Meanwhile, the representatives of the foreign firm are interested in selling their catalyzers for cleansing exhaust gases of nitric oxides, and it is therefore easy to predict the results of such an impact assessment (the price of one catalyzer for a 250 MWatt block is 10-15 million hard currency rubles).

Moreover, in particular, the RSFSR Land Code, which prohibits the construction of a TETs in a green belt, is being violated. Its construction will cause a whole series of negative consequences. Implementation of the project will lead to the massive development of the green belt from Mytishchi to Dolgoprudniy. In practice, this means fulfilling the general plan for the development of Moscow and Moscow Oblast in the period until the year 2010, which a USSR Goskompriroda [State Environmental Protection Committee] impact assessment commission has already rejected. Finally, the TETs "entails" the construction after 1995 of the Rzhev water power development, the water for which will be taken from the Upper Volga. Considering that at the present time the balance of the Volga is negative, this will involve implementing yet another "project of the century"—redirecting part of the flow of Northern rivers into the Volga.

As everyone knows, the Mytishchi City Soviet passed a decision to halt the construction of the Severnaya TETs, which was supported by the Moscow Soviet, the soviets of the Babushkinskiy and Kirovskiy Rayons of Moscow, and the Kaliningrad City Soviet. On 12 March 1990, 112 USSR people's deputies sent an inquiry to N.I. Ryzhkov regarding the worsening of the ecological situation in Moscow and the Moscow area, the need to preserve the capital's forest and park belt, and on halting the construction of the TETs, along with an urgent request to start solving these problems and to name the parties guilty of "disrupting the USSR Council of Ministers resolution: 'On Measures to Preserve Losiniy Island [Elk Island Park]'." To this day, no response has been received.

Expressing the will of the voters (more than 300,000 residents of Moscow and the Moscow area signed a protest against this construction), people's deputies at various levels have declared: "No to the Severnaya TETs!"

Let us note that the most urgent problem in Moscow is pollution with nitric oxides, the basic source of which is power engineering. Meanwhile, not one of the 14 Moscow heat and electric power stations is operating within the permissible standards or even has somewhat realistic plans for achieving these standards. Therefore, construction of the Severnaya TETs should at least be substantiated by legal, ecological, and power and economic norms. Alas, this is not so.

Furthermore, the USSR Council of Ministers in practice has made financing available for a construction project without ecological expert analysis, violating its own resolution: "On Strengthening the Role of Impact Assessment for the Construction of Large National Economic Projects for Purposes of Preventing Negative Ecological Consequences." If the TETs is really necessary (which still remains to be proven), then at least it should not be built in the green belt, but a distance of 30-40 kilometers from Moscow.

Search for Clean Alternative Energy Sources Viewed

914E0032A Moscow PRAVITELSTVENNYY VESTNIK in Russian No 48, Nov 90 p 16

[Article by S. Borisova: "Optimism With 'A Spoonful of Tar'"; Subtitle: "Why There Are Few Ecologically Clean Energy Sources in the Country"]

[Text] **The serious ecological situation in many regions of the country and the growing exhaustion of irreplaceable fossil fuels urgently demand that new, so-called renewable energy sources be developed on a large scale. This includes wind, geothermal and solar energy, as well as energy produced by ocean tides. What is being done in our country in this regard?**

A government program has been worked out and is being implemented in Dagestan to use renewable energy sources in the republic's economy. In this area, Dagestan has surpassed all other regions and republics of the RSFSR.

I will begin this story of the program's realization with wind energy. First, people have used the energy of the wind since the most ancient times. Second, Dagestan is rich in this natural resource: experts have calculated that it amounts to over 550 billion kilowatt/hours per year (in electrical energy equivalents).

Perhaps only two or three local facilities resemble an ordinary windmill. The remainder are technical complexes with an unusual and complex configuration. The wind testing ground where they are set up is 1,000 meters above sea level, not far from the Chirkeysk GES [hydroelectric power station]. By order of the USSR Ministry of the Power Industry and Electrification, the "Dagenergo" Production Association is building here an experimental wind energy base.

"We are building installations while at the same time testing those already assembled with a total capacity of 200 kilowatts," explains the scientific director of the base, candidate of technical sciences M. Misrikhanov. "We are checking the operating and economic characteristics of models differing in design and even in operating principles, checking their durability and reliability. We will recommend the best models for serial production."

For example, the VL-2N 7.5-kW wind unit has already been tested and proven its worth: it is simple to manufacture, convenient to operate, and easily transportable. It is ideal for geological expeditions and shepherds. Its capacity is fully sufficient to provide heat and electricity to small farms. Undoubtedly, there will be a demand for it. But these low-power wind devices with local application are not the most important ones here.

"Already this year we will begin assembling two units with a capacity of 250 kilowatts each," stated the deputy general director of "Dagenergo," G. Gamzatov. "They have been developed and manufactured at our order by the "Yuzhnoye" NPO [Scientific Production Association] of USSR Minobshchemash [Ministry of General Machine Building]. Even larger units, of 1,000 kilowatts, are being made for us by the "Raduga" NPO of USSR Minaviaprom [Ministry of the Aviation Industry].

"The large wind electricity units being tested on our site will form the basis for creating the country's first experimental-industrial wind electricity station, or VES. The Kuybyshev branch of the "Gidroproyekt" Institute has already begun designing the 6,000-kW "Dagestanskaya" VES, which will be situated on the coast of the Caspian Sea not far from Makhachkala. This resort area is especially in need of ecologically clean sources."

At first, I thought of doing a small report ending on this optimistic note. But alas! A further acquaintance with the situation revealed the same notorious "spoonful of tar in a barrel of honey" which cannot be ignored.

It would seem there is no need to prove the vital importance of pressing the development of wind energy. But it turns out there is.

This is because the construction of the base and the testing ground is going very slowly. According to the design, the testing ground should be equipped with a modern laboratory facility with a full set of test benches and other equipment. It is supposed to be the test site for automatic equipment for controlling future large-scale wind assemblies, and for testing various auxiliary devices. Nothing of the kind yet exists, like much else in the design, although test runs of large-scale prototypes are not far in the future. And it is not the power engineers who are responsible for this. On the contrary, tests are taking place, results are being recorded and the base is being built exclusively due to their enthusiasm and ingenuity.

"Money to the wind." We are accustomed to this, meaning resources thrown away. But this phrase is taking on a literal meaning here: the wind energy specialists need centralized budget resources and a centralized supply of equipment and materials.

The sun, geysers, the tides... they are also today being put on the practical agenda as inexhaustible energy sources. Without question, their potential is astronomical. The USSR Ministry of the Power Industry and Electrification is carrying out a program for industrially developing them and putting them into the general "energy harness." The lead organization is the Krzhizhanovskiy State Energy Scientific Research Institute (ENIN).

The sun occupies a special place in this lineup. This energy ocean—even a small part of it!—would suffice to meet all of mankind's needs. If it weren't for the "but": sunlight falls unevenly, depending on the location, season, time of day and weather. This means that all these factors must be taken into consideration in searching for the optimal variant. Such a variant in our country, for example, could be the southern regions: Central Asia, the Transcaucasus, the Crimea. Say, remote animal breeding farms in the Central Asian republics (where the intensity of the sunlight is high and prolonged), huge semi-desert pastures needing irrigation, numerous salt-water lakes, reserves of underground mineral waters...

There are several hundred solar hot-water and heating installations currently operating in the country. The industrial development of flat solar collectors since 1984 has promoted this. In the last few years alone, designs of the Krzhizhanovskiy Institute have enabled the sun to begin "serving" the "Kastropol" retirement home in the Crimean, the "Chelyuskinets" sanatorium in Gagra, and sanatoria in the Dzhizak Oblast of Uzbekistan. The sun's energy in special furnaces can melt metal. It is used for purifying water. Solar energy has taken a firm place in agriculture: it is used to heat greenhouses and dry out products.

And I want to come back to Dagestan, where there is also experience of this sort. In the coastal and mountain regions here there are over 40 various solar centers (for hot water supply, drying fruits and growing seedlings, steam-curing concrete, heating bitumen, etc.). The "Dagenenergoprom" Production Association was created in this republic in 1989, which includes scientific research, design and production branches. There is extensive assembly here of solar collectors of existing modern design, and intensive work is underway to create a new generation of collectors and solar systems with enhanced technical performance and greater economic efficiency.

Scientists are constantly working to expand the range of solar applications. In 1987, the ENIN experimental base was put into operation in the Crimea for using solar energy. Equipment, components and designs for hot and cold solar supply are tested here. The base has a unique combined technological system: solar heaters paired with wall barriers. Recommendations will be worked out during the experiment for using this innovation in construction.

But energy engineers are also interested in a more fundamental goal: the sun's rays should also produce electricity on an industrial scale. At the end of 1986, the SES-5 went into experimental operation, a 5-megawatt (5,000-kilowatt) solar electricity station. This station, the country's first, has also been built in the Crimea. Its equipment has already been developed, which includes over one and a half thousand unique heliostats. The Crimean electricity plant has been providing electricity to the country's Unified Energy System for two years now. Unfortunately, thus far the cost of this energy is substantially above conventionally produced electric current. The ENIN is presently developing a fundamentally different design of a solar electricity station, and scientists promise that it will be much more economical.

Let's look further. The country has substantial experience in the use of underground heat in the economy. The hot underground sources of Kamchatka have been serving people for a long time. They heat greenhouses and provide the fish factory and residential buildings with heat and hot water. Medical facilities use them to treat patients.

And once again we cannot pass over Dagestan. For several years already underground heat has been used here to heat houses of the residents of Kizlyar, Izberbash and other cities, some 250,000 square meters in all. To this must be added over seven hectares of greenhouses and balneology in sanatoria and medical facilities. Thermal waters are used for communal household and industrial purposes. In the past five years, the use of underground heat has enabled the republic to save a total of some 300,000 tons of standard fuel units.

The use of this energy source is growing in the Caucasus, the Transcaucasus, Krasnodar Kray, and Siberia. An experimental facility is being developed to produce

electricity based on a system of underground forced circulation with a capacity of up to 1 megawatt; it will operate in Stavropol. Two small experimental electricity plants using underground heat have been in operation in Kamchatka for many years: Pauzhetskaya and Paratunskaya. Next in line is the country's first industrial geothermal power plant: the Mutnovskaya GeoTES in Kamchatka. The project is being carried out under the scientific direction of ENIN; the TES will have a 200,000-kW capacity. The design has already been worked out for building facilities at the geothermal reserve's site, and the design of the station itself is being completed. Technical assignments have been given to factories to manufacture the unique equipment: 30-megawatt turbines and separators.

But as with the use of solar energy, there are difficulties here as well. Underground sources carry many aggressive components to the Earth's surface. Hot rivers cause corrosion and salt deposits in pipes and equipment. Their high chemical activity poses complex technical problems for technicians. But even so, specialists believe that eventually geothermal electricity plants will be able to compete with fossil-fuel ones.

Finally, one other type of renewable energy: the tides, or "lunar" energy. The Kislogubsk Tidal Electric Power Plant [PES] has been successfully operating on the Kola Peninsula near Murmansk for some two decades. The design was developed in the "Gidroproyekt" Institute. The experience of its operation has made it possible to begin designing large-scale PES's. "Gidroproyekt" specialists are working out proposals to build high-power stations in the Mezensk, Tugursk and Penzhinsk Bays of the White and Okhotsk Seas.

So, science has already created the preconditions for wide use of ecologically clean energy sources. Their large-scale application requires coordinated action by the USSR GKNT [State Committee for Science and Technology], USSR Gosstroy [State Construction Committee], ministries and all interested government agencies.

Italian Firm Offers Anticorrosion Plan for Volga Power Station

PM0412104790 Moscow Television Service in Russian 1800 GMT 1 Dec 90

[From the "Vremya" newscast: Report by Ye. Orlov and V. Ilinets, identified by caption]

[Text] [Announcer] You will see from the following report that business cannot avoid participating in and resolving some of our environmental problems.

[Reporter] Construction of the Volga GES [hydroelectric power station] mounting plate was completed more than 30 years ago. Since then hot and cold winds, atmospheric precipitation, and, lastly, water have to a considerable extent destroyed the concrete and metal structure. A real danger has developed, posing a threat not only to the GES' efficiency but also to the natural environment. Specialists from the "Crivelli" [as heard] firm, which has set up the "Columbus" joint enterprise in our country, suggested that the station's management cover the entire mounting plate both above and under the water with a strong protective coating that would extend the structure's life by many decades. That is just one of the examples of cooperation described at a seminar in Volgograd organized by a whole series of Italian firms with the backing of "Italsovmont." The Italian side's potential has proved extremely varied.

[L. Case, general director of the "Italsovmont" joint enterprise, identified by caption, speaking Italian] It must be said that we did not want to confine ourselves to cooperating with enterprises from Volgograd Oblast alone. There are environmental difficulties in other areas. We await proposals from your other customers. Incidentally, "Italsovmont" has set up a major prize that will be awarded at the end of next year to the most environmentally hazardous Soviet production unit which has been the most successful in environmental conservation.

Uvatskiy Rayon Calls for End to Space 'Fall-Out'

LD1412112590 Moscow Domestic Service in Russian 0430 GMT 14 Dec 90

[Text] Officials from the USSR Ministry of Defense's Main Administration and from Arkhangelsk Oblast's Plesetsk Cosmodrome have gone to Uvatskiy Rayon because a session of the local soviet has decided to ban space work over the territory of the rayon, and has demanded that an independent expert investigation be carried out. For about 15 years now, spent pieces of space equipment such as (Bion) and Molniya have been falling on the Yamal Peninsula. A statement issued by (Yuriy Smolyakov), a spokesman for the Main Administration of the USSR Defense Ministry, [says that] the fall-out of the spent stages is virtually no danger to the population and there is no radiation. The local authorities are warned five days in advance. But is that good enough? We should note that a number of pipelines cross Uvatskiy Rayon. On official maps one of these is designated the boundary of the so-called main fall-out zone.

Pollution of Neva, Its Tributaries in Leningrad Area Examined

91WN0079A Moscow OGONEK in Russian No 42, 13-20 Oct 90 pp 9-11

[Article by Arkadiy Sosnov: "Bitter Medicine for the Neva"]

[Text] An American woman journalist who had come to Leningrad made unflattering remarks about our water. She said that it was hazardous to one's health. I should have kept quiet or passed it off with a joke, but instead I asked for confirmation. And I got it, in the form of excerpts from a tourist booklet. The U.S. Department of Health and Human Services warns not to drink fresh

water in Leningrad. One should drink only boiled or bottled water. The same thing applies to brushing one's teeth. Some tourists who visited Leningrad last year returned home with a specific stomach disorder.

In school we were taught: "What is Leningrad famous for? Properly speaking, for its water...." But that miraculous body of water (the biggest and purest in Europe!) has been befouled to such an extent that in the past 15-25 years it has degenerated. Vast segments of the water surface have "blossomed," and in the strata near the bottom there is an oxygen shortage and the fish are dying. Consequently [Gaff's] disease, acute vitamin-B deficiency, has returned. Recently Vladislav Rumyantsev, director of the USSR Academy of Sciences' Institute of Lake Studies, who is overseeing the Ladoga Program, voiced utter distress: the state of the lake has deteriorated, its ability to purify itself has been lost, and the volume of polluted sewage entering it has risen.

How many times can one reiterate the elementary truths: DO NOT build facilities in the water-conservation zone; DO NOT release liquid manure into the lake; DO NOT float timber on rivers where salmon spawn; and so forth. Indeed, at the conference where Vladislav Aleksandrovich [Rumyantsev] spoke I saw old acquaintances, regulars at such decorous seminars, which are powerless to change anything. It is said that the Neva bottom could be covered over from its source to its mouth with scientific recommendations for preserving water purity, and with blueprints that are lying untouched on shelves. But scientists are an imperturbable folk. They do not go on strike demanding: either you implement our recommendations, or we will immediately stop the creative process! By and large, they state facts.

Just recently we were confident that all that was necessary was to identify the source of pollution and measure its harmfulness, and a stop would be put to it. That was why the public knocked so stubbornly against the wall of environmental secrecy. The wall cracked and started to crumble when the newspapers first published information on the state of Leningrad water flows.

The medicine of glasnost proved revoltingly bitter. To start with, the degree of protection of the small, most defenseless streams feeding the Neva exceeded the worst expectations. The concentration of petroleum in the Yekateringofka was 37 times the norm, while that in the Okkervila was 100 times the norm. In these cases the concept of the maximum allowable concentration had lost all meaning. The famous Chernaya Stream, where Pushkin was shot in a duel, proved to be thoroughly "polluted" according to the classification of the State Committee for Hydrometeorology. The Izhora, the Slavyanka and the Karpovka were no better. On the other hand the waters of the Okhta were characterized as "extremely polluted."

We found out that the Neva's northern branches were teeming—excuse the pun—with intestinal bacteria [there is an untranslatable play on the Russian verb kishet, "to teem," and kishechnyy, "intestinal"]. We learned that the Neva's 26 tributaries were, in effect, fighting for the right to pollute it. Fortunately, the filth picked up by the high- volume flow is diluted and carried toward the gulf, but there it is accumulated in the cesspool at the Neva's mouth, with the suppurating sore of the dike that is being constructed. Well, now what was left was to name the guilty and punish them. But it was easier to name those who were not involved in the poisoning. Because the poisoners included the flagships of industry and small boiler plants, cooperative garages and enterprises belonging to the city soviet executive committee. A month passed. New information was published. The black streams had not started clearing up. Another month flew by. The city on the free Neva kept on living at the same measured pace, while vomiting forth "beneath itself" millions of cubic meters of filthy effluent.

What is frightening is not even this chronic "unrestrained filth." What is frightening is that we have gotten used to it. We have reconciled ourselves to the fact that the Neva's water constantly contains pesticides that should in no way be there, and that the Obvodnyy Canal has been turned into a sewer. That the Volkovka is fertilized by the Shushary Sovkhoz and the Leningrad Meatpacking Combine, which is why citizens hold their noses in the summer at the Kupchino subway station.

And the shocking figures on the pollution of the bodies of water put no one into a state of shock. It turned out that it was possible—now in a time of environmental glasnost—to discharge a volley of crude oil into Neva's flow, befouling overflow wells and embankment slopes and destroying slow-witted ducks, and go unpunished. Or to calmly flush several tons of hydrochloric acid into the Neva. And all that is left for Gennadiy Kolesnikov, the city's chief deputy sanitation inspector, to do is to note: "Fine, at least they are discharging oil—it can be seen. But what if it is a colorless poison that is water soluble?"

The habit of living in filth is no less contagious than other harmful habits. And we have grown accustomed to the crush on buses, wearisome waiting lines, leaking roofs, boorishness, empty store shelves, defaced facades and bad roads.

And in the midst of all this we have children growing up. They look at us with amazement. And then they, too, get used to it. On Vasilyevskiy Island schoolchildren (naive fourth-graders) got alarmed over the Smolenka Stream, which was filled with patches of oil and green algae. Along with their biology teacher, they took water samples. But no one will take those samples. Or they take them but do not report the results of the analysis: it's none of your business.

So far the Neva has come to our rescue. That's the way it has been historically: the city has used the river as a giant sewer pipe. As late as 1963 engineering plans made no provision for treatment facilities. But today we need to come to the river's rescue: to intercept the filth flowing in

it and send it to city treatment facilities. In two years their capacity will make it possible to take all of Leningrad's sewage. But in order to deliver that sewage, it is necessary to break up pavement, cut into the city's subcutaneous layer, and stretch sewer pipes comparable to subway tunnels along the Neva. Laying them will take six to seven years, and approximately an equal amount of time will be required to install treatment facilities at enterprises.

What can we do? Put a seal on the Neva with a sign saying: "Sewage Prohibited"? Blow up the dike?

Inevitably, the problem arises of treating and detoxifying huge volumes of sewage, and recycling the city's adjacent fields of polluted silt. Specialists at the Environmental Safety Center (ESC) are working on that problem.

I personally felt a slight jolt of hope at yet another delirious and fruitless public and scientific conference—which, by number, I cannot recall. And I felt it not in the auditorium, where the speakers, one after another, were displaying charts and tables, but in the half-dark smoking lounge. Vladislav Donchenko, director of the ESC, held out to me two heavyish, dully glimmering metal nuts. He let me hold them and then put them back into his pocket. And his look while doing so was a bit enigmatic.

It turned out that those nuts had been extracted from sewage. The chief "suppliers" of metal to the sewerage system are printing plates production facilities and galvanized coatings shops. That is where a closed water-supply system and waste-free technology need to be introduced first of all. Treated effluent can be returned to the process and valuable components extracted. And promising materials can be obtained—metal composites containing zinc, copper, nickel, cobalt, chromium, etc. So the nuts in Donchenko's hand—made from such materials—were not ordinary nuts.

I am deliberately omitting the details. Those nuts (and they could be cutting tools or metal plates) are just a hint of the benefits promised by environmentally clean production processes. In the past five years at the Signal Association (one of the ESC's clients) the volume of effluent per unit of output has been reduced by a factor of eight. Imagine how much the load on city treatment facilities would be reduced if just 50 enterprises followed that example. It is the Signal Association that has the unit for treating effluent from the galvanizing process. So far it is just a pilot model, which has been incorporated in the technological chain. But what if a standardized automated unit were developed and examples of it produced for similar enterprises? It is attractive. The idea has been taken up in the city, and a joint-stock company has even been organized. Thus was formed the Ecological Association, which includes large concerns, associations and Leningrad scientific organizations.

Other areas of its activity include the development, installation and setting up of effective treatment facilities, and the financing of research to revive the city's small rivers. It has received a great many orders from enterprises for a system for the automated monitoring of effluent discharge. It is a kind of "environmental foolproof system." If a given normative rate is exceeded, a slide valve on the pipe closes. And no ill-intentioned fool can open it.

It has already become a stereotyped notion that the environment is the concern of informal groups. But it wouldn't hurt us to take a look at what is going on in official spheres. An association has been established at the initiative of the Leningrad Environmental Protection Committee. It is a source of impetus for cooperation with scientists and plant managers. Fears that the Environmental Protection Committee would become yet another lifeless bureaucratic structure have proved unwarranted in Leningrad. To the contrary, the Leningrad Environmental Protection Committee is giving "what for" to industrial poachers and has marked its very first steps with merciless fines. And its dual subordination—to the USSR State Committee for Environmental Protection and the city soviet executive committee—is allowing it to act in coordination with local authorities.

For example, the "city fathers" invite the chairman of the USSR State Planning Committee and reach an agreement with him that not a single production building, even the finest one, will not be erected on the Neva's banks as long as a single Leningrad enterprise belonging to the industry in question is violating environmental-protection norms. A joint protocol is drawn up, and monitoring is assigned to the Leningrad Environmental Protection Committee. The Ministry of the Aviation Industry has already encountered this strict approach.

And at the same time, a far more unusual visit. The city did not stint on the foreign currency required to invite the 89-year-old engineer Rostislav Nebolsin to visit. A native of St. Petersburg, the son of an admiral in the imperial navy, he left his native home in 1917 and since then has built a number of high-speed, compact stations for the treatment and purification of water in Italy, Spain and the United States. He announced his intention to give his fellow countrymen the blueprints and the recipes for "filling" those stations. And in response he heard something untraditional: it's good that we have our people "over there." Now they are no more. Nebolsin recently died.

A critical mass of people has arisen in the city, some of whom are decision-makers, who recognize that production for the sake of production is an absurdity, and that production on the brink of an environmental quagmire is a dangerous absurdity.

The club of fines is the crudest method of environmental education. There are also more subtle ones. At an important environmental session of the Leningrad City Soviet a decree was adopted to the effect that enterprises

would pay additionally for the above-normative discharge of effluent. Such a procedure is being introduced throughout the country as a whole as of 1991, but we cannot wait. For every sewerage subscriber (well, that's what they are called), discharge limits have been set and a scale of charges has been worked out for exceeding "legal" volumes and concentrations—up to and including a wholesale discharge of untreated waste—analysis methods have been approved in the USSR State Standards Committee, and contracts have been properly concluded. All of this is so that a potential violator will have no chance to appeal to the arbitration service. And the mechanism is being put into operation, step by step.

"In the first two months, about 300,000 rubles has been transferred to our environmental subaccount. Moreover, in accordance with the regulations, these payments are taken from collectives' profits," said Tatyana Stepanenko, deputy chief engineer of the Leningrad Water and Sewer Administration. "Do you think that's rather little? But it's only the beginning. And later, believe our experience, the charge must be realistic, so that it can be collected, and it must be palpable, so that people won't just get used to it."

I believed her, recalling the story of one former economic manager: "When the water inspection service charged us 116 million, we laughed loudly. When after all the agreements, they proposed that we pay 25,000, we no longer felt like laughing."

Sewerage subscriber—it has a proud ring. But in addition to 850 such subscribers, we also have more than 200 enterprises that arrogantly discharge their waste directly into the Neva and its tributaries. What is to be done with them? They are dealt with by the Leningrad Water Management Trust, an organization responsible for cleaning petroleum from the water surface, dredging, and other clean-up work. And so, out of more than 200 clients, the Leningrad Water Management Trust is paid by 145, mostly small and medium-sized enterprises. Such giant plants as the Kirov, Izhora and the Bolshevik refuse to pay. They do not respect the "janitorial work." Yet they pollute the water and the air like no one else.

The disease has been neglected. The "patient's" condition is grave. We must recognize this. Once, addressing a certain highly placed comrade, I said that the state of the mouth of the Neva was disastrous. "Predisastrous," he respectfully corrected me. Maybe that makes it easier and more comfortable for him. But in our situation we must not succumb to self-deception. Dmitriy Sergeyevich Likhachev expressed this thought simply and mercilessly in a letter to the combined plenary session of the city's creative unions: there can be no thought about the revival of Leningrad until we make our way out of the filth.

Latvian Regional Body Threatens Blockade on Skrunda Radar Issue

LD0412194490 Moscow TASS in English 1836 GMT 4 Dec 90

[By TASS correspondent Valeriy Zaytsev]

[Text] Riga December 4 TASS—More than 50 medics, physicists, electronics experts, the military, builders and ecologists gathered in a space surveillance centre, several kilometers from the Latvian village of Skrunda.

The commission, involving Latvian representatives, was set up by the Soviet Government after the Kuldiga regional council decided in October to close the facility down and stop the building of a new radar.

The council said it will begin an economic blockade if its decision was not implemented.

The radar in Skrunda is a component of the Soviet early-warning system against a missile strike.

"Ensuring the country's security, we cannot allow the closure of the radar, but at the same time it is necessary to alleviate tensions between local authorities and the military," Colonel General Valter Kraskovskiy of the Soviet Defence Ministry told TASS.

The radar violates environmental norms and is harmful to people and the environment, local deputies said.

They refused to believe the data provided by the military. The commission is yet to analyse the ecological situation near the radar and evaluate the station's impact on the health of local residents.

At its first session, the commission set up three subcommissions to study medical, biological and technical aspects of the centre's impact on humans.

Deputy Chairman of the Soviet Environmental Protection Committee Yevgeniy Minayev was appointed commission chairman.

Impact, Benefits of Kaliningrad Pulp Plant Closure Weighed

91WN0068A Moscow PRAVDA in Russian 1 Nov 90 Second Edition p 2

[Article by Staff Correspondent Yu. Stroganov: "Debates by a Dead River"]

[Text] Kaliningrad—**No one wants to live now near this once beautiful river. Its darkened waters are dead. But it is hard to get away from it—it flows through the center of the city. In many people's opinion, it was the local pulp and paper combine that killed it. Should it be closed? Such, for all intents and purposes, was the decision of a session of the oblast soviet, a decision veiled in Aesopian**

wording about suspending the operation of the Kaliningrad Pulp and Paper Combine as of January 1991 with a proposal that it be converted to environmentally clean technology.

Leaning over the fence, I look into the water in an effort to discern any signs of life. But what could that absolutely opaque black suspension, as heavy as mercury, conceal? A snowy white ship hovers like a mirage along the bank in the stinking vapors.

"A sulfur pipeline," explains a. Savkin, a consultant with the CPSU obkom's social and economic department. "In the summer, especially when the wind drives the sea water, and the organic matter that have accumulated on the bottom for tens of years start to break down. And then the oxygen in the river is zero."

The city sewerage system, A. Savkin adds, cannot cope with the sewage. Every 24 hours 200,000 cubic meters of such effluent is discharged into the river. Tens of tons of organic matter, pure slops.

"The river has lost its ability to cleanse itself and has turned into a source that releases hydrogen sulfide into the air; in the region of Moskovskiy Prospekt and the Oktyabr and other housing developments, the hydrogen sulfide content is 12 to 13 times the maximum allowable concentration. Moreover, methane, ammonia, phenol and benzpyrene have been found in the air. All this creates abnormal conditions for habitation and draws numerous complaints from people of headaches, asthma and allergic reactions," states the preamble to the decision that was made at a session of the oblast soviet in connection with the emergency environmental situation. But the employees of the pulp and paper combine doubt its fairness.

"It was made on the basis of emotions," believes V. Katin, secretary of the enterprise's party committee.

V. Trofimov, chairman of the labor collective council, agrees with him.

"What are 2,500 employees to do now? And if you also take their family members into account, shutting down the combine will affect 10,000 people. Many of them will be deprived not just of work but of their places on waiting lists for apartments and kindergartens. The younger ones have already started to leave us."

We take a look into one of the shops. A mighty two-story housing of antique design. A rebuilt machine. The combine originated with a 19th- century mill. A roll of unbleached pulp, moist and seemingly endless, enters the machine, drying out before our eyes.

"It is purchased both in our country and abroad," explains A. Tkachev, the combine's chief engineer. We export to Austria, the FRG and Britain."

The combine is one of the most important suppliers of pulp to Kondopoga, where the union's principal producer of newsprint is located. An open letter from the combine's labor collective warns that closing the combine will result in breakdowns in newspaper publication, interruptions in the sale of goods that require packaging, and a shortage of carbonic acid and nutrient yeast, which the enterprise produces.

Supporters of the two viewpoints as to the combine's future have crossed swords on the banks of the dead Pregolya. But in the meantime the participants in the debates are being increasingly buffeted by the vengeful forces of befouled nature, and the economic storms of hasty decisions are brewing. I never did manage to find out the main thing: Will the situation change fundamentally with the shutdown of the pulp and paper combine? Will the river become clean? Will the filth that has accumulated on its bottom over many years disappear? Will people stop getting sick? Will other proposals—reducing capacity, reorienting the mill toward the production of paper, rather than commodity pulp, as some specialists advise—do any real good? It seems that the scientific forecasts are still not based on sound calculations. What is going on is an emotional manipulation of figures. But the only fact is that 49 percent of the effluent discharged into the Pregolya comes from the pulp and paper combine.

"The pulp and paper combine is definitely harmful," says T. Grunicheva, the city's chief sanitation inspector. "Will things get better when it is shut down? Yes. But it won't solve the problem."

In her words, more than once now toxic waters driven by the sea wind have come up to the pumping stations of the city water system. There is a disaster in the making, the roots of which lie in the manured soil of stagnation. The construction of the city's sewage-treatment facilities began 15 years ago. If they had appeared, the Pregolya would sigh in relief. But all deadlines for their completion have long since been missed. The people I talked with heaped unflattering epithets on the trust that was established to build the treatment facilities. But do phrases appropriate for rallies make things any better? The session of the oblast soviet ordered them to be put into operation in 1992. However, construction of the treatment facilities is being financed by—the pulp and paper combine! Is there any need to explain what will happen if the combine, which is the client, is shut down? That will not spur on the languid construction project; it will become completely paralyzed until lost economic ties are restored. It is easy to imagine: in a year or two the city's residents, having felt no relief, will once again set off to hold rallies. And what then? Close the remaining 26 enterprises?

Moldovan Pollution of Dnestr, Its Tributaries Detailed

91WN0111A Moscow SOVETSKAYA KULTURA in Russian No 46, 17 Nov 90 p 5

[Article by SOVETSKAYA KULTURA correspondent Vadim Letov, Odessa—Kishinev: "Ave, Nistru!"

[Text] Odessa is Odessa. Odessa laughs even when it is sad. Odessans, for example, will assure you that the Dnestr flows through Odessa, because it is Odessa's water tap. The sad part about this joke is what flows out of the tap. From that tap flows a cocktail which Odessans call a "Moldovan." Let us take a look at where that name originates.

About two years ago I happened to witness the Moldovan Supreme Soviet going through its newly-arrived and, it seemed, unexpected mail. There were many letters. Oddly enough, all of these letters, countless hundreds of them, came from Odessa. Furthermore, they differed only in the signatures, not their content. The numerous letter writers were asking the presidium chairman when their neighboring republic was going to begin serious implementation of its numerous decisions regarding strict sanitary protection for the basin of the Dnestr (or Nistru, as it is called in Moldovan).

VECHERNYAYA ODESSA, a newspaper with a nationwide reputation as a scrapper, mischievously carried out an ecological action in Odessa style. Instead of a boring half-column article it printed a form letter a few lines long and suggest that readers cut it out and put it in the mail. There is no need to tell Odessans how important the Dnestr is to them. It is not simply a water source, this river has literally eaten their liver. Odessans will tell you with a straight face that rarely will a bird reach the middle of the Dnestr near the city water intake if it drinks from the unpurified water first. And that is true: great efforts have to be made before the "H2O" from the Dnestr is drinkable. Odessa is presently building another water purification plant on the Dnestr, but it is already known that it will not solve the problems of water supply to this city of a million. Therefore Odessa is writing letters complaining and demanding money, and Kishinev is sending formal letters in reply.

But what does Moldava have to do with this? That longsuffering land also drinks from the Dnestr, drinks roughly the same thing. It is simply that the Nistru flows through three-quarters of the small republic's territory, and is to it as the Volga is to Russia. Moldava sings of the Nistru. Cognacs and soccer teams bear its name. But a sacred thing has not only exaltation, but hidden sides as well...

Recently I witnessed a touching and beautiful procedure with prayers and dances. In a village near Rybnitsa a peasant was dedicating a new well. And what a well it was! No expense had been spared: the columns were covered with painted designs, and a sacred image under the roof was lit by a devotional lamp on a lace-covered plate. The priest performed the service, and a crystal goblet with crystal-clear water made the round, greeted by oohs and ahs. Ah, what wonderful water there is in the depths of Moldava!

Yet on the back side of that same farm, if you will excuse a little necessary coarseness, a wooden outhouse was suspended like a birdhouse over the steep bank of the Nistru.

"Don't worry," the peasant said, "it won't fall—it's mounted on steel rails."

I am not going to single out the joyous host for his double standard toward a sacred thing. After all, what is one outhouse at one point above the Dnestr, when in nearby Rybnitsa there is a metallurgical plant, a giant of Moldovan industry, which dumps half-purified waste water into the river? The same is done without a twinge of conscience by Soroki and Rezina, Bendery and Tiraspol. Kishinev adds its share as well, because it is linked with the Nistru via the Byk River.

For fairness' sake I should note that the Dnestr and the Prut River, its brother along the border, originate in the Carpathians, in the Ukraine. It is in the Ukraine that they gain strength and banks. At a border guards' post I heard an appropriate story about a little factory located on the watershed between these little rivers near Ivano-Frankovsk which once dumped its industrial waste water into the Prut River, which was of course observed by the neighboring country. A border declaration was issued, and the factory was forced to rectify the situation immediately. And so it did: it diverted its waste from west to east and began dumping it in the Dnestr. More "humane" for your own. Your own will not notice it, because they have cataracts on their eyes.

There it is, an "odoriferous" topic which even SOVETSKAYA KULTURA cannot avoid if we hope someday to live in a cultured and civilized manner, according to the laws of our common European home. Otherwise they will not even let us in that house as the servant...

One statistic amazed me even as a child: in our country there are over three million rivers and streams. Within the Moldovan SSR alone approximately 2,000 tributaries flow into the Dnestr, the most important of which are not even 300 kilometers long. It is not length for which Moldovan rivers are known today. They are known for the pesticides they carry, exceeding established standards by factors of tens.

This summer I was called to Telenesht, a rayon center north of Kishinev. Called like an ambulance. The local authorities were hoping that an article in the central press about the misery which had gripped that urban-type settlement would make everyone sit up and listen. And make them inspire correction of mistakes...

At the beginning of the 1980's Telenesht, the heart of the Kodry Hills, an indescribably beautiful area, was the scene of ceremonies hailing the opening of the largest pork complex in the republic. Telenesht was destined to become Moldava's meat capital. And the facade looked just fine: the porkers squealed, and the workers went around in white jackets. It was the back side of the complex that was bad. There, where visitors did not go, were the so-called "irrigation fields," into which flowed daily thousands and thousands of tons of, excuse me again, pig manure. Telenesht is surrounded by the Kodry Hills on all sides, and among them flows the Little

Chuluk River, Telenesht's own river. Telenesht does not have any pasture land, or any place for strolling. Once upon a time they scraped out a place for a water plant. At the same site, about 100 meters or so away they also installed the manure storage tanks.

Then those tanks burst and poured out over the water intakes. That was on the surface. Underground the fecal matter penetrated into the groundwater and thoroughly polluted it with ammonia. And the mess that flowed from taps in Telenesht was like cholera extract. Everyone has his own Chernobyl. And let us be frank: Chernobyls are not created for us by foreign enemies.

It turns out that the ones to blame for what happened were the supervisors, who had gone on personal leave. Telenesht, with approximately 10,000 residents, is having to carry water from house to house in barrels, people bathe on trips out of town and the town cannot even build a Buratino bottling plant. Telenesht has said goodbye to its dream of becoming a city.

Incidentally, at the source of the Little Chuluk River, a brigade at Kukoara Kolkhoz showed me a sacred well with water so cold it will break your teeth and quenches thirst at the mere sight of it. Moldovan distillers haul water from this well in tanker trucks for use in the manufacture of Kishinev vodka. Against the backdrop of a festively painted poster declaring "We will carry out decisions 100 percent and more" I was reminded of the monologue delivered by Bulgakov's Voland to a tomcat: "Why have you gilded your whiskers? And why the devil do you need a necktie, when you have no pants?"

Children are dying, and adults' lives are being shortened. Soviet Switzerland has been poisoned by ammonia. And the local authorities are wondering whether they should declare their offices a disaster area or not. Will someone "there" suddenly slam down their fist and say "shoo!" to them? It is not the catastrophe which is so terrible; it is terrible that people have been taught to drink urine. They drink it and say that the planners are to blame, because they did not plan for the waste...

The czarina-little mother who planted Odessa on a high bluff above the sea two centuries ago did not foresee that one day Odessa would be facing a water shortage, that first the springs would dry up and then the artesian wells, that one day people would fertilize their fields "the wrong way" or build a pork processing complex nearby. Let us blame the arbitrariness of czarism, socialism, communism and any other "ism" and live the way we did before. Let us blame our present-day planners, completely ignoring the fact that they are us. And no one else.

As I leaf through my notebook I get angry, and not just as part of my publicistic style. The time has come to clean out our sacred wells, and they are within us. And only within us, not in the person whom we put in a position as a result of rallies, only to come back to accuse him over and over again and scream "Out!". The time has come to clean out the lack of professionalism in our wells, our willingness to do things we are not capable of. "Mitrofan is capable of everything, because he is willing to do anything," said the seditious apparatchik Saltykov-Shchedrin in "The Gentlemen From Tashkent" almost 120 years ago. And he could still say, addressed to the co-owners of the Dnestr-Nistru: "The Mitrofans have not changed..."

I regret that last year I passed up what was in my opinion a splendid moral topic. Other things came up, and I did not go to that trial. A woman was being tried along with her enterprise; she had worked for many, many years at a plant situated on the shore of the Black Sea. She received awards and bonuses for her work and sometimes was even a member of presidiums. An ordinary Odessa plant working three shifts. So this woman also worked on the night shifts. And in the middle of the night, before the cocks crowed and while the health inspectors still slept, the workers ever so quietly dumped everything the water treatment plant could not handle into the Black Sea, following a verbal order from the administration. Everything would have been just fine, both for this little plant's secret in a huge sea and for the complete "agreement" between water treatment and design specifications, had it not been for the fact that one time a young man, that worker's son, went swimming in the sea near his mother's plant. He swam and became covered with sores which even the best doctors in Odessa could not cure. And the mother took her employer to court.

That is a canvas of unwritten material, and at the time I really wanted to ask the worker whether she realized that the trial was also against her, a backward "cog" in a backward system.

Where have the days gone when in that same city of Odessa one hundred years ago a treatment facilities contract filled a glass from one of the pipes flowing out into the Black Sea, drank from it and offered the inspection committee a drink as well? After that the committee signed a document accepting the facility. In those days documents had to be signed. I am not talking here about point men. I am talking about a system which has made mitrofanism a system. With that burden we will not get out of yesterday, we will carry it with us into tomorrow. The Moldovan Government allocated 500 water cans to Telenesht and let it go at that. I read in information received from the environmental protection inspector that near Bendery a poultry plant, dairy farms and a pork processing plant are under construction with waste treatment systems which have officially been put into operation but which are not actually functioning. Do the pipes empty into the water? With millions and millions of rubles squandered? And what about health, upon which one cannot place a monetary value? I read addresses: village of Kopchak, Stefan Vodz Rayon; Ignatsey outside of Sholdaneshty; Chuflesht in Keinarskiy Rayon, and on and on. More and more new Teleneshts are brewing. Stockpiles of hard-to-find aluminum water cans are being laid in. A cocktail is being mixed for Odessa, and the Moldovans are going to try it first.

Last year a comprehensive ecological expedition floated down the Dnestr and Prut on boats and rafts; its tasks included making an inventory of all the industrial and social tumors which are eating up nature in Moldava and the Ukraine. A Moldovan Greens League has been created. In Moldovan it is called the "Assochiatsiye verde." Emil Lotyanu, who is creative not just on the screen, proposed this abbreviation based on the Moldovan initials: AVE. In Latin, the precursor of the Moldovan language, "ave"—and this is common knowledge—means "hail." Ave, Nistru! Hail, Nistru!

This summer Moldava established a department of environmental protection and natural resources. The state committee of the same name wished it all the best. Professor Ion Dedyu, an ecologist, was appointed general director of the department; he is the author of the interesting "Moldovan Ecological Dictionary." The department is only a couple of months old, so it is hard to demand that it produce any results.

"Crisis?" Ion Ilich said to me in a private conversation. "But not a disaster yet..."

And added, after pausing a moment: "It is already a disaster."

How do we recover from this disaster? By compiling lists of offenders? By fining the Dnestr shipping lines which are digging gravel out of the hydrologically exhausted Nistru? By establishing an ecological commission? Incidentally, in Odessa the same commission, or virtually the same, already exists, but that has not made the beaches any cleaner. The Moldovan capital is establishing a UN Ecological Center, but this will not make the air any more aesthetically pleasing; it will not even increase the number of water cans. "Speeches will not save the Volga" said a poet standing on other banks. Nor will the Dnestr-Nistru be saved by roundtables with sharp corners put on by the evening newspapers in Odessa and Kishinev. Proclaiming little local problems and striving to resolve them in a local way, without going beyond clearly-marked boundaries.

But nature does not recognize those boundaries, just as there are no bounds to the truth that the earth improves if it is treated properly. That was once said by V.I. Lenin, whom we want to casually accuse of the very sins which we ourselves have committed. We have become so accustomed to accepting nature's bounty that we do not even want to give back to it the most available thing of all: our ideas.

An idea for the Dnestr is simple: establish an interrepublic center to save it, saving ourselves in the process. Save and be saved. Two thousand streams flow into the Nistru from the Moldovan side, and one thousand flow into the Dnistro from the Ukrainian side. So why do not all the associations, state committees, subcommittees and eco-centers which are presently busy drawing up papers unite their efforts in struggle? Yes, in a struggle for survival!

Holding my nose I sit on the banks of the Little Chuluk River, Telenesht's river. The Little Chuluk flows into the Middle Chuluk, the Middle Chuluk flows into the Big Chuluk, the Big Chuluk flows into the Reut, the Reut flows into the Dnestr, and the Dnestr flows either into the Black Sea or into Odessa, and the Black Sea flows into the World Ocean. And we must not ever forget that, else we will never stand up straight and assume the form of humans.

Recently Odessa earned half a million. A foreign dry-cargo ship was taking on bunker oil in the commercial harbor. The watch was careless, and oil spilled overboard. A commission assessed the damages to the sea and the city at half a million, and the captain nodded assent and said: "Okay!"

The Black Sea. A black raid. The black, black Nistru. There is no need to write letters to presidents. Those letters are like requests for money from poor relations. Much ink has been wasted, but with no result. Let us protect our sacred wells ourselves, without political chicanery...

Chairman Outlines Ukrainian Ecology Commission Work

91WN0112A Kiev RABOCHAYA GAZETA in Russian 24 Oct 90 p 1

[Interview with N.I. Zaludyak, chairman of the UkSSR Supreme Soviet Commission on Ecology and the Rational Use of Nature, by A. Fomin, date and place not specified: "Ecology Above All," first paragraph is source introduction]

[Text] N.I. Zaludyak, chairman of the Commission on Ecology and the Rational Use of Nature:

[Zaludyak] It is time for all of us to take a sober look at things. What is happening to nature? Our lands have become salinized and highly acidic; they are being destroyed by the processes of water erosion—they are being washed away. Pesticides have been discovered in the underground waters of every area. Every year enterprises discharge 2.634 million cubic meters of polluted waste water, while a third of the facilities to treat waste water do not operate effectively. Every year more than 10 million tons of pollutants go into the air that you and I breathe every day. Moreover, only about 40 percent of the emission sources are equipped with dust and gas treatment devices.

Naturally, the work of our commission is acquiring particular significance. The first thrust of our work is legislative. We are preparing the ecological section of the plan for the republic's transition to market conditions. What we had before—the remainder principle in the planning and financing of environmental protection—must go. We must create effective economic levers to regulate the use of nature.

This matter is very complex. Today our specialists are convinced of how badly we used to operate under the laws. The law to protect the environment in the UkSSR—I will put it bluntly—did not function at all. We had a sector-by-sector approach to environmental protection. And the laws were tuned to it: protection for the animal world existed, but for the plant world there was nothing. Land codes and water codes existed; there was a code on mineral wealth and a law to protect the air. In this way they divided the land into parts. And in general, as with Raykin, no one was responsible for anything. I think that there must be one law on environmental protection and the approach to it must be a unifed one.

The second thrust is to monitor the fulfillment of previously-adopted decisions. Now we will be examining the question of the Lisichansk-Rubezhnoye Industrial Complex and we shall ask of the leaders and the government: what has been done to restore natural resources? After all, there are many "polluters": the petroleum refinery, the soda plant, the Azot Production Association, the Krasitel Plant.

Gradually we are establishing inter-regional ties. For example, under the Azov program we will work together with the members of the Russian parliament.

Two groups of our deputies have already visited nuclear power plants and studied with specialists, taking into account public opinion and the situation; they are preparing proposals on how to close—at least temporarily—units which are in a state of construction and to defuse the psychological tension in society.

The plans call for investigating the area around the Dnepr (from Kremenchug to Zaporozhye), where a very bad ecological situation has also developed.

We are establishing contacts with foreign partners. Ties are being initiated with the Association of Ukrainian Engineers in Canada. We would like to study their experiment in the formulation of laws to protect the environment. They began to do this before we did, and they are doing a better job of providing this kind of protection at the local level. We maintain ties with UNESCO, and we have held a meeting with representatives of the Greens of Australia. We are attempting to expand the range of these contacts.

[Fomin] Will it not be harder for the deputies to control the state of the environment after the republic has made the transition to a market and both large and small enterprises have been put into private hands for operation? After all, is it not much more difficult to exert an influence on millions of participants than on hundreds of state enterprises?

[Zaludyak] Yes, It will be very difficult to control. But we are hoping that help will come from ispolkoms and the public. Polluting the environment must become econmically unprofitable. Previously we were limited to imposing fines, but today, after we have done that once and then again, the third time we can close down such enterprises. The person who shows concern for environmental protection and establishes clean technologies must be encouraged in every way.

'Highly Dangerous' Chemical Spill Threatens Kharkov

LD0912040490 Moscow Domestic Service in Russian 0230 GMT 9 Dec 90

[Text] This report we received from Kharkov, again with an alarming signal regarding ecology: Twenty cubic meters of aluminium sulphate solution has ended up in the Donets River as a result of an accident on the pipeline of the pumping station of the Kharkovkommunprovod Association. In minimal doses, aluminium sulphate is used for purifying the water taken from the Donets and pumped to Kharkov. However, the discharge of this substance all at once into the river is highly dangerous to life.

Preliminary data indicate the accident took place because of the negligence of the station's service personnel. It has now been remedied.

Environmental protection specialists are studying the composition of the water in the river. The circumstances of the accident are being investigated by the procuracy.

North Ossetian Environmental Problems, Government Inattention Compared

91WN0094B Moscow SOYUZ in Russian No 43, Oct 90 p 15

[Article by Candidate of Economic Sciences Tina Dzakoyeva: "Yellow Clouds Over Ossetia: What Policies Unmindful of Ecology Will Lead To"]

[Text] **"The only difference between Gorbachev and Yeltsin is that Gorbachev wants to slaughter the ram in four years, while Yeltsin wants to do it in one. Both are urging us toward capitalism, but we will not allow our kolkhozes to be broken up, and our state property to be destroyed!"**

I listen—not with fury but only in amazement. "Our kolkhozes" contain farm animals sick with tuberculosis, brucellosis and even graver diseases. Instead of industrial products, our enterprises sometimes put out nothing but toxic wastes. Production is nonexistent, while wastes are piling up. Poisons—one more terrible than the next.

But I go on listening. I want to understand the psychology of these people. As a person, I even like the speaker. Marat Kochiyev is a philosopher, the chairman of the coordinating council of the Ossetian "Tokh," or "Struggle," society. He is sincere, he is not coarse, he is gentle and democratic. The main item on the meeting's agenda is preparation for a demonstration to be conducted on 7 November 1990. The main problem is the pennant. A huge red pennant with portraits of Marx, Engels, Lenin and Stalin stitched on. And above them,

the motto starting "Proletariat...." Where is such a thing to be obtained nowadays? Probably even in the museums the fabrics have rotted.

Yes, it can be said that politics are a good thing. But there is one other matter that is gnawing on me: Why all of this gloom? Or could it be that the light hits the mountains later? At the time that this conference was under way, a terrifying piece of news was reported: Mozdokskiy Rayon, Ossetia's best agricultural rayon, had met its ecological demise.

No. Ossetia is not on the unfortunate list of regions experiencing special ecological danger. Like Semipalatinsk for example. Not yet. However, these informal groups, representing the intelligentsia and particularly agricultural institutions, should be aware that the image of Ossetia to which we had become accustomed no longer exists.

I want to say this not only to these but also to the other 26 informal organizations that have formed here: Don't pursue false trails. Don't be angry at each other because some of you stand on a democratic platform or have abandoned the party altogether, while others diligently stitch portraits of Stalin. There are criteria and goals higher than all of this. Take a look around. Ossetia has lost those valuable things with which it is identified even today by inertia: clean, health-restoring air, the Terek, the road to Tseyskoye Gorge, health-reviving springs, Alagir apples, Unal pears, Mozdok tomatoes. These aren't just foods, but symbols of an entire culture, a national treasure.

All nature in Ossetia used to be a national treasure. This is why our ancestors raised homage to nature to the level of a sacred ritual. They did not know terms like "Preserve" or "Endangered Species List"; instead, they intuitively felt everything that these words stand for today. Their approach was simple: They declared natural phenomena to be sacred, and they protected them. Would they possibly ever have ringed an ancient Ossetian sylvan place of prayer—Khetaga grove—with toxic chemicals, like today's kolkhozes have done? It would never have come into their minds to blow up mountains in order to obtain chunks of stone from them. The builders of that tunnel through Tseyskoye Gorge would have been perceived by our ancestors as vandals, worse than the Huns that invaded them some time ago.

Nature in Ossetia is a precious setting that can be touched only with the hands. Certainly no one cuts diamonds with a sledgehammer. But in the last decade everything that used to be referred to as nature in Ossetia has been passed through the mortar. Ground and crushed, Ossetia is disintegrating into pieces, and its value is diminishing. In other words it is self-destructing. Clean mountain air is no more. And what about radiation? The level of its classification here is absolute, and it is ranked among the highest state secrets. RSFSR Supreme Soviet Deputy V. Kuznetsov was forced by the insistence of local inhabitants to ask the leadership of the epidemiological station to publish the radiation level in the vicinity of the city dump. He is still waiting for an answer!

People are dying of cancer, tuberculosis and nephritis. But no one is going to say that they are dying of methodical, constant poisoning. Quite the reverse! The danger is being stubbornly understated. I read in one election program of a city soviet deputy that the city is not on the list of highly polluted cities. But this is untrue! Just in Vladikavkaz alone, industrial enterprises dumped 300,000 tons of toxic substances. A ton per person!

During my stay in Vladikavkaz, people suddenly began complaining to each other that they weren't feeling well. The appearance was that they had all been subjected to the same incomprehensible effect at once. And so they had been! A tank containing 60 tons of nitric acid at the Elektrotsink Plant sprang a leak. The tank was dragged out to an open area, and all of the acid spilled out. Yellow toxic clouds were what poisoned the people and made them feel ill. What kind of statistical report did this acid spill get into? None. "This was nothing unusual, it was a commonplace production situation," was what the plant director was reported to have said.

The book "Releases of Toxic Substances Into the Atmosphere"—a unique witness to the quality of our way of life, published in 700 copies—states that 91 percent of the waste treatment facilities of the Ministry of Nonferrous Metallurgy in Ossetia are operating. How does this go down? Workers of that same Elektrotsink and miners in Sadon and Mizur can only laugh bitterly. Ask the inhabitants of the settlement of Unal, the homeland of the world-famous pears, where the Ministry of Nonferrous Metallurgy built a tailings pond for its mines—right in the middle of the pear orchards: Can you imagine how they're doing now?

But can it be that only the former Ministry of Nonferrous Metallurgy is guilty of possessing inoperable facilities and of wanton dumping of toxic wastes? What about the Ministry of Electronics Industry, which developed an entire sector here? What about the Ministry of Construction? What about the Ministry of Chemical and Petroleum Refining Industry? What about the Agroindustrial Committee? And finally, what about the Ministry of Housing and Municipal Services?

Ask the Terek. The best part of it flows through Ossetia. Its waters, which were themselves a source of healing to our ancestors, can no longer be used to irrigate land without danger. The Terek has become a sump for industrial wastes and sewage.

But things aren't any easier for the other rivers either. The Ardon, the Urukh, the Chikolinka. Every river and spring has its own housing and municipal services administration and its own dairy farm that calmly go on lavishing poisons upon the water, including water with healing properties. The Kambileyevka River has died out completely: Its waters continue to flow, but they are

lifeless—they have been killed by mercury, cadmium, arsenic and other poisons. But in these parts, the strictest secrecy is maintained over listing the poisons. Because, it is said, otherwise their list could be used to find out what sort of products are manufactured by the nearby plants. Now there's resourcefulness for you! Now there's an example of an entire people duped by the bureaucracy!

And what about underground water? Nature left man a last chance in it. Everything is not yet lost if clean underground water is still available.

But what if it isn't?

Mozdok! This is a hard subject to talk about. It is even difficult to put in words the terrible tragedy that occurred here. Remember King Midas, who asked that one wish be granted as a reward for a certain service he performed for the All-Mighty—the ability to turn anything that he touched into gold? How the story ended, we all know: The All-Mighty removed the spell, and Midas got everything back, water, bread, grapes....

Whatever a Mozdok inhabitant touches, everything smells of kerosene. Water, tomatoes, bread. The underground water is tainted with kerosene: To put it simply, a kerosene lake has formed beneath the city! People are threatened by the most terrible hydrocarbons, including benzapyrene, a terrible carcinogen. And its concentration exceeds permissible limits by a thousand times. But who can the inhabitants of Mozdok turn to? To the military department, the direct culprit of the disaster? One thing is certain: From this day forward, Mozdok will be supplied with trucked-in water.

Ossetia is dying physically, while over it, almost as if over a corpse, people talk and argue about other things. The population has divided itself into Stalinists and a small group of opponents of Stalinism. Could it be that they do not understand how bad things really are? Or could it be that Stalinism is being introduced into their life in order to deliberately conceal the true misfortune?

One prominent ecologist told me: "If you want to get an evaluation of the ecological situation of a certain locale, find out first what the figures for the mental state of children are." I went to Minister of Health German Aleksandrovich Techiyev to find this out.

"Unfortunately there is nothing that I can say to prove you right." He uttered that blasphemous phrase: "Everything here is normal."

And then he went on with mortality data, which were "normal, average for the RSFSR." Allergies were the only diseases he admitted to. I leave it to the minister's conscience as to the truthfulness of his responses: There are studies by scientists in Ossetia that refute them. In a situation supercharged by departmental secrets, people are writhing from the inconveniences. They know that something happened to their habitat, but they are unable to obtain the figures confirming it. They grumble that mortality figures are classified in the stage where they are transformed into statistics.

But there is one thing that cannot be concealed: Schools for mentally retarded children are being opened everywhere. A second has already been opened in Mozdok. "Caucasian Ossetians are the last offspring of the Scythians" was what the French scientist Dyumezil [transliteration] recently wrote once again. And he referred to the Scythians as being in that zone of silence "which wedges itself between Germanic peoples to the north and Italic and Grecian people to the south." Does this mean, then, that the Ossetians are the key to this zone of silence? And with every new school for the mentally retarded, this key will rust more and more. The people are dying out genetically.

Ossetia is located in an extreme zone. In the 1970s I came across a certain piece of paper from the republic epidemiological station. An ordinary table. With figures indicating the quantity of zinc in samples from children's palms, toys, and the window sills of child care center rooms frequented by children. The child care center in Elektrotsink's backyard. The plant workers used to bring their children here from different regions of the city. The parents swallowed lead in the shops, while the children did so in the child care center. Here are the figures: 0.001 mg on window glass, 0.005 mg on the palms of the children, 0.0059 mg on toys and so on. I was loath to find out what the maximum permissible concentration was—0.007 mg. This is barbaric—to force people, and all the more so tiny children, to swallow lead.

Those children are now our youth. I would want to ask each of those tiny lead-eaters how they feel today, now that they've grown up. Let me know. Because a children's day care center continues to operate even today at Elektrotsink behind that same fence.

The first secretary of the oblast party committee appeared on television not that long ago. Did he make any mention of any of the problems uppermost in the people's minds? No, he has other problems. "There is no task more important today than saving the party." The same old grating line. What a failure to understand the situation! Political parties, "the socialist choice," "a communist orientation" and all the rest of it are nothing if nature perishes, and entire nations together with it. And if the society is not placed in the care of specialists who have a complete understanding of the essence of physical processes, of citizens who deeply feel for the pain of nature and the people, if an abrupt, mighty change is not made in the system of priorities in favor of man and nature, the final degradation of Ossetia will be inevitable.

Action Sought To 'Heal' Kalmykiya of Volga-Chogray Canal Project Damage

91WN0037B Moscow KOMSOMOLSKAYA PRAVDA in Russian 19 Oct 90 p 2

[Article by KOMSOMOLSKAYA PRAVDA correspondent O. Shapovalov, Stavropol-Elista-Yashkul: "A Scar; Who Will Heal the Kalmyk Steppes From the Rip Opened by the Volga-Chogray Canal?"]

[Text] Did hydraulic construction worker Viktor Vasilyevich Ivanov think of eternity as he stood at the foot of the opened burial mound? How many people had roamed these lands—Sarmatians, Huns, Hazars, Polovtsy.... There was greatness and glory. Now, their leader had been dug up. An important comrade, let me point out, worth his weight in gold. Yet Ivanov felt just as powerful as the prince. The moment Ivanov, the chief of the PMK [Mobile Mechanized Column] would wave a white handkerchief, machinery and worker detachments would get into motion....

Destiny toyed with Ivanov. Last spring, Prime Minister N. Ryzhkov gathered construction and economic workers, politicians, and scientists involved in building the Volga-Chogray Canal for a serious discussion, the consequence of which was the decision to mothball the construction project.

Viktor Vasilyevich was given a new position and triumphantly assumed possession of a comfortable apartment and acquired a car without waiting for his turn. For that reason he was demoted and expelled from the CPSU. Soon afterwards, somehow unnoticeably, Ivanov vanished from Yashkul. Yet the memory of him, unless something is done, will endure through the centuries. The canal section, as much as 100 meters wide and 20 meters deep, which was dug by the PMK-57, was not destroyed even by an earthquake, for the digging was done in style.

The Metamorphoses of the Ministry of Water Resources

The digging of the canal, one end of which stretched toward the Volga and the other to the Chogray water reservoir, was halted. Immediately afterwards, however, it became necessary to consider what to do with this huge 70-km long canal which was cutting through the autonomous republic from north to south? Ideas were suggested (such as turning it into a set of ponds for local irrigation purposes) and even projects (using it as a rowing canal, which would be no worse than the Krylatskiy). The only alternative which could be considered seriously in terms of conservation was the suggestion of the "greens," supported by the writer D. Kugultinov, to bury the canal and to restore the steppe to what it was before the construction was undertaken. In Kalmykiya a dust storm can begin with one clump of pulled-out grass. The land reclamation workers had already maimed thousands of hectares.

Eighteen months passed. The construction workers removed all the equipment and soon the last workers will leave the base of the mechanized column. The result of the "conservation:" not a single square meter of pastureland was recultivated. The workers are leaving behind them a lunar landscape. One must be crazy to irrigate the steppe with water which has accumulated in the canal. Actually, there is already so much water in the canal that one could organize rowing competitions among schools along this ideally straight track. But before Yashkul can be proclaimed the rowing capital of the world we should ask: Who will pay for all this? The ministry has sunk in the Kalmyk sands and loam, with this project alone, more than 60 million rubles taken from your pocket and mine. The cost of the pastureland destroyed with the canal is assessed at yet another 20 million and the indirect damage is estimated at hundreds of millions.

The Chilgir Sovkhoz, in Yashkulskiy Rayon, is the first and, for the time being, the only of the victimized farms in the KASSR which is no longer appealing to the conscience of the land reclamation workers and is trying to talk the language of practical people. The minimal cost of the lost pastureland is estimated at 4.5 million rubles. Chilgir intends to demand the payment of this amount from the Stavropolvodmelioratsiya Association, with the help of the legal cooperative. The lawyers demand a fee of about 1 million, considering the difficulty of this case. There will be major difficulties. The state arbitration authority has acknowledged the validity of the claim. The rest is still up in the air. One can anticipate the stubbornness with which the reclamation workers will be defending themselves, for if Chilgir wins the case, a chain reaction of claims from other victims will follow.

It is worth cheering the Chilgir Steppe for such an initiative, the daring of which becomes particularly clear against the background of the total silence of the leadership of the autonomous republic. In his time, V. Zakharov, former first secretary of the Kalmyk CPSU Obkom, and today head of the agricultural department of the Russian Communist Party Central Committee, was strongly in favor of the canal. To this day there are people in Kalmykiya who believe that the construction was stopped needlessly, for water is needed. The sovkhoz is right to demand satisfaction. But why is it necessary to plunge into debt the Stavropol reclamation workers or Uncle Petya who operated an excavator? Yes, he dug. However, his order was to dig at all cost, to dig despite the pessimistic forecasts of the scientists and despite common sense, orders which came by no means out of Stavropol. The Ministry of Water Resources and Gosagropom were vitally interested in the completion of the Volga-Chogray project which was part of the more grandiose plan of turning around the flow of northern rivers. The former received billions of rubles from the Union budget for this canal. Meanwhile, taking water from the Volga would have inevitably led to reviving the idea of transferring the waters from the north of the country. The latter would have, as a result, a sharp

increase in yields on irrigated sectors in Kalmykiya and in the eastern part of Stavropol Kray. Many people would have been awarded orders before the fields would become covered with a white layer of salt....

It is these two departments rather than the rank-and-file performers who should pay. However... the ministries no longer exist and their ministers have gone who knows where. The land reclamation workers, it appears, have an innate ability to jump out of a derailing train. The first metamorphosis involved the Ministry of Land Reclamation and Water Resources, when Minister N. Vasilyev left the stage, and the name was changed to Ministry of Water Resources Construction. This did not make the ministry work more efficiently. Extracting from the blood circulation system of the state as much as 10 billion rubles annually, the land reclamation department did not supply the country with food but merely wasted millions of hectares of land. Having justifiably determined that the old personnel, even with the new label, would do the same type of work, the USSR Supreme Soviet did not approve P. Polad-Zade as minister of water resources construction. In May of that year there was another twist. The reclamation workers announced to the country that they were closing down their ministry. To the amazement of the "greens" and the journalists, this was not followed by removing desks and chairs or auctioning off the property of the closed-down ministry. Immediately afterwards, the Vodstroy state concern was inaugurated, where all ministry officials, headed by P. Polad-Zade, successfully moved. The functions of the concern are the same: budget financing. The only difference is that now the Supreme Soviet cannot interfere. The concern is no longer a matter for the deputies.

Therefore, Chilgir has no one to whom it could address its claim other than Uncle Petya, the excavator operator. Furthermore, in order to fill up the stinking canal, one would have to beg those who had ordered its digging. Furthermore, he would have to pay for it. The Vodstroy concern guarantees high-quality work! I have no doubt that the department or, I beg your pardon, the concern headed by P. Polad-Zade will accept this project. In any case, for the time being there still is a chance of going back and... completing the canal and use more Volga water.

A Desert in Europe

The scientists are cautioning that Kalmykiya, as a settled territory, may vanish from the map of the country and the world as early as the end of this century. This once blossoming area will be buried under a layer of sand and dust. The desert is advancing by several kilometers annually, destroying as much as 50,000 hectares of steppe. The canal track has intensified this process.

"This is a terrifying sight," says V. Korshunov, deputy chairman of republic's Environmental Protection Committee. "We recently flew over the steppe. Along the track of the canal sand dunes had already formed and the entire land was scarred. The canal has become a trap for cattle and saiga. The number of the latter had been estimated at 1 million 50 years ago. Today it is estimated at 160,000. In the past three years the herd has not increased. The main threat to the population of such extremely rare animals is desertification.

This is not the only one, however. Yashkul hunter Vasiliy Ivanovich Glushchenko, who had lived for 50 years in the Kalmyk Steppe, described sadly the use to which the canal has been put by poachers. They chase the saiga herd with motorcycles into the toxic salty slush which does not freeze even in winter, at which point the slaughter of the helpless animals begins. The two-legged predators are interested neither in the meat nor the hide. All they are after are the horns.

This business developed in Kalmykiya relatively recently, when the miraculous power of a drug made from saiga horns became known. Procurement workers in the local state game farm pay as much as 90 rubles per kilogram of raw material. The cooperative farmers and the private businessmen purchase it for 120-150 rubles. In Moscow, where foreigners are very interested in this commodity, the price jumps to 270 rubles. Abroad saiga horns (the females have no horns) are worth $500.

"The sight of this latest tragedy is indicated by flocks of eagles," Glushchenko says. "As you approach you can see carcasses with sawed-off horns."

If the saiga disappear the sheep will have no place to graze. The animals will be followed by the people who will flee the man-made desert. It will be at this point that, conveniently, the Vodstroy concern, the monopoly water transferer, will show up. The ministry's sirens promised to irrigate the steppe with the help of the waters of the Volga and thus stop the desert. Under circumstances in which people are thinking not in terms of decades but years and months, the old song could create the necessary impression. The cost of the canal in the latest (with a concrete lining) variant is close to 2 billion rubles. The moving of hundreds of thousands of people, whose life in the desert will become impossible, will cost a great deal more. I am afraid that this figure, followed by many zeros, will force the politicians to ignore the threat which the already rejected project entails: the 280 km separating the canal from the Volga will be thus dug.

Indeed, a canal filled with fresh water from the Volga, could postpone the catastrophe for a few years. But what then? It will be a desert nonetheless, the experts say, only in its worst variant: a saline desert. Unfortunately, politics is something in which occasionally the distant future is sacrificed for the sake of instant benefits. For the sake of a five-year postponement someone could quite likely invest 2 billion rubles.

What Is To Be Done?

Above all, the canal must be buried. As to who should carry this project and how, this should be the decision of the Union government, for it is precisely with the

blessings of the Council of Ministers that the implementation of this project was undertaken in the past.

Naturally, the question of "who is to blame?" is important. However, what is much more relevant today is "what is to be done?" I by no means think that gathered in the Vodstroy concern are exclusively died-in-the-wool executioners of nature who have gained their expertise in the former ministry. However, honest and thinking specialists should not be corrupted by financing the activities of the concern out of the state budget. Is it not an absurdity when within a department new "projects of the century" are being developed and implemented, while the state is generously paying for this free flight of the imagination? Vodstroy should not receive a single kopek without informing the peasant, the farmer when next to him a swamp is being drained or a canal being dug. He must be the customer, the master of the land. It is up to him to pay or not to pay, to punish or to forgive.

In the last century the Kalmyk ancestors raised more than 2 million head of cattle. The steppe was able to feed all of them and there was not even a hint of a desert. Under the Soviet system, undertaking to build canals and to plow virgin chernozem, the transformers of nature themselves launched the mechanism of desertification. This madness will not end before monopolism has been defeated. Therefore, Vodstroy should receive not a single kopek from the budget!

However they may be depicted, the land reclamation workers are not all that terrible and could indeed improve the steppe. However... last year's green wave about existing alternate projects by scientists has quieted down and no one mentions how to struggle with the first man-made desert in Europe. Meanwhile, the Kalmyk Steppe soil contains not only the best petroleum in the world but also huge reserves, entire lakes of fresh water. Extracting both would be simpler and less expensive than stringing a huge canal toward the Volga. But what is cheaper is not necessarily better for the ministry or for the concern.

It is still not too late to rescue Kalmykiya. Tomorrow the people of the steppe will join the ranks of refugees who are, as it were, flooding Russia.

Sunk in mud, going to the dead stagnant water, drinking it... bitter. Shepherds say that in the summer heat, drinking this saline water, the sheep go to join their own god. How much more will this bitterness for men and animals last?

TV Report From Site of Bashkiria Plant Explosion

PM0712111790 Moscow Television Service in Russian 1230 GMT 6 Dec 90

[From the "Television News Service" newscast: Report by M. Gafurov, identified by caption, from Bashkiria, item begins at 1232 hours and 40 seconds]

[Excerpts] [Announcer] Here is a reportage from Bashkiria.

[Gafurov] [video shows building] This is the hospital where the accident victims are being cared for. There are eight of them. Two others—chief of the installation Kuznetsov, and machine operator Ibragimov, will never see daylight again.

[passage between 1232 and 54 seconds and 1233 and 50 seconds omitted—interview with barely intelligible accident victim]

[Gafurov] [video shows wrecked plant] The installation was undergoing short-term repairs. The equipment is French. It had been in operation for 20 years prior to the accident, and by all accounts it functioned well. Without doubt the investigating commission will identify both the specific causes of the accident and the extent of the damage. But one cause can be named even without an investigation. It is this:

[S. Rakitskiy, the association's chief engineer] We annually calculate the residual value of the equipment, allowing for depreciation. Depreciation of the equipment at the enterprise has now reached the 90 percent mark. This means that practically all the equipment at the enterprise is totally worn out.

[Gafurov] Therefore, no one can guarantee that something similar will not happen tomorrow. And if not at this plant, then at next one.

[Announcer] This was a reportage from the Novoufimskiy Petrochemical Plant. Allow me to remind you that there was an explosion at the gasoline production unit.

[item ends at 1234 hours and 50 seconds]

Local Media Faulted in Bashkir Refinery Incident Handling

PM1312163990 Moscow IZVESTIYA in Russian 7 Dec 90 Union Edition p 2

[Aleksandr Zinovyev report under the "Direct Line" rubric: "But Television Was Too Late..."]

[Text] Ufa—The Bashkir Soviet Socialist Republic [SSR] and Supreme Soviet Presidium and the Russian Soviet Federated Socialist Republic republic committee have expressed condolences to the families of the victims of the explosion at the Novo-Ufimskiy Oil Refinery.

"The recovery operation at the destroyed facility will involve as many people as the situation requires," M. Usmanov, deputy chairman of the Bashkir SSR Council of Ministers, said in conversation with me. "We will do all we can to ensure that the installation is producing again in the first quarter of next year."

The disaster revealed yet another problem: The lack of conditions for promptly informing the population about emergencies. It was not until the next morning, 14 hours

after the explosion, that the first announcement was made on local radio, and all the time the most fantastic rumors were sweeping the city.

According to V. Filev, first deputy chairman of Ufa City Soviet Executive Committee and chairman of the city's emergencies commission, he tried to broadcast an announcement about the incident on the evening of 1 December, but, alas, he was unable to do so. It was Saturday, and there was no one at the television studio.

For the same reason, the members of the government commission now recall, the announcement of the phenol disaster in the spring was also very late—unsuspecting people were drinking contaminated water.

But I do not think it is a question of technical difficulties—not only these, at any rate. The local press sees in this attitude a lack of public spiritedness on the part of the comrades at the television and radio broadcasting committee.

Explosion at Perm Chemical Plant

LD0512233490 Moscow Domestic Service in Russian 1900 GMT 5 Dec 90

[Text] Another accident! One person died and five were taken to hospital as a result of an explosion at a chemical installation at the Galogen [Halogen] Production Association.

The specific causes of the accident are being investigated, but it can already be said that they are of a technological nature, said Panfilov, deputy head of the Perm section of the USSR State Industrial and Nuclear Supervisory Commission and chairman of the accident investigation commission.

Directed Nuclear Explosion Used in 1971 River Diversion Experiment

91WN0094A Moscow RABOCHAYA TRIBUNA in Russian 11 Nov 90 p 4

[Article by N. Fedoseyev, people's deputy of the oblast soviet, Cherdynskiy Rayon: "The Adventure of the Century: It Has Left a Terrible Mark on Perm Soil..."]

[Text] **From here, up in the sky, out of a helicopter window, that which is invisible on the ground immediately grabs the eye: the geometric regularity of the perimeter of a rectangular lake. What, if anything, might seem unusual about this? It's just that such rigidly straight lines are atypical of nature.**

"I can see people in the distant future busting their heads trying to explain this one," one of the members of our expedition said.

"In the distant future?" I thought, "hardly." It will soon be 20 years that thousands of local inhabitants, eyewitnesses to the advent of this manmade "miracle of nature," have been busting their heads about this. And they still can't come up with answers to questions that may affect their health, and even life itself.

Very little is still known about what happened here, in northern Perm Oblast, in the forests of Cherdynskiy Rayon, in early spring 1971. The oldtimers recall a certain day when mighty equipment of unprecedented quantity appeared in this region, forgotten by God and by the powers above. It was followed by the arrival of a large detachment of serious-minded people who didn't talk much. So began the attack on the taiga. In no time at all, a track was cut for caravans of vehicles hauling piping and some sort of equipment through the night. Where they were taking all of this, and why, was never communicated to the rayon's inhabitants. And anyone who attempted to follow the track was met by guards in military uniform.

Then one day the dozing taiga shuddered in response to an explosion of gigantic force. After it, a cloud appeared over the forest and drifted downwind, toward the northeast. A few hours later, inhabitants of nearby villages noticed some sort of strange light-reflecting particles on the snow. An announcement was made throughout the rayon not to use melted snow water.

Soon after this, the tight-lipped strangers went back to where they came from together with their mighty machines. And the only reminders of all of this strange story are the road laid over the taiga and marshes, and the stories told by hunters about a lake a little less than a kilometer long, with rectagular and completely barren, lifeless shores, that appeared miraculously from nowhere among the sleepy pines. There was also the troubling rumor, transmitted from mouth to mouth, that the lake had been created by a nuclear burst, and that the entire north of Perm Oblast was contaminated by radiation.

But this version seemed rather absurd.

"I remember aggressively fighting these 'gossipers'," said T. Krosheninnikova, a teacher who used to work then in one of the forest villages. "I argued that if explosions dangerous to people were set off anywhere, it would never be in our Soviet state."

The official powers of the rayon and oblast rejected this version as well. It was refuted by the local press. Those who were especially curious and insistent were told that the operation, code-named "Canal," was totally harmless to the environment and to human health. Moreover it was itself directed at rectifying certain mistakes of nature, at solving "particular ecological problems."

A little less than 20 years, including five years of perestroyka, had to go by before people finally learned the entire truth.

This recently arrived expedition to this lake in the taiga, contains representatives of the public of Cherdynskiy Rayon, scientific workers from the All-Union Promtekhnologiya Institute and, what is especially important, participants of that earlier secret project.

The sensation was that we were transported from real life into Tarkovskiy's motion picture "Stalker." Picturesque meadows suddenly give way to the skeletons of some sort of machines. Old barracks with black sockets where windows used to be stare malevolently out through the young regrowth of forest trees. Pieces of cable and lengths of pipe are scattered around beneath one's feet. And all of this is over a huge territory. I tried to estimate how many millions of rubles this "experiment" cost our national economy. We can apparently no longer get an exact answer to this question. Whatever the case, for the moment we can only make guesses based on some figures offered by V. Matyushkov, an engineer who participated in the preparations for this burst. Figures like this: The "Taiga" experiment was supported by over 800 specialists from different institutes in the country!

Such, then, were the kind of grandiose forces and resources focused on just one of 200 projects that fell within the attention span of the USSR Council of Ministers and the USSR Ministry of Land Reclamation and Water Resources. The fact is that the manmade miracle lake in Cherdynskiy Rayon was to become one link in the "Canal" system, which was to divert waters of the northern rivers into the Caspian.

"The canal was to be built by means of controlled nuclear bursts," explained V. Matyushkov. "One such burst was set off here, near Cherdyn."

Three seven-kiloton charges were placed in special shafts and set off simultaneously. The ground itself protected surrounding nature and people from the most deleterious consequences of the "experiment." The most dangerous decay products—cesium-137, strontium-90 and cobalt-60—remained in the subsoil (at least that's what specialists who traveled with us feel). However, some toxic substances were released with the gas and dust cloud that erupted outward and was scattered by the wind. In general, the half-life of most radioactive substances is short—just a few hours. But in what way did they manage to affect the surrounding natural environment in these hours?

Questions, questions.... It is of course a very difficult thing to find answers to them today, a couple of decades after the fact. Nonetheless, specialists feel certain that they will be able to find answers to most of them. It was with this purpose that an extensive research program has been planned. Participants of the expedition are taking water samples from neighboring streams and marshes, they are sampling the soil and atmospheric moisture, they are cutting out chunks of tree bark, and they are collecting moss, mushrooms and grasses from different areas of the "zone" for this purpose. And in the meantime specialists of a radiation safety laboratory are taking measurements of the gamma-radiation level.

A dosimeter reveals a natural radiation background at our camp—around five microroentgens per hour. But as we come closer to the lake the radiation level begins to rise swiftly: 20, 40, 60, 130 microroentgens per hour. In one place the instrument reads 1,400 units. But what were the readings, let us say, 10 or 15 years ago, when the shores of the lake had not yet been covered by grass and moss, which absorb radioactive particles and create a kind of living protective shield?

"It was not safe, of course," V. Akhundov, the expedition's scientific leader hesitantly explained. "But in regard to the current radioactive situation, I can say this. There is no threat here to the casual passerby. But remaining here for a long time is not recommended."

After our expedition finished its work we set off to plant posts bearing signs reading "Radioactivity. Hazardous to Health." Several square kilometers of taiga were encircled by these forbidding warning signs.

That's how the authors of this grandiose land improvement adventure "improved" nature in Cherdynskiy Rayon. The one terrifying thought is what this entire undertaking might have cost, had it not been stopped in time, had all of the planned bursts been set off. What sort of monstrous radioactive drainage channel might have been created!

Consequences of Alleged 1979 Sverdlovsk Anthrax Outbreak Explored

91WN0169A Minsk ZNAMYA YUNOSTI in Russian 24, 25 Oct 90

[Article in two installments by Sergey Parfenov: "The Secret of the 'Sarcophagus'"; reprinted from the magazine RODINA No 5, 1990. For additional recent reporting on this topic, see pages 87-90 of the FBIS DAILY REPORT: SOVIET UNION, FBIS-SOV-90-172, dated 5 September 1990.]

[24 Oct 90, p 3]

[Text] **There are several cemeteries in the city. But hanging like a sword over one of them, Vostochnyy, is a national curse...**

No, this place is still filled with visitors, especially on parents' day. People wander through the lanes and paths. They cry, they are silent, they remember the deceased. Just as they do everywhere else.

But nobody is hurrying to Sector No. 15. Here, as a rule, there are no people, and a somber silence prevails. There are dozens of graves. Many have been forgotten and neglected, and they are overgrown with weeds. Nothing is taken out of here (old wreaths and dry and mown grass, for example, are burned) and any digging or cultivation of the ground here is strictly forbidden. The sector is inspected periodically by workers of the SES [sanitary-epidemiological station]. The high officials of Sverdlovsk and the oblast know about the "sarcophagus"; they say that on the city map this corner of the cemetery is marked with a red cross.

What secret is kept in Sector No. 15 of the Vostochnyy Cemetery, what is it that evokes fear to this very day?

The Official Version

Early in the morning on 4 April 1979 in Chkalovskiy Rayon in Sverdlovsk (not far from the 19th military compound where the laboratories of the Scientific Research Institute of Vaccines of the USSR Ministry of Defense is located), some incomprehensible things started to happen. The telephones in the first aid service would not stop ringing: All of a sudden, for no apparent reason, people were becoming disabled and weak, their temperatures shot up to above 40 [degrees centigrade], they had bouts of coughing and vomiting... The patients were taken to city hospital No. 24—some of them from home and some of them right off the street. Soon there were no empty beds there (the only treatment facility could take only 100 people) and they began to send the afflicted (with what nobody knew yet) to the neighboring hospital No. 20...

Margarita Ivanovna Ilenko, the head physician of city hospital No. 24, says:

"Ten years ago we actually did not have a hospital; we lived and worked in crowded conditions. Such a flood of patients was quite unexpected and we sent some of them to the 'Twentieth.' And all of a sudden the head physician, Yakov Iosifovich Klipnitser, called me from there:

"'Listen, Ilenko, we had two of "yours" die on us...'

"I was taken aback:

"'The diagnosis?'

"'Seemed to be pneumonia...'

"After a short period of time the phone rang again. It was Klipnitser:

"'Margarita Ivanovna, I am in a state of panic: Three more have died!'

"'From what?'

"'Toxic pneumonia...'

"My word of honor, I broke into a sweat. For if the disease was not prolonged, and if during that time there were no complications, no "slip-ups," I am sure that a trained medic is well aware of the fact that pneumonia is practically never fatal. And here we had an almost instantaneous, extremely severe form! People were dying from pulmonary hemorrhage.

"And then it dawned on me: God, this was some kind of infection!...

"But what kind?

Roza Khaziyevna Gaziyeva, the head of admissions of hospital No. 24, recalls:

"As senior therapist, I was on duty that terrible night. They kept bringing people in. There was nowhere to put them; we had to put them in the corridors. Some of them who felt better after first aid tried to go home... They were later found on the streets—the people had lost consciousness. And there was a problem in the building: A man had died. A woman was critical. I brought her back to life with mouth-to-mouth resuscitation. To no avail. During the night we had four people die. I could hardly wait until morning. I was frightened...

It was in the air: infection, infection, infection. Gaziyeva could barely stand on her feet: She had three small children and she herself was still young—she wanted to live. But this feeling came a little later, and for now here head was splitting into pieces: What was happening, why were people dying, how could they stop it? By the time M.I. Ilenko came into the reception room, Gaziyeva was almost in tears. Her rounds were simply a nightmare. In the wards the dead and living alternated...

M.I. Ilenko:

"I understood why the personnel were in shock: I looked at a patient—he was as good as dead. But even two or three minutes before he died he looked at the doctor calmly, as though nothing had happened, although all the patient's body (from somewhere on his back) was covered with the typical spots of a corpse. A moment later there was blood in his throat and he was gone..."

Two days later—finally!—they woke up "upstairs." Diagnosis: anthrax! The situation had changed abruptly. All medical services in the city were put to work. Organs of the sanitary-epidemiological service, veterinary services, fire departments, military services, enterprises and organizations of Sverdlovsk. The emergency became the subject of large-scale investigations in the oblast and upper echelons of power. Highly placed leaders of the USSR Ministry of Health, including the country's chief sanitary physician P.N. Burgasov, came to the Urals.

The medical workers of hospitals No. 20 and No. 24 were given an order: to move all patients infected with anthrax to city clinical hospital No. 40, to the infectious diseases facility. The collectives were to begin vaccinating the population and decontaminating the area of Chkalovskiy Rayon.

The people were moved. All the patients ended up under the constant scrutiny of medical personnel, the best specialists in the oblast. But...they continued to die.

In 1979 Galina Alekseyevna Lyashchenko was working as chief of the office for services (funeral services) for production combine No. 1:

"What was especially etched on my memory? The situation itself surrounding the outbreak of anthrax. People were nervous and did not understand things very well. There was fear, innuendoes, panic... And, of course, immense sorrow, the tragedies of families. I alone had to bury no less than 50 deceased. They were mainly middle-aged men..."

In spite of the minimal amount of information, rumors about the emergency spread rapidly through Sverdlovsk.

Witnesses to these events remember that April well, the atmosphere of wild fear among the population, the panic, the many alarming rumors (right down to the point of saying that IT "broke out" in the 19th military compound and dragged the poison through Chkalovskiy Rayon). People tried not to eat meat, sausage, or frankfurters, they avoided going out of the house, they locked up the windows and doors, and they limited their contacts with one another. The local newspapers published explanatory articles with recommendations on how to protect oneself from anthrax.

But many people did not believe the official version. And with some justification. Thus when patients would come to city hospital No. 40 they were asked if they had anything to do with the 19th military compound. A limited group of Sverdlovsk residents more or less that behind the strong army fence in a secret scientific subdivision they were doing work related to the vaccine. Is this not where the mysterious disease came from?

According to the figures of the military scientists, "the cattle belonging to the citizen Perevalov from the village of Averinskiy in Sysertskiy Rayon fell ill with anthrax and mass death of animals began here at the end of March." This, they said, was the source of the tragedy.

But here is the hitch: From the statistics that were given for the spread of anthrax—159 outbreaks—it quite definitely follows that this "plague" has afflicted livestock and passed humans by. Why was it that in the spring of 1979 it hit us so selectively and fiercely? There is no answer.

Incidentally, here is what the head state veterinary inspector for Sverdlovsk Oblast, Valentin Petrovich Yaroslavtsev, has to say (he has been working in this position for many years and is a very qualified specialist):

"When we found out about the emergency and the diagnosis that had been given, we immediately put our people to work, conducted careful research, and did hundreds of analyses of the soil, feeds, and air. So I shall be brief: We did not find any source of the disease or cause of the outbreak of anthrax in our service..."

FALSIFICATION?

Here is a fact that draws our attention. In practically all of the documents, articles, and reference works (including in the statements from the military) pertaining to the sad events of 1979 in Sverdlovsk, there are always references, quotations, and figures from the article of Professors I.S. Bezdenezhnykh and V.N. Nikiforov, "An Epidemiological Analysis of Anthrax in Sverdlovsk," printed in No. 5 of ZHURNAL MIKROBIOLOGII, EPIDEMIOLOGII I IMMUNOBIOLOGII for 1980. And this is practically the main argument of the proponents of the official version of the outbreak.

But let us reread this article.

"The sporadic cases of anthrax in humans in one of the rayons of Sverdlovsk were preceded by an outbreak of anthrax among agricultural animals on certain farms... The animals were probably infected through feeds.

"In March-April there was a marked increase in the slaughter of cattle on certain farms and the meat was sold on the outskirts of the city through private business. Moreover, one cannot rule out the possibility of the sale by the private sector of meat from animals that had to be slaughtered..."

This requires a brief commentary.

In the first place, for such serious scientists who are drawing far-reaching conclusions (the infection of humans with anthrax occurred through the meat of domestic cattle), arguments like "probably" and "it cannot be ruled out" are hardly acceptable.

In the second place, one would have to be completely ignorant of the rural way of life and the psychology of the land-owning peasant to assert that in March-April he could decide to cruelly kill all of his domestic livestock. Never! In the country livestock are slaughtered in the autumn, when the first really cold weather comes, and then in the middle of the winter, but always keeping in mind that the herd must reproduce itself and there can be no losses.

We quote further:

"The distribution of the victims according to the dates of their illness, taking into account the duration of the incubation period, made it possible to rule out the possibility of infection through meat which was centrally provided for the public food supply. If that had happened one could expect outbreaks of the disease.

"From meat taken for examination from two families in where there were victims we isolated the pathogenic organism for anthrax. In both cases the meat was bought from private individuals at unofficial marks and the strains of the pathogenic organism of anthrax isolated from the meat were the same as the strains isolated from the afflicted humans..."

And what does this prove? In the opinion of I.S. Bezdenezhnykh and V.N. Nikiforov, it proves that the infected meat was the cause of the infection of the humans.

Yuriy Mikhaylovich Gusev, the director of the Sverdlovsk Plant for Ceramic Items:

"I know that there is this version: The workers suffered because of meat bought from private businessmen—but it was really purchased by an enterprise in an organized way. This is not so. In the eve of the holiday we actually did acquire some meat from the Kadnikovskiy Sovkhoz in Sysertskiy Rayon. We have long-standing and good relations with this farm and the collective helps the sovkhoz, especially in harvesting the crop. But I can tell

you with complete certainty that the meat was inspected by the veterinary service and it had a stamp, that is, their conclusion was positive.

"We must look for the source of the disease somewhere else. And the cause as well. Because at that time the plant lost more than two-tenths of its workers. And this was in peacetime..."

Specialists go on to write:

"...Individual cases of anthrax among humans have been registered, and there were skin and intestinal forms of the infection. The anthrax-like nature of the illness was confirmed by the results of laboratory examinations of the humans and the animals."

What do they mean by "individual cases"? About 70 deaths (according to incomplete data, the Vostochnaya Cemetery is not the only place where they are buried)—what about that?

And why do the authors name only two forms of infection. Anthrax in humans is manifested in three main clinical forms: dermal, pulmonary, and intestinal. The intestinal form appears as a result of eating the meat of ill animals. The dermal form the causative agent enters at a point where the skin has been injured, mainly on exposed parts of the body (face, neck, fingers, forearms). We admit that both of them "occurred" in the spring of 1979.

But why did Bezdenezhnykh and Nikiforov not even mention the pulmonary form of the infection? Perhaps there were no cases of this? There were, and we are convinced of this by the evidence from medical workers of hospitals No. 20 and No. 24.

The problem is apparently that with the pulmonary form the infection is aerogenic when the patient is working with materials infected with spores of the anthrax bacilli. The disease progresses following the pattern of serious bronchial pneumonia. Is this not the riddle of the strange tragedy of 1979? In order to fall ill this way, to put it crudely, you have to inhale something, that is, microbes that are in the air in "suspended" form!

[25 Oct 90 p 3]

[Text] From a conversation with Faina Afanasyevna Abramova (former docent of the department of pathological anatomy of the Sverdlovsk Medical Institute):

"In 1979 I was already on a pension but they asked me to come and work in hospital No. 40 as a pathological anatomist. So I remember well the sad events in April.

"Once on Saturday—it was the end of the month—a strong young man was sent to us and on Monday he had already died. They asked me to examine him: They said it was a very complicated and incomprehensible disease...

"All right. We did an autopsy. One was struck by the infection of the lymph nodes and the lungs. But I also paid attention to the hemorrhagic inflammation of the encephali and we discovered a so-called "cardinal's cap." What is that? I told them it was similar to anthrax. But both the clinicians and the infectious disease experts who were present had their doubts: Enough about this anthrax, we finished with that long ago...

"I asked: Is everything clean in the city, are there no infections anywhere? And then someone admitted: Instructions had been given to prepare a ward, they were waiting for patients, so there was something.

"We decided to conduct a bacteriological investigation, called the department for especially dangerous infections of the oblast sanitary-epidemiological station, and sent the body there. The microscopic sections were filled with anthrax microbes! And things took off...

"It turned out that in hospital No. 20 there had been an outbreak and several deaths from pulmonary infections. But the diagnosis was different: pneumonia. They sent an appeal to the chief of the oblast public health department, N.S. Kikiforov. And the pathological anatomists and court medical experts were all told that this was indeed anthrax. We believed this and started our hellish work.

"All the people who were infected were taken to hospital No. 40. With each suspicious case in other regions of the city we would go to the location immediately. To be safe, during the first days the medical personnel took antibiotics. We had to handle a very large number of corpses, I know for sure there were 42 bodies...

"What happened later, after the outbreak had been conquered? Something that was unique in all respects. In the highest medical circles (with the knowledge of P.N. Burgasov) they decided "while the case was still hot" to prepare and publish a monograph (and in Sverdlovsk). We planned a candidate's dissertation about this case. Working on it with me was Lev Moiseyevich Grinberg, who was working at that time as a pathological anatomist in the tuberculosis hospital.

"We gathered the materials and went to Moscow, worked another two weeks on it there, and then wrote it. We left it there, including 80 or 90 color slides. The morphological picture was very rich. But we never heard anything more about the monograph (dissertation)! Twice I was invited to give papers about the emergency and anthrax—in Moscow (at the Botkin Hospital) and in Sverdlovsk at the oblast seminar for pathological anatomists. But both times at the last minute I heard: The arrangements are canceled, anthrax is not included among the especially dangerous infections...

"I have left as a 'memento' of those days an engraved watch—a gift from the Sverdlovsk Oblispolkom [Oblast Executive Committee] and the conviction that the infection of the humans in April-May 1979 was mainly aerogenic."

A Virus From the Department

Comments from Margarita Ivanovna Ilenko:

"No, that was not anthrax. I am a professional, an old and experienced medic. The patients I saw had pulmonary and respiratory infections. Plus there was the amazing speed with which the disease took its course. What were we dealing with? It seems to me that it was some microbe grown under specific conditions. And I am very sorry that the truth about it was suppressed from the very beginning. It would have been possible to avoid many mistakes, incorrect actions, and fear..."

The head physician of the Scientific Research Institute for Protection of Maternity and Childhood, Tamara Fedorovna Kireyeva:

"We received lists of people in the rayon from which we are categorically forbidden to admit obstetrics patients. They took from us to hospital No. 40 a nurse-anesthesiologist, and through medical channels we learned that patients from the 'zone' went there—mainly with pulmonary infections..."

What were these lists? There was a surprising pattern: An especially large number of the names were of people brought in from Selkorovskaya (16 people), Eskadronnaya, Lyapustina, Poldnevaya, Voyennaya, and Agronomicheskaya Streets (we are speaking about hospital No. 24)... Why? If you look at a map of the city it is not difficult to note: all these geographical points are...to the south of the 19th military compound! Of the enterprises of the rayon, workers of the ceramic items plant suffered especially.

The people recall: The wind during the first days of April 1979 blew mainly from the north to the south...

On 17 February of this year [1990] there was what was perhaps an unprecedented event in Sverdlovsk. The collective of the sector for military epidemiology (SVE)—one of the structural subdivisions of the Scientific Research Institute of Microbiology of the USSR Ministry of Defense, created in 1986 on the basis of the Scientific Research Institute of Vaccines of that same organization—opened the doors of their laboratory to civilians. Invited to visit the military scientists of the 19th compound were USSR People's Deputy V.I. Shmotyev, Sverdlovsk Gorkom [City Party Committee] First Secretary V.D. Kadochnikov, representatives of the rayon authorities, scientists of the Uralsk Branch of the USSR Academy of Sciences, ecologists, and journalists. There was an inspection of the heretofore classified facility and a press conference. And, of course, the conversation touched upon the events of 1979.

For example, this question was asked:

"What is the sector for military epidemiology and what functions does it perform today?"

"Our sector is a scientific research institute of the USSR Ministry of Defense," answered the chief of the SVE, Candidate of Technical Sciences Colonel A.T. Kharechko. "The scientific subject matter envisions the solutions to a broad complex of problems in the area of antibacteriological protection. This is the development of means and methods of disinfection of the locality, military equipment, arms, and various military property, means of individual and collective protection of humans from biological aerosols, and also means of rapid discovery of harmful substances in the environment. We also conduct research and study of the mechanism of biological damage to military equipment, that is, the influence of various natural micro-organisms on the constituent materials of this equipment, for in nature there are also microbes that are compatible with technology which destroy metal and plastics..."

"How does one evaluate the sector's activity under the conditions of the recently changed military and political situation in the world? Is this work not superfluous?"

"No," objected Anatoliy Trofimovich. "Research in this area is being conducted on a broad scale in Western countries, although, true, now not only in government, but also in private laboratories. And if you look at the regulations of the armed forces of these countries, as before they envision measures for antibacteriological protection, so it would be unjustifiable carelessness for us to halt this work unilaterally..."

"Residents of Sverdlovsk still link this outbreak of anthrax in the spring of 1979 to the activity of the institution located on the territory of the 19th military compound. What can you say about this?"

"That opinion is profoundly mistaken. The rumors that made their way around the city in the spring of 1979 about some outbreak that was supposed to have occurred on the territory of our institution and the discharge of the causative agent of anthrax into the environment had no real grounds. Mainly because we never had anything to do with the outbreaks. In our laboratories there simply were no substances, materials, or processes which could have led to the outbreak. I think this absurd version became widespread because the majority of people are more inclined to believe in certain fantastic things than in real and natural explanations. The very unusual and tragic nature of the situation apparently demanded equally unusual and sensational causes. The regimen of secrecy and the notorious departmental interests also played no small role here.

"Sad as it may be, the fact that this subject is being raised again now can most likely be explained by the existence of certain groups and individuals who are trying to gain recognition and popularity by awakening a negative attitude toward the army in the community. This is a destructive policy..."

And so the specialists of the sector of military epidemiology assert: The discharge of anthrax causative agents from the territory of the 19th military compound never happened at all, nor was there any kind of outbreak.

Yes, there were rumors about this among the population. But the discharge of poison could occur "on the quiet"—through the ventilation system, for example. Before 1986 the sector and prior to that the scientific research institute engaged in the development of technology for the production of vaccines for protecting the country's troops and population from a number of dangerous infections. But where there is a vaccine there are also strains of virulent cultures of causative agents which were used in the laboratories. Including anthrax.

This is not the only disturbing thing. During the first days of the outbreak medical workers paid attention: Most of the people who suffered from it were men. At the news conference, incidentally, workers of the SVE gave these statistics: During the emergency 96 people fell ill. Of these 25 percent were women and 75 percent were men. One child was also afflicted.

But what does all this tell us? First of all, it tells us about the strange selectivity of the disease. It "mowed down" the adult, most able-bodied population, and among men—in the age group from 31 to 40 years of age (mainly). How does one explain all this? Only by the fact that, say, on that fateful day uninspected meat was brought in to sell at the ceramics plant? Or perhaps the virus that broke out randomly was programmed?

Look. Considerable forces were dispatched to clean up after the outbreak. This was already discussed briefly above. But in addition they mobilized (there is probably no other way to put it) to the Vtorchermet area motor transport enterprises, the city planning service, students of the Sverdlovsk Medical Institute, and so forth and so on. In the region of the 19th military compound people in gray-green protective suits took soil samples. In some places, particularly in the region of the former collective gardens behind the ceramics plant, they removed the upper soil layer. Certain streets were covered with a new layer of asphalt. Firemen washed the roofs, sidewalks, large buildings, and houses...

M.I. Ilenko:

"When they began to pour a special solution everywhere (which was intended to kill the rest of the anthrax agents), the situation, in my opinion, became worse. There were additional cases of illness and death..."

What was the matter? Medical experts assume that by the time of the mass work for disinfecting the territory of the rayon, the aerosol (if you accept the "leakage" version) or the so-called "dust" had already settled and been buried. And now it has been raised up into the air again. The rest is understandable. Unsuspecting people swallowed the fatal "dust" and it infected the mucous membrane of the upper respiratory tracts and the lungs. Bronchial pneumonia was the lethal outcome..."

Ask the Dead the Price of Life

One question will not leave me in peace: Why did the military suddenly become so communicative? Of course, today one has to deal with public opinion. USSR People's Deputy G.E. Burbulis showed an interest in the events of 10 years ago in Sverdlovsk. But the main thing is that in 1989 the sector changed over to economic accountability. It could deliver nutrient medium to laboratories on a contractual basis, conduct the most complicated chemical analyses for medical experts, sterilize instruments and materials, engage in subject research, conduct bacteriological certification of the location, and conduct ecological observations. After all, the SVE has equipment civilian laboratories could never dream of.

But this requires partners, one must have an irreproachable business reputation, and in all matters one must profess not only advantage and commercial gain but also honesty and confidence. This is probably one of the reasons why they held the news conference in the 19th military compound in February.

But neither before nor after it was there any confidence that the development of events in the spring of 1979 proceeded precisely the way the official version claims. For example, the military clearly hint that the emergency was on the conscience of the service of the sanitary-epidemiological station and it was because of their thoughtlessness and carelessness that the anthrax spread.

Well, in the spring of 1979 on the outskirts of Sverdlovsk, in Sysertskiy Rayon, cases of infection of domestic cattle with anthrax were registered. But it is equally probable that this outbreak coincided in time with the "backfire" of the Scientific Research Institute of Vaccines and this was subsequently used by the military department for its own alibi.

The author by no means claims that his judgments are final. And it would be premature and irresponsible, to say the least, to draw hasty and categorical conclusions. But the discussion of the tragic story of the "anthrax" in Sverdlovsk had to occur one way or another. And for now the Soviet citizen has no certainty that the information given to him from official sources and the secret departments is objective and reliable. Examples? The fate of the Aral, Chernobyl, the chain of bloody, terribly neglected conflicts in the Transcaucasus, the bloody April in Tbilisi. And where is the guarantee that we are not sitting on another bomb today.

People's Deputy on Chelyabinsk Radioactive Contamination Threat

LD1012225290 Moscow Domestic Service in Russian 2040 GMT 10 Dec 90

[Remarks by (Petr Ivanovich Somin), chairman of the Chelyabinsk Oblast Soviet of People's Deputies, at session of Russian Soviet Federated Socialist Republic Congress of People's Deputies in Moscow on 10 December—recorded]

[Text] Esteemed people's deputies! Esteemed Presidium of the congress! What I shall be speaking about is one of the greatest human tragedies of our age. Because of the

strictest secrecy in the past and the criminally negligent attitude on the part of the highest state bodies of power of Russia and the Union, to this day the Chelyabinsk catastrophe—which afflicted considerable territory in Chelyabinsk, Kurgan, and Sverdlovsk Oblasts—remains unknown to you, people's deputies of Russia, and to the population of the country as a whole. However, not adopting urgent, wide-ranging state measures threatens unpredictable consequences at any time.

In 1949, it befell the workers of Chelyabinsk Oblast to become the founders of the resolution of the atomic problem in the USSR, the builders of the atomic shield. Three major, unprecedented accidents—the main reason for which was imperfections in the storage of radioactive wastes—ended in exposure to radioactivity for 437,000 people. Chronic radiation sickness was diagnosed in 935 people. More than 18,000 rural inhabitants were resettled. Compensation for the damage is taking a long time and is not commensurate, which causes justified indignation from the population.

Esteemed people's deputies, the ecological consequences of the work of the Mayak Production Association are a particular problem. On its territory there are burial sites for radioactive wastes, and also artificial reservoirs containing radioactive water, with a total volume of about 500 million cubic meters. In the area of burial of radioactive wastes, a pool of radioactive groundwater has formed at a depth of up to 100 meters, with a volume of about 4 million cubic meters. These waters connect with surface waters and rivers. A very real threat of pollution of the Ob basin's hydrographic system by radionuclides has been created. The total activity on thirty square kilometers amounts to a minimum of 1 billion Curies. Both those who are specialists and those who are not can imagine how serious this is. Such an accumulation of radioactive wastes represents a real danger for the population of Russia, and demands a radical solution. The mass exposure to radioactivity of the population in the Urals requires the adoption of urgent measures for the medical and social rehabilitation of people.

Comrades, there is no other such radiation-soiled and explosive situation on our globe. For this reason, thousands and thousands of people are suffering today, and millions are hostages; and their lives today really are in danger.

We have prepared our proposals on this score. We have given them to the Supreme Soviets of Russia and of the Union and to the USSR Council of Minsters, and today we appeal to you people's deputies to instruct the Supreme Soviet of Russia to adopt a state program no later than the first quarter of next year to eliminate the aftermath of the accidents and to prevent further ones, and to rehabilitate the population of Chelyabinsk, Kurgan, and Sverdlovsk Oblasts.

Esteemed Boris Nikolayevich [Yeltsin]! You know best of all about this accident, and you can well imagine what I have just told you is just a small part of a greater and a bitter truth. Today, on behalf of the Chelyabinsk deputies, we are today presenting you, Boris Nikolayevich, with a collective deputies' request and are asking you to give a most serious instruction that finally we should get on with this problem in earnest. Furthermore, Boris Nikolayevich, we believe that this decision will meet with justified, humane understanding.

RSFSR Plan To Improve Magnitorgorsk Environment Questioned

91WN0088A Moscow IZVESTIYA in Russian 9 Nov 90 Union Edition p 1

[Article by A. Yudin, Magnitogorsk, under the rubric "Fact and Commentary": "The Perfidy of the Residual Principle"]

[Text] **The RSFSR Council of Ministers has adopted the decree "On Measures for Bringing the Ecological Conditions and Development of the Social Sphere in Magnitogorsk, Chelyabinsk Oblast to a Healthy State."**

City authorities are satisfied: the intensive "shuttle operations" on the capital's registers, including numerous pardons and petitions of deputies has at last been crowned with success. Now, by being a city-sufferer, the "pride of the first 50 years" has the opportunity to work for itself beginning next year, if the decree is to be believed.

It is intended that 7 percent of the production of the city's enterprises and 10 percent of their foreign currency reserves may be directed for development of the municipal economy and bringing ecological and social conditions to a healthy state. The city executive committee is granted the right for all purposes to release enterprises, associations, and organizations, irrespective of their departmental subordination and form of ownership, from paying to the budget the sum of income which is received from bartered transactions. But they raised questions: whether the city executive committee will be able to use to full measure the opportunities which have opened up; whether the union ministries will "want" to submit to the demands of the republic government; whether the enterprises themselves will start to expend 7 percent on their needs on the sly.

Not idle questions. For example, an absolutely concrete measure is provided for, it would seem, by the decree: the apportionment of capital investments, guaranteed increases in output of the city's construction industry by 20-30 million rubles annually. But how much benefit will there be from this just for the social sphere? You see, if the "gift" of the Council of Ministers of Russia passes to the Magnitostroy Trust, which, incidentally, would not decline the doubling or tripling of financial injections, it is completely possible that this "gift" without a balance would be consumed by industrial construction. And this is the chronic illness of Magnitka, from which more than one program of social development withered away.

Here is a fact for reflection: 162 of 179 million rubles of the yearly volume of the construction assembly work carried out by all construction organizations in the city is on the part of the Magnitostroy Trust. But the strength of the super-monopolist sucks out another giant from year to year - the metallurgical industrial complex, and such figures, for example, speak eloquently on the scale of its overcharging: on building just the first line of an oxygen-converting shop and the rolling-mill "2000" in the current five-year period they planned to expend more than one billion rubles of capital investment. This includes 550 million rubles for construction-assembly work. And this is only the beginning.

Not only the metallurgical industrial complex but also the other "whales" of the city (together they produce 10 percent of the metal and a quarter of all articles made of it in the country) for half a century have developed without fundamental modernization and reconstruction. Consequently, it will have to willy nilly be very busy and very seriously - it fills the coming market with its rigid "rules of the game." You see, the material well-being of the residents of Magnitogorsk will depend directly on the industrial muscles of the "capital of ferrous metal."

And think: are they not flying off again from the program of the source of water consumption, roads, communal systems, schools, hospitals, kindergartens, lodging, nature protection objectives? It is shameful to say: the city which gives more than a billion rubles yearly is becoming a "naked king," it seems, incapable of solving urgent social problems.

Explosion Damages Tomsk Refinery

LD1312181190 Moscow Television Service in Russian 1530 GMT 13 Dec 90

[From the "Vremya" newscast]

[Summary] A powerful explosion occurred last Sunday [9 December] at the Tomsk Petrochemical Works. A large amount of the equipment of a new ethylene and propylene producing factory was destroyed in the resulting fire. The explosion took place during testing and initializing procedures, after the first tons of propylene had been produced. A state commission is investigating the causes of the accident, but experts think that the mishap occurred at the gas fractionation facility following depressurization of an all-product line. Three people were injured.

In May 1990, a fire at the same plant caused damage estimated at R2.9 million. This time, the damage is more severe and will cost more to repair.

Causes of Biysk Oleum Plant Explosion Stated

PM0612115590 Moscow SOVETSKAYA ROSSIYA in Russian 5 Dec 90 First Edition p 2

[Report by TASS correspondent V. Pavlov: "Causes of Blast Established"]

[Text] Biysk, Altay Kray—As has already been reported, an accident occurred 13 November at 1457 hours at the Biysk oleum plant as a result of which 11 people died. A further 11 victims were hospitalized.

The state commission headed by L. Zabelin, USSR deputy minister of the defense industry, which worked at the enterprise, has completed its investigation of the causes of the catastrophe. "It has been established," the commission's conclusion says, "that the technical reason for the accident was the formation of a mixture of air and hydrogen (a fulminating mix) in one apparatus because an impermissible quantity of water had entered the apparatus. The formation of hydrogen was accompanied by the heating of the matter which had accumulated in the apparatus to the temperature at which the explosive substance broke down and together with the explosion of the contents of the apparatus there was a powerful fire ball of the air and hydrogen mix and incandescent aluminum powder.

"The commission established that the total quantity of explosive matter was the equivalent of about 100 kg of TNT. The total real damage amounts to 440,000 rubles.

"The conditions created in the manufacturing process at the plant are the result of the superficial degree of study of technological safety by the 'Kristall' Science and Production Association and a number of the plant's chief specialists.

"The production of this compound has been banned at the plant."

Central Asian Republics Work To Coordinate Environmental Efforts

91WN0088B Tashkent PRAVDA VOSTOKA in Russian 21 Oct 90 p 2

[Article by UzTAG commentator Ye. Yefimov: "Nature: A Common Pain, Concern, Hope"]

[Text] This idea ran through a meeting of parliamentarians of the republics of Central Asia and Kazakhstan.

People's deputies who had assembled in Tashkent were united in the opinion that today a consolidation of forces is required of us not only in economics and politics, but also in solving ecological problems. A meeting of leaders of committees (commissions) on ecology, formed by the highest legislative organs of neighboring republics, was dedicated to the definition of concrete directions and ways of solving these problems.

Here it is necessary to speak about the foundation which revealed the opportunity for similar meetings and which guaranteed their fruitfulness. This agreement on economic, scientific-technical, and cultural cooperation was concluded by the leaders of the republics of Central Asia and Kazakhstan.

We remind you that the document which was adopted this summer in Alma-Ata spoke of a broad utilization of

the great potential of opportunities of neighboring republics, proceeding from traditional, political, economic, and spiritual connections, from the community of territorial and natural conditions.

You see, our neighborhood itself defines concrete goals of cooperation in this sphere. Is it really possible to cut by boundaries the intimacy and similarity of our lands, which drink from one and the same rivers? We have both common joys and sorrows. Thus, the whole region - from the Caspian to Pamir - experienced the catastrophe which overtook the Aral Sea.

But that closeness also defines the principles of cooperation. We are neighbors. And neighbors, when it is necessary to build a house or to deflect sorrow from it, cooperate in assisting. And that mutual assistance - environmental protection - must go on day after day across the spaces from the Caspian to Pamir.

We emphasize: the parliamentarians sent to the Tashkent meeting genuine nature experts, who were not simply familiar with the peculiarities of this wide area but were also prepared to share concrete ideas, designs and plans. This imparted a constructive character to the discussion and allowed a common position to be worked out.

It is reflected in the resolution which could have been called the declaration of sovereign states on nature in contiguous territories. Here are its main clauses:

- the peoples who live on a given territory manage the natural resources;
- it is necessary to work up and implement a unified policy of preservation, reproduction, and rational utilization of natural resources;
- the republics guarantee prevention of pollution of the air basin and drains, which enter neighboring republics.

These three points reflect reciprocal cooperation and reciprocal responsibility. Thus the following lines of the resolution provide for the creation of an inter-republic commission, authorized to conduct ecological impact assessments of works of the people's economy which are polluting the water environment and air basins in neighboring zones.

A similar impact assessment may be practiced also at the design stage—only after a joint agreement is it possible to undertake the construction of works, appearances or activities which may be felt by the adjacent territories of neighboring republics.

Interparliamentary meetings laid the foundation for the basis of cooperation which will be developed, perfected, and find effectiveness. But already in the first document, which was adopted by the colleagues, concrete ways of solving urgent problems were outlined. Recommended:

- to create a single ecological-information system (monitoring) from the information-normative, thematic, ecological maps;
- to work out territorial comprehensive plans for enviromental protection across contiguous territories of the region and a program for putting into operation a unified economic mechanism for resource utilization;
- to prepare a program of reducing the use of chemical weed killers and pesticides with a complete stop to their use in the people's economy by 1995;
- to define a complex program of ecological training, education, and propaganda of ecological learning.

According to the legislators, the elaboration of the principles of methodology of normative documents and coordination of activities in the interests of scientific-technical progress remain for union organs.

The meeting's participants defined their position in relation to a series of concrete situations, which riveted the attention of all countries of the world. The first of them is on the fate of the Aral Sea: "We fully share the resolution of the international symposium on the preservation of the Aral Sea and on bringing to a healthy state the ecological situation in its basin." Here also is the opinion on the necessity to preserve the Balkhash, Issyk-Kul and other internal reservoirs.

Naturally, it must begin with the rational utilization of water resources and the saving of water. But this economy alone is not enough. The participants of the meeting believe it is necessary to supplement the water resources of the region. And again the question arises of diverting part of the water of rivers which Siberia could share with Central Asia and Kazakhstan.

You will agree: no small amount of boldness is needed to raise this question today—you see how many opinions were expressed on this...And this position should be given proper attention and understanding.

In any case, no one was refused a part in the dialogue. Members of interparliamentary ecology groups are also being invited to discussions, and these talks will be held regularly.

...The legislators of the Uzbek SSR, Kazakh SSR, Kirghiz SSR, and Tajik SSR signed a resolution; agreement in principle with this document was expressed by legislators of the Turkmen SSR who participated at this time in other measures. Thus, the five neighboring republics have acted to begin effective cooperation in the sphere of ecology.

Local Environmental Authority Sues Baykonur Space Center Over Pollution

PM1312101590 Moscow IZVESTIYA in Russian 9 Dec 90 Union Edition p 2

[Report by Oleg Stefashin: "Suit Against Glavkosmos"]

[Text] Dzhezkazgan—The Dzhezkazgan Oblast Environmental Protection Committee has brought a suit against the USSR Glavkosmos [Main Administration for the Creation and Utilization of Space Technology].

In the assessment of the local authorities, proximity to Baykonur has brought the Dzhezkazgan people enormous inconveniences. Not only have the military in practice seized for their own purposes a substantial proportion of the oblast's territory, they have also turned once fertile lands and pastures into a veritable scrap metal heap. Used rocket stages and numerous pieces of stages which pollute the soil with toxic substances litter a total of six rayons. Because of the disused land, they have caused losses running into millions, but the space department has taken no steps to alter the situation.

The wave of meetings which swept the oblast last year forced the USSR Glavkosmos to conclude an agreement with the oblast environmental protection committee. The special subdivision created at the Baykonur cosmodrome should have cleared the entire steppe of dangerous objects by 30 September.

"But the space department has not tried very hard to fulfill its commitments," N. Galiakparov, chairman of the oblast environmental protection committee, stated. "Having failed to meet the set deadlines, the military started to demand a deferment 'until the first snow.' We gave it them. What then? Winter arrived long ago, but almost one fifth of the territory of Dzhezdinskiy and Ulytauskiy Rayons has still not been cleared of the space garbage. Thus the commissioning of disused land is being put off by another year which, as can easily be imagined, will cause the farms new losses. Under these conditions the only course left to us was to resort to fines."

In the opinion of specialists, 170 million should be recovered from the USSR Glavkosmos. The cost of all the agricultural output which could have been obtained in the course of the year from the disused land is assessed at that sum. But the committee deemed it unrealistic and limited itself to 1.7 million

Kazakh Legislators Ban Semipalatinsk Nuclear Explosions

LD0612165590 Moscow TASS in English 1642 GMT 6 Dec 90

[By TASS correspondent Konstantin Borodinov]

[Text] Alma-Ata December 6 TASS—The Kazakh parliament has reaffirmed its firm position on a nuclear tests ban. The parliament took a decision banning nuclear explosions and tests of all types of weapons of mass destruction at the Semipalatinsk test range and elsewhere in the republic.

It also appealed to the Soviet Government to speed up payment of indemnities and benefits to the population of the republic, which has been exposed to nuclear tests for many years.

The republic Supreme Soviet made this demand for ths first time in May. Now, six months later, the second session demanded that the Kazakh government report on the fulfillment of its decision. An acrimonious debate resulted in a new categoric demand.

During debates it was stressed that tensions, far from diminishing, are exacerbating. Dissatisfaction, especially among the local population, is caused primarily by the Soviet Government's failure to take effective measures to compensate for the harm done to people's health over many years of nuclear tests and delay in taking a decision to ban tests at the test range.

Kazakh Housing Discovered Built on Radioactive Outcrop

LD0312111390 Moscow TASS in English 1037 GMT 3 Dec 90

[By TASS correspondent Vladimir Ganzha]

[Text] Alma Ata December 3 TASS—Building materials will be tested for radioactivity in Kazakhstan under tougher controls.

This decision was made after it was discovered that some houses in central Kazakhstan had been built on a radioactive tungsten-molybdenum ore outcrop.

Residents were immediately evacuated.

This accident prompted scientists to test for radiation non-ferrous and rare metals deposits and rocks used for construction purposes.

Granite, used here as inert components of concrete and assembled reinforced concrete constructions, contains high concentrations of radon, the radioactive decay products of which are harmful to people. The republic sanitary service exercises radon control in residential areas situated on granite exposures, which are common in Alma Ata, Taldy Kurgan, Dzhezkazgan and Kokchetav regions.

Gennadiy Vdovichenko, head of the republic information service, said that tests of radioactivity in these regions give no reason for alarm.

Deputy Details Recent Uzbek Goskompriroda Achievements

91WN0069A Tashkent SELSKAYA PRAVDA in Russian 18 Oct 90 p 4

[Interview with Vladimir Grigoryevich Konyukhov, deputy chairman of the UzSSR State Environmental Protection Committee, conducted by UzTAG correspondent N. Shulepina: "A Healthy Economy Is Inconceivable Without a Healthy Environment"; date and place of interview not given]

[Text] **The country is changing over to market relations. Along with enterprises belonging to the national economic complex, the environmental-protection agencies will also be working under new conditions. Is cooperation between the industrialists and the environmentalists possible?**

Will mutual understanding be found between them? These and other questions are answered by V. Konyukhov, deputy chairman of Uzbekistan's State Environmental Protection Committee (Goskompriroda).

[Shulepina] Vladimir Grigoryevich, the State Environmental Protection Committee has taken a number of steps against enterprises of the USSR Ministry of the Medical and Microbiological Industry: the Fergana Furan Compounds Plant has been shut down, the yeast shop at the Andizhan Hydrolysis Plant has been closed, and the capacity of a similar production facility at the Yangiyul Biochemical Plant has been reduced. But here is a report from the Uzbek Poultry Industry Association saying that the production of nutrient yeast has drastically declined. And consequently, during the second six months of the year consumers will not get 4,200 tons of poultry meat and 87.2 million eggs. Does this mean that it's the environment versus the economy?

[Konyukhov] Environmental pollution by those enterprises had become threatening. Thus, the Yangiyul Biochemical Plant was polluting water in the river: the ammonium nitrate content alone in it was nearly 400 times the norm. The enterprise had one goal: the plan. But the market economy has a different guideline—profits. And here we can become allies of the economic managers. For example, we had a conflict with the Bekabad Cement Plant. Now powerful filters have been installed there, and scarce material is being trapped. Nonetheless, many people do not want to understand that.

The Angren Coal Strip Mine has occupied more than 2,000 hectares of land—what's more, without a state act authorizing its use. The topsoil is being discarded in spoilbanks. Millions of tons of clay, limestone and loam are going into them, too. By processing them, it would be possible to earn up to 100 million rubles in profits and to supply the republic with building materials. We have filed a claim for 70 million rubles against the Angren Strip Mine.

[Shulepina] Where does this money go? Evidently, into the budget once again.

[Konyukhov] Until recently the environmentalists had practically no money for environmental protection. With the adoption of the USSR Law on Local Government, not only fines but charges for emissions, sewage, the use of resources, and the storage and burial of waste will start going into environmental-protection funds. These regulations will go into effect as of 1 January 1991.

In preparing normative rates, we used the experience that has been amassed in the world. We also studied specific local features. Every figure in our calculations is checked by the Uzbekenergo [Uzbek Power] Production Association, Sredazgazprom [Central Asia Gas Industry Association] and a number of chemical-industry enterprises. If there are well-founded arguments in favor of lowering strict coefficients, we take them into account. But I can foresee how many problems still lie ahead of us.

And in the meantime, the State Environmental Protection Committee, which is just over two years old, is constantly coming up against the lack of money. From the fund, we have allocated 300,000-400,000 each for financing work in Sariasiyskiy, Muynakskiy and Tashlakskiy Rayons. But there is not enough money to study many urgent problems. Thus, a serious environmental situation has developed in Fergana. Hydrogen sulfide, hexane and several other toxic gases have been found in the cellars of buildings there.

[Shulepina] Was there an accident?

[Konyukhov] Geophysicists at the Krasnokholmskgeologiya [Krasnokholm Geological] Association have taken preliminary measurements. There are grounds for believing that microorganisms have become activated in the ground water. The gases are the product of their metabolic activity.

[Shulepina] That same theory was put forward in connection with the penetration of gases into the Chkalovskaya Station of the Tashkent Subway.

[Konyukhov] In both places human beings upset the balance in nature. In Fergana the situation began to deteriorate three years ago, when the foothills surrounding the Fergana Valley started to be developed. Ground water rose and flooded the lignin "charts" of the Furan Compounds Chemical Plant. Studies will tell who was to blame. But right now the State Environmental Protection Committee has nothing with which to pay for such studies.

[Shulepina] What is your position with regard to the "destroyers of nature"?

[Konyukhov] Give them the opportunity to correct their ways. For example, the Chirchik Elektrokhimprom [Electrochemical Industry Association] has signed a contract with a Western company worth 54 million foreign-exchange rubles. The project has passed impact assessment in the State Environmental Protection Committee and been approved—discharges will be sharply reduced.

Two cost-accounting-based research and production centers, the Atmosphere Center and the Ecology of Water Resources Center, have been set up under the State Environmental Protection Committee to provide assistance to natural resource users. Their specialists are doctors and candidates of sciences. They are performing several million rubles' worth of work for enterprises. The enterprises have also found a good many helpers among the cooperatives. But their level of expertise does not always satisfy environmental-control officials. It is impossible to get by without a certification process here. We will carry out the registration of cooperatives concerned with the environment. We will determine who can be trusted and issue them certificates. Whoever is interested in commissions, which means profits, will take care to ensure the high quality of their work.

We take various steps against those who ruin the environment: we make recommendations, issue prescriptions, and suspend operations. And we shut down operations. But that is an extreme measure. Thus, the New Kokand Chemical Plant, which the State Environmental Protection Committee shut down last year, was for all intents and purposes abandoned to the whims of fate. Hundreds of people lost jobs. Our task is to prevent the construction of such facilities. Since the beginning of the year the banks have suspended financing in 20 cases on the recommendation of the State Environmental Protection Committee.

[Shulepina] Under the conditions of a market economy, whoever invests money in a dubious project will punish himself. But how will the violators of environmental-protection legislation be punished?

[Konyukhov] In the past six months we have turned over 75 cases to the procuracy agencies. But in actuality, 11 have been heard.

The UzSSR State Environmental Protection Committee has drawn up a whole series of documents for consideration at the fall session of the republic Supreme Soviet. They include a statute on our committee, a concept of its activities, and a program up until the year 2000.

[Shulepina] What are the main areas in the future work of the State Environmental Protection Committee?

[Konyukhov] First of all, we will get into the regions of uranium ore extraction and enrichment, which until recently were closed to us. There are a good many violations there that must be investigated. We will establish a special service for the radiological monitoring of radioactive contamination.

A large place in our plans is occupied by implementation of the interregional environmental-protection program. Uzbekistan, Kazakhstan, Kirghizia, Turkmenia and Tajikistan will take part in it. The program contains more than 60 components. They include the problems of the drying up of the Aral, questions of the comprehensive use of water resources, and the establishment of joint nature preserves, reserves [zakazniki, zapovedniki] and national parks.

We will conduct joint impact assessments of facilities sited in border regions. The regional program will be expanded and become a permanent program.

[Shulepina] But won't the market economy make adjustments in these plans?

[Konyukhov] We are already convinced that a healthy economy benefits from a healthy environment.

Officials Describe Environmental Engineering Efforts in Tajikistan

91WN0069B Dushanbe KOMMUNIST TADZHIKISTANA in Russian 7 Oct 90 p 3

[Round-table discussion involving Vladimir Fedorovich Kozelskiy, deputy director of the Soyuzstromekologiya Production Association's engineering center; P.K. Khripunov, director of the Central Asian Engineering Center; V.I. Gavrilin, director of the Dushanbe Spetsavtomatika Experimental Plant; and A.G. Pal, head of KOMMUNIST TADZHIKISTANA's industrial and economics department: "The Ekologiya Concern: Broad Possibilities in Environmental-Protection Work"; date and place of discussion not given]

[Text] **Here and there, various regions of the planet are being declared environmental-disaster zones. Their range is enormous—from the Chernobyl accident to stinking motor vehicles. Appeals to protect Mother Earth are being heard from all sides and from various levels, but they often resemble a weak wave of the hand trying to brush away a stream of tobacco smoke. Nothing else. The environment really does have nothing with which to resist its numerous and mighty adversaries. We have no environmental-protection branch of the economy, as such. Yet in terms of its scientific and technical outfitting, such a branch should surpass the level of development of industry, construction and transportation. Only then will it be possible to carry out the monitoring and protection of the environment and adopt measures that can be carried out. But for now, it is hard even to find the most basic gas analyzer.**

The situation should change for the better with the organization of the Soyuzstromekologiya [approximate expansion: All-Union Construction-Industry Environmental-Protection] Research and Production Association, which is opening its centers in various regions of the country. Such a center, the Ekologiya Asian Industrial Engineering Concern, is also being established in our republic.

The establishment and tasks of this organization were the topic of discussion at a KOMMUNIST TADZHIKISTANA round-table discussion, the participants in which were V.F. Kozelskiy, deputy director of the Soyuzstromekologiya Production Association's engineering center; P.K. Khripunov, director of the Central Asian Engineering Center; V.I. Gavrilin, director of the Dushanbe Spetsavtomatika [Special Automation Equipment] Experimental Plant; and A.G. Pal, head of KOMMUNIST TADZHIKISTANA's industrial and economics department.

[Pal] Vladimir Fedorovich, I ask that you introduce our future newspaper readers to the essence of the matter.

[Kozelskiy] The Soyuzstromekologiya Research and Production Association was established in accordance with a decision by the USSR State Committee for Construction Affairs and the USSR State Planning Committee in 1988. It was set the task of deciding environmental

questions at the country's construction-industry enterprises in a comprehensive fashion.

After a year and a half of work, we reached the conclusion that a strategic error had been made: in addressing environmental problems at construction-industry enterprises, we had selected a single thread out of the overall bundle, leaving the rest without attention. Therefore, we needed to restructure our attitude toward environmental protection. We started to look into production processes in all branches, so that our association could accomplish the tasks of designing comprehensive environmental-protection programs on a regional basis, and not just at specific enterprises.

A lot of work was done to study the environmental situation in the country. And on the basis of both a UNESCO decision and our own findings, Tajikistan and, especially, its capital Dushanbe have been leaders in creating the most unfavorable conditions for human life. Therefore, a decision was made to establish an engineering center in Dushanbe to tackle environmental-protection problems at the city's enterprises.

Unfortunately, it was impossible to provide our subdivision with even the most meager production facilities. Designing and manufacturing aspiration apparatus alone is far from the ultimate result of our work. We have already reached the point that our regional engineering centers, of which we have 10, have addressed various tasks in their entirety, in a comprehensive fashion.

In a year the Dushanbe center has started to manufacture certain instruments; because of the lack of production capacity, it was unable to do anything more.

[Khripunov] In an interview a year ago I told about how we were "helped" to get on our feet. The Council of Ministers, after considering our proposals, ordered the gorispolkom to allocate us a building for the engineering center. Things dragged on for months, and then we were given a run-down private home. It was ridiculous to give it to us. Of course, no centrally allocated materials, not a single nail, were given to us to repair it. But what could we do? We entered into a contract with a cooperative. The repairs dragged on; the cooperative defrauded us; and we were left holding the bag. Thanks go to the university, which has supported us so far, and to the industrial technicum, where we have been leased a machine shop and two rooms. Those are the facilities with which we are still working this year to carry out a program on the order of 800,000 rubles.

We have managed to set up a department of preproject inspection. At present we are proposing a comprehensive program of work to enterprises that they are undertaking with willingness and understanding, because at the first stage it presupposes inspection and the drawing up of an environmental-protection certification document. That introduces clarity into what sort of environmental-protection equipment needs to be designed and manufactured.

Right now we are providing approximately 150,000 rubles' worth of services for the first stage. We have very many orders from enterprises of our neighbors—Uzbekistan and Turkmenia. We even get orders from Kazakhstan.

At the second stage we have begun to develop a list of instruments to be manufactured, and we have now already begun the production of nitrate measuring instruments and are marketing them intensively. We are beginning the production of gas analyzers to determine the composition of motor-vehicle emissions starting with the fourth quarter. We have about 1,000 orders for next year.

That is all that we have been able to do, since we have not received the necessary support from the city authorities or financial support from the republic. Therefore, we have arrived at a decision that several enterprises need to be consolidated and combined in order that the undertaking can make real progress, especially at the second stage.

[Kozelskiy] We sought a decision and received what we wanted: a plant. Granted, it does not look very impressive, but it has tremendous potential: according to our calculations the plant can produce 30-35 million rubles' worth of commodity output a year, but right now it produces only 6 million rubles' worth. It is the Tadzhikkhimselkhozmash [Tajik Chemical and Farm Machinery Plant] in Kanibadam. It is located in a region with tremendous manpower resources and has the potential to sharply increase its number of workers—up to 4,000-5,000. Combining its production capacity with the engineering center is opening up real prospects. And although the organizational process is still under way, we have already enabled the plant to increase its production by 16 million rubles. Overall, next year it may reach the level of 25 million rubles. 2,000 new jobs are being created. And yet another plant has successfully found itself within our sphere of interests.

[Gavrilin] Our ordeals are worth relating in greater detail.

Our plant is in the system of the USSR Ministry of Instrument Making, Automation Equipment and Control Systems, and during all these years it has not received a single decent research and development study. Attempts to put three types of new output that were received from the ministry into production came to naught because of the poor technical quality of the research and development work. We went independently to the USSR Ministry of Internal Affairs' research institute and undertook the production of several instruments—and once again, no interest. The research and production association has its own plans and is totally uninterested. It does not want to enter into contractual relations with us. Its products are unprofitable for us, and it is impossible to put them into series production, because they have not been developed for our technology.

And so the collective made the decision to withdraw from the Zashchita [Protection] Research and Production Association and to establish a lease-based enterprise. After all, today we give 80 kopeks out of every ruble of profit to the budget. With such draconian deductions, it we cannot exist.

But we cannot go it alone. We need to reconstruct our production facilities and introduce advanced technology, and we have no prospects, because we have not received a single research and development project. What can we produce that is on a par with world standards? What do we have to take to the foreign market, which every self-respecting enterprise thinks about today? And now the possibility is emerging to establish the Ekologiya Asian Industrial Engineering Concern.

[Pal] Thus, a new economic branch is being established in the republic that makes it possible to address environmental problems in a comprehensive fashion and on an industrial basis. An engineering center, two plants—is that all that will be part of the concern?

[Kozelskiy] In the future we are also thinking of bringing in a design and an installation organization. Then the concern will be able to carry out comprehensive programs.

[Pal] Aside from the fact that the environmental situation in the republic is acute, what other factors have determined the establishment of such a large center?

[Kozelskiy] Our Soyuzstromekologiya Association has the broadest ties with firms in many countries—American, Canadian, Indian. For example, we have reached an agreement with the Indians on the contractual delivery of environmental-control equipment. For the country's Central Asian Region, we need to have a major engineering and production center here.

[Pal] Its establishment, unfortunately, has come up in a time of economic confusion and decline in the discipline of business relations. The failure to fulfill contracted deliveries is just a trifle. Ties that have been established over many years of cooperation between partners are being severed with exceptional irresponsibility. How do you see the concern's development in such circumstances?

[Kozelskiy] We are trying with all our might to avoid that sort of disorder and confusion. We ourselves will supply all of the essential components—in this case, electronics and electrical equipment. The research and production association will undertake the job of distributing orders and forming contractual relations. The enterprise should work according to a single system adopted in the research and production association. The research and production association has the ability to help the enterprises that join it with the rights of subsidiaries in technically reequipping themselves and in carrying out their social programs. A half million rubles has already been invested in the development of the Kanibadam plant. Later on the concern should acquire independence. We will grant it the right to freely enter the international market with all of the attendant circumstances. Marketing will remain the job of the research and production association. The maximum percentage of profits will remain with the enterprise, which it will be able to use to conduct reproduction and improve its employees' social conditions. We will collect no more taxes than our outlays provide for. They will not exceed 15 percent.

[Khripunov] This year the engineering center has already obtained an interest-free loan. That has helped us tremendously.

[Gavrilin] As parts of the concern, we, of course, have flexible possibilities for helping one another. Our collective is disposed only that way in switching over to leasing arrangements.

[Kozelskiy] In establishing the concern, we are delegating part of our responsibility to the enterprises. An enterprise deducts no more than four percent of its profits for maintaining the staff of the research and production association, and that, incidentally, is part of the 15 percent I just mentioned. We have no interest in a policy of robbery with respect to our subsidiary enterprises.

[Pal] One mandatory question must be asked: Where will you get specialists in the present situation in which there is an exodus of personnel from the republic?

[Kozelskiy] For the plant in Kanibadam we will somehow resolve production questions. But for the concern as a whole, we will have a very difficult time hiring engineering personnel. So far we have only hopes for a positive outcome of our undertaking, although certain practical steps are being planned. We have reached an agreement with the director of the Kanibadam plant that he will take a group of young men who have returned from the army and send them to study vocations with an environmental-protection slant. The training of environmental- protection specialists at the university is feasible.

But here I myself should ask a question: What is the attitude of the republic State Environmental Protection Committee toward us? And so, to my great regret, I must express my failure to understand the position that has been taken by the state committee's executives. I am surprised by the lack of understanding of environmental problems at the republic's enterprises. And one more opinion. The newspaper VECHERNIY DUSHANBE for 13 September carried an article by some member of a cooperative titled "Clean Air for the Future." It's like the tale of the emperor's new clothes. Everything is simplified to the point of idiocy: uncle will come along and do everything. This sort of "propaganda" on environmental issues is also dangerous in that money may be found for the cooperative, while there is none to provide any sort of help in developing our branch.

And we are supposed to develop and establish a real business, for that is the only way we can escape disaster.

International Group Meeting Views Impact of Mongolian Lake on Baykal

91WN0123A Moscow LITERATURNAYA GAZETA in Russian No 47, 21 Nov 90 p 11

[Article by Zoriy Balayan: "Before It's Too Late"]

[Text] *The fourth meeting of the Baykal Movement, an international ecological organization, recently took place at Lake Hövsgöl in Mongolia. It was dedicated to the problem of protecting fresh water and springs, which are the property of all mankind. LITERATURNAYA GAZETA has previously reported on meetings held at Lake Baykal and at Lake Sevan as well as at Lake Biwa in Japan. Today we bring to the attention of our readers the next report in this series.*

For more than 30 years the tragedy of Lake Sevan has allowed the Armenian people no rest. Even Karabakh and Spitak have not overshadowed it. Last summer, at a time when rallies and demonstrations were being held in the republic and when the political situation reached its peak of intensity, another in a series of meetings sponsored by the Baykal Movement took place at Lake Sevan, attended by writers and scientists from various parts of the country. A Japanese delegation, who were making a film about the movement, attended one of the conferences. Subsequently, at a joint session, members of the film crew made the point that Armenians who were deeply distressed by the prospect of the future had in mind not only Nagorno-Karabakh but also Lake Sevan, referring to it as their last fresh-water spring.

The Japanese have a last spring of their own—Lake Biwa. The Mongolians have Hövsgöl, a lake still called the Mongolian Baykal. This is not a fortuitous parallel. Lakes Hövsgöl and Baykal are linked with one another like two communicating blood vessels. The life of Mongolia is dependent upon Hövsgöl for its prosperity. Life is also dependent upon Lake Baykal, which is the recipient of four-fifths of the fresh-water springs in the region. Such is the gravity of the situation, and such is the cost. Suddenly, it, too, is a last spring.

The Mongolian writer Tserendorzhiyn Baldorzh, an ardent advocate of ecology, said: "I do not know whether scientists are right in maintaining that our Gobi Desert at one time was the bottom of a fantastically large reservoir, but one thing I do know: Our generation alone has witnessed the desiccation of dozens if not hundreds of springs. Our Great Lakes have been destroyed. They were known as the Great Lakes not simply by association with those five wonders of nature in North America, but because they were indeed great. Yet today they are to be found only on obsolete maps.

"Water is vulnerable," the sage commented, "like the soul of a man. Lake Hövsgöl has its own unique soul. It has been preserved until now largely because there are almost no populated areas near it. But there is some danger that the situation may be changing for the worse. And, of course, as is always the case, we are concerned with the possibility of human interference with the natural equilibrium. Soviet and Mongolian geologists have discovered deposits of phosphoritic rock in the area of Hövsgöl. One such deposit is right on the shore of the lake."

It may be said under oath that perestroyka has saved Lake Hövsgöl. It is difficult to say what might have become of it but for the influence of perestroyka on Mongolian society and for the inroads made by glasnost and democratization. In any event, immediately following publication in a local newspaper of an article by Ts. Baldorzh entitled "Lake on the Executioner's Block," the Mongolian government adopted a decree halting the mining of phosphoritic rock and ending any further search for deposits.

Although it might appear on the surface that the people have left this unique lake in peace, the underlying problem persists. Persons attending the Mongolian meeting of the Baykal Movement issued a special declaration on this subject, which stated in part: "We share the concern of the Mongolian people with regard to refining phosphoritic rock at deposits in proximity to the lake. Everything that is potentially harmful to Lake Hövsgöl should be eliminated from plans of any kind."

In saving Lake Hövsgöl, we save Lake Baykal. For the "sacred sea" obtains about 60 percent of its water supply by way of Lake Selenga, which is known in Mongolia as the "daughter of Hövsgöl."

In spite of the absence of industrial sites in the vicinity of Lake Hövsgöl, water tests indicate that the lake has been losing its ideal standard of purity over the years. Though there are scarcely any industrial wastes or man-made discharges to be found, this body of water has been accumulating sulfur, nitrogen, and phosphorus. Such "anonymous" pollution is detectable today in many of the fresh-water springs. It may be recalled that at the Lake Sevan meeting Armenian researchers found a lot more nitrates and sulfuric acids than could either form or accumulate in the reservoir basin itself. Where do they come from? Each year about 120 cubic meters of rain water fall into the subsoil. It would seem that this is an enormous saving grace—a gift to all the lakes, rivers, and springs without exception. But with the passage of time the rain has been bringing not life but illness and even death.

In my native Stepanakert, I remember, my grandmother used to collect the rain water that fell off the roof in a barrel, Then I could see how rapidly this water warmed up. And the women used to like to wash their hair with it, praising its softness as a gift from the heavens—a gift of God. Today, I suppose, my late grandmother would have broken with this centuries-old tradition (as her granddaughters have done); for the "soft water" has become poisonous. Especially vulnerable are those

regions where the soils and bedrock are not able to neutralize the acid silt. Moreover, it is a well-known fact that not only the regions with high-density industrial enterprises and urban congestion suffer from this condition, but also remote and pristine oases, including the virginal Lake Hövsgöl.

G. I. Galaziy, a corresponding member of the USSR Academy of Sciences and unfailing participant at the meetings of the Baykal Movement, expressed this thought in his report: "If we do not succeed in warding off disaster by applying the principle of prevention, then the time will come when mankind finds itself on the brink of a deadly drought."

The focus of attention at the Mongolian meeting was the problem of reservoirs. A report on this subject was given by Valentin Rasputin, co-chairman of the Baykal Movement, who noted that more than 10 million hectares of what is perhaps the most fertile land in our country is today under depths of water. Today it can no longer even be called water.

There is another alarming aspect to this subject. It is the functional relationship between man-made reservoirs and earthquakes. And it has a direct bearing on the tragedy of Armenia. It is, of course, well known that the subterranean disturbance occurred in precisely the region where the biggest reservoir in the republic had been erected. Other tragic examples of such stormy outbreaks of nature at the sites of power projects may be found in the professional literature. Subterranean quakes in association with man-made bodies of water may result in not only havoc, mutilation, and death, but in the ruination of springs and other sources of potable water. After the Spitak earthquake, we learned that in many of our villages springs that were centuries old had dried up. In many places the entire system of subterranean water flow was disrupted.

Vladimir Krupin cogently demonstrated with many examples that over the course of several decades our government had, in fact, deceived its own people, while depriving them not simply of their native land but also of the most vital means of subsistence such as earth and water. Was this not so? Not only did the man-made reservoirs bury thousands of village settlements, but the water in them was no longer suitable for use. The writer emphasized particularly the misfortunes of Lake Ladoga, which is now in need of ecological first aid. "In the old days," he said, "when the enemy approached Lake Ladoga or calamity threatened, the Veche bell in Great Novgorod would raise a state of alarm throughout the land of the Rus. Now there is a drumbeat in our hearts demanding the removal of the catastrophe that hangs over it and urging the whole world to come to the defense of Lake Ladoga. Before it's too late!"

The Karakalpak writer Tulepbergen Kaipbergenov declared at the plenary meeting: "Once again the question is being raised by someone or other of diverting Siberian rivers into the Aral Sea. I am categorically opposed to this. We have long been deluded by this notorious "project of the century" until today we are at the brink of disaster. I have already forgotten when the last time was that I sat peacefully at my work table, contemplating the behavior of my fictional heroes. Recently, my days and nights have been filled with anxiety and pain for the Aral Sea. For I have come to realize that if the sea perishes, my people will perish. Then my novels will be needed by no one."

The committee of the Baykal Movement adopted a resolution to hold its next meeting next summer on the shores of the Aral Sea.

REGIONAL AFFAIRS

Pan-European Environment Conference Held in Austria

91WN0108A Vienna DIE PRESSE in German 27-28 Oct 90 p 4

[Article by Wolfgang Boehm: "Armament Funds for Nature: Healthy Environment as a Human Right?—Initiative by General Secretary of the Council of Europe"]

[Text] Vienna—"There is a revolution in environmental politics in progress," the General Secretary of the Council of Europe, Catherine Lalumiere, declared to DIE PRESSE. In fact, an entire package of measures to improve the environmental situation in Europe was instituted at the "Pan-European Environment Conference" that ended Friday in Pressburg and had convened in the Vienna Parliament from Tuesday through Thursday.

Lalumiere addressed an additional initiative of the Strassburg organization on the periphery of the event: the close bond of the Conference on Security and Cooperation in Europe [CSCE] with the Council of Europe.

The participants in the environment conference, which was organized by the Council of Europe and initiated by Federal Chancellor Vranitzky, advocated the creation of a European supervisory office for environmental issues in their final document. Some of the parliamentarians present even advocated the creation of an "environmental court." In their opinion, the "right to a healthy environment" should be incorporated as a human right.

In addition, an environmental fund is supposed to be created in the longer term. According to Victor Ruffy, president of the Swiss National Council, it could be funded with the monies becoming available because of disarmament in Europe. Primarily East and Central European reform states with especially desolate ecological systems could be supported with this fund.

Helmut Schreiber from the Institute for European Environmental Policy in Bonn calculated for the participants in the environment conference what funds would be necessary for redevelopment in some of these states. According to an estimate of the German Ministry of the Environment, ecological redevelopment in the territory of the former GDR will cost approximately DM200 billion (converted: 1.4 billion Austrian Schillings). Nearly 2.9 billion Schillings would have to be invested in Poland over a period of 30 years.

Parliamentarians from Sofia reported that the situation in Bulgaria is dramatic. Air pollution in the largest cities of the country has reached "levels that are no longer tolerable."

In addition, the final declaration established that the yet to be founded European Environmental Office should prepare a charter that will include the most important guidelines for a Pan-European environment policy. Subsequently, the creation of a convention for environmental protection that incorporates the control function of the office from an international public law standpoint is envisioned.

The General Secretary of the Council of Europe also pointed out an additional "important subject for Europe" during her discussion with DIE PRESSE: The institutionalization of a parliamentarian assembly of all 35 States of the CSCE. It would be in the common interest if the CSCE could fall back on already existing organizations of the Council of Europe for this. Of course, intensification of the Council of Europe is an ancillary consequence.

Unfortunately, however, the American government—whose President Bush had initially supported the idea—has blocked the establishment of this assembly so far. Strassburg is now going to do everything possible to inform the United States of the "practicality of such an assembly of parliamentarians."

BELGIUM

Plan To Limit Nuclear Accident Damage Detailed

91WN0056A Brussels LA LIBRE BELGIQUE in French 17 Oct 90 p 1

[Article by J.-M. B.: "Nuclear Danger Offset by a National Emergency Plan?"—first paragraph is LA LIBRE BELGIQUE introduction]

[Text] Belgium is putting the finishing touch on a program aimed at limiting damages in case of an accident.

One would just as soon not think about it, but since Chernobyl, since this spring of 1986 when a radioactive cloud, which had been formed thousands of miles away, passed twice over our regions, there really is no longer a choice: we must plan what we would do should such an accident occur in our country. In other words, an emergency nuclear plan is needed to define the specific duties of each—authorities, operators and services for handling measures, intervention and relief, and population—in order to reduce, as much as possible, the consequences of an atomic catastrophe.

Practical Exercises

Minister of Interior Louis Tobback undertook to do just that and recently submitted his final plan. His "National Nuclear Emergency Plan" will be submitted one last time to the concerned ministers, governors and burgomasters, following which it will be implemented, through royal decree, before the end of the year. The installations should be in place as early as 1991, including an automatic network for the detection of radioactivity, and practice runs should be carried out by the various services in order to test the rapidity of their reaction.

These exercises would not go as far as simulating the evacuations of the population of the more than 120 old communities grouped within a radius of 10 kilometers around the six Belgian nuclear sites: the Doel, Tihange, and Chooz (on the French border) stations and the Mol, Dessel, and Fleurus installations. Iodized tablets, to be taken only in case of an accident, are said to have already been distributed to the residents of these towns and villages.

The financial implications of a plan of this scope are momentous; they are currently estimated at Fr1 billion, of which Fr600 million are for the Telerad (detection system) alone. The nuclear producers of electricity have already set up a Fr600-million fund; the remainder should come from new taxes probably levied against these same producers.

DENMARK

Danish Research Center Reorganizes, Focuses on Environment

90WS0076X Copenhagen BERLINGSKE TIDENDE in Danish 23 Jul 90 pp 6-7

[Article by Jens J. Kjergaard: "Riso Trimmed To Meet Demands of the Nineties"]

[Excerpt] Riso Research Center is on a diet. The institution is to be slimmed down and strengthened, so that it can hold up better in the super-tough international competition. In the future its strength will be gathered around eight application fields, which will hopefully live up to the expectations. In addition, strategic alliances that are also beneficial to Danish business will be established. A new division of labor is on its way for research.

But the conversion process is by no means painless. Eighty-five employees have received notice that they are to be laid off. The first employees will leave Riso in the fall, the last ones say goodbye in 1992. The cutbacks are deepest in the administrative functions, particularly in the areas which are not in as much demand as before by the research departments. The marketing office will disappear. The management is convinced that the reductions are a necessary precondition for a positive development at Riso.

Order in the Economy

Now there must be order in the economy so that the overall level of activity can be maintained, wrote director Hans Bjerrum Moller in the July issue of the personnel newsletter. Additional demands for cutbacks may be issued. The management has not received any guarantees.

The leadership of the country's major sector research institution warns that a continued reduction in budget appropriations will constitute such a serious drain on the established stock of knowledge that the quality or relevance of the research cannot be maintained in the long run.

This year, Riso will earn only 140 million kroner from contracts, while 230 million will come directly from the public coffers, meaning 38 percent is activity that pays for itself. The Riso Research Center will therefore continue to have a considerable range, but the scarce funds will cause efforts to be concentrated to fewer projects. The 1990 reorganization will give the center a profile, so it will be clear for what we stand and how we can serve. Research institutions must adapt to a changing community.

Strategic Research

Riso is in the middle of the spectrum between basic research and development work. The emphasis is on what is called strategic reseach—meaning gathering knowledge and experience, which in the intermediate term makes it possible to solve concrete tasks.

"In some way it worries me that 40 percent of our total activity is financed by contracts," says Jorgen Kjems, research director and head of the new Environmental Department.

"The contracts with the EC help guide our own research. Every time we sign a contract our hands are tied, so it must be understood that we must add to it from our own meager funds.

"We are happy about our tasks for Danish activities, but—with all due respect for Danish commerce—industrial people are particularly interested in problem solving in a very short time, that is to say within a horizon of two to three years. We would very much like to have that kind of projects, but those are not the ones that create renewal in the form of new technologies.

"The renewal may grow from research that to a large extent is open. As open as it is possible when the imagination is to play within eight application areas. For example, ideas may be based on using the DR3 reactor, a useful research tool which may also interest foreign researchers.

"We can only raise our level of knowledge by associating with the best in the world, by taking to conferences with things others can use, and ourselves gathering ideas from other fields. This will not succeed if Danish researchers and business people confine themselves within closed circles."

New Knowledge Center

At Riso there is excitement over the new neighborly relations with Denmark's Environmental Studies.

This creates a center of knowledge which could be of major importance to research and industry, and in the long term will open up even greater prospects if the European Environmental Agency moves here.

The establishment last year of the Center for Advanced Technology was a step on the way toward increased cooperation between industry and research. The intent is for interesting activities combined with researchers at Roskilde University, Denmark's Environmental Studies and Riso to bring ideas to the point where actual production may be initiated.

The authorities behind the new public research programs, both Danish and joint European, stress the participation of industry to an increasing extent, and that is something we can only be satisfied with, the Riso management points out. In particular, the center has major expectations for the cooperation between power plants and industry regarding the development of fuel cells. A project which was begun in 1989 under the EFP, that is to say the Energy Research Programs.

In 1989 Riso entered a strategic alliance with DK-Teknik on combustion research, and the center hopes to establish corresponding agreements with other institutions and activities.

Riso is among those who were part of the MODECS initiative, a forum where institutions and private activities design and test molecules for the medical and environmental fields.

Windmills Have Become High Technology

"Denmark is actually cleaner now than when I was a boy—in a land area with dung hills, open sewers and swarms of flies. The creeks may have been in better condition, but the villages were not," says research director Jorgen Kjems.

"Riso will concentrate to an even greater degree than before on development of environmental technology, because the environmental crisis can only be solved with technology," the director adds.

He is looking forward to future close cooperation with Denmark's Environmental Studies (DMu), which is just about to move to the research center, but he stresses that Riso wants a different profile than DMu.

"Our main task is not to identify the problems. We have a tradition of large experimental projectes and want to create the background for the engineering solutions which can reconcile us with nature. It is very satisfying to be a part of developing new technology which does not come about solely for profit."

Offer to the East

Riso's researchers have a lot to offer in the cooperation with the new Eastern Europe, not least in the field of atmospheric chemistry. The Baltic countries, Poland and the GDR are particularly interested in careful study of the ways of pollution, which means, among other things, controlled emissions of a harmless but easily recognizable trace material such as SF_6, sulfur hexafluoride.

Plans are also being made for continuing the work on the large wind atlas for the western regions.

"Windmills are a useful contribution to the energy supply; in this field Denmark is in the forefront, and we don't voluntarily want to give up our leader's shirt. We are arriving at better, smoother materials and the wings are designed with the aid of computers, so that they can get a maximum efficiency without breaking. It's a matter of renewal, and today wind mills may be described as high technology, just as demanding as the development of aircraft, for example," says Jorgen Kjems.

Riso Washes Toxic Earth Completely Clean

If the Environmental Administration is to be believed, there are about 80 million tons of polluted soil in depots around Denmark. And one-tenth of this stored dirt is so toxic that it is necessary to purify it. But how? The Riso Research Center has the answer.

As a spin-off from a study that was to show whether it might pay to wash out Greenland uranium, methods were found which guarantee that substances that are hard to break down are rendered harmless and eliminated. The process is called wet combustion or wet oxidation.

In 1988 Riso, in cooperation with NKT A/S began the development of the highly effective cleansing process, which in principle can keep going without adding outside heat. This has now progressed almost to the point where the research center is allowing itself to be detached and cash in the licensing money.

The organic material in the sludge itself delivers the energy for the breakdown, which takes place at 280 degrees and under high pressure.

The first attempt at purifying tar-containing soil was undertaken in 2-liter autoclaves, but in the next experiments the researchers were able to treat 3 cubic meters an hour.

A winding, kilometer-long, pipe system was constructed at Riso.

Similar installations can be placed elsewhere in Denmark—or on a ship.

First, pieces of metal and plastic are separated out. Next, rock is sorted out in a washing drum. What remains is fine clay with all the toxic substances which can be destroyed in wet combustion.

The pipes emit water, carbon dioxide—and formic acid, butyric acid and acetic acid, which can be broken down biologically by the starved bacteria in an ordinary purification plant.

"Riso would like to join projects which develop new technologies in cooperation with industry. But we are only part of the pre-competitive phase. The actual production we let others handle. This yields the licensing

money; the negotiations about these conditions can be tough, but normally we are satisfied with the agreements we conclude," says research director Jorgen Kjems.

Riso's Eight New Departments

- Combustion Research
- Meteorology and Wind Energy
- Systems Analysis
- Environmental Research
- Nuclear Safety Research
- Materials Research
- Solid State Physics
- Optics and Fluid Dynamics

FRANCE

Controversies Surround Nuclear Waste Disposal

Plutonium at Saint-Aubin

91WN0065A Paris LE MONDE in French
25 Oct 90 p 12

[Text] The controversy surrounding nuclear waste from Essonne has grown even larger following revelations by the CRII-RAD (Commission for Independent Research and Information on Radioactivity) that the Saint-Aubin disposal site reportedly contains traces of plutonium. On Tuesday, 23 October, Senator Jean-Luc Melenchon (PS [Socialist Party]), from Essonne, asked for dissolution of the SCPRI (Central Department for Protection Against Ionizing Radiation), which comes under the Ministry of Health. Melenchon claims the department has proved "either its incompetence or its determination to protect officials from possible liability resulting from the use of nuclear energy rather than the people who would be the potential victims." The Senate Socialist group asked Melenchon to submit a bill concerning the establishment of a Higher Nuclear Safety Authority.

Last month, the CRII-RAD took samplings of earth from the Saint-Aubin disposal site, located only a few hundred meters from the Saclay Nuclear Research Center.

Analysis at its Valence (Drome) laboratory showed conclusive presence of cesium 137 (8,000 Becquerels per kilo of dry material), barium 133, cobalt 60, europium 152 and 164, uranium 235, and americium 241.

Radioactive Elements

The presence of americium prompts the CRII-RAD to ask for additional studies at the Bremen University Laboratory in Germany. Six earth samples, one taken secretly from the Saint-Aubin disposal site, have been sent to Bremen, where they are being subjected to "blind tests."

Laboratory director Mathias Rintelen has discovered that one sample contains 98 Becquerels of plutonium 238 and 2,153 Becquerels of plutonium 239 and 240 per kilo of dry material, much higher than the annual dose allowed for inhalation (20 Becquerels). The sample in question is precisely the one taken from the Saclay center.

The CRII-RAD concludes that waste disposed of at Saint-Aubin comes from the core of a nuclear reactor and that it is less than nine years old, which contradicts the AEC (Atomic Energy Commission) position that it is "old waste." AEC General Inspector Robert Lallement said he was surprised by the figures sent by the German laboratory, but he noted that the 20-Becquerel limit concerns full-time workers at a nuclear site, which is not the case of the Saint-Aubin dump.

Atomic Energy Commission Under Fire

91WN0065B Paris LES ECHOS in French
31 Oct 90 p 7

[Article by Philippe Escande: "Nuclear Waste: Starting Over From Scratch"]

[Text] What is to be done with nuclear waste? After the accusations made against the AEC [Atomic Energy Commission] and as the end of Michel Rocard's moratorium on burying waste draws near, everyone is convinced of one thing: To remain credible, we must start all over from scratch.

The AEC on the carpet, the French countryside in turmoil: Nuclear waste, even if it does amount to tiny quantities compared with industrial waste, is increasingly difficult to ignore. First the AEC is accused of negligence for having failed to clean up storage sites properly. General manager Philippe Rouvillois is immediately forced to promise more transparency, coinciding precisely with public hearings being held by the Parliamentary Office on Scientific and Technological Choices in connection with the report it will issue within a month on the problem of radioactive waste.

Last winter, near riots on underground storage sites planned (see below) forced the government to freeze the entire campaign underway to study the burial of waste. Two reports were ordered: one from the College of Prevention of Technological Risk and the other from the parliamentary office, which chose Nord Deputy Christian Bataille to carry out the delicate task. Several points seem to emerge from all the reflection: Underground storage will not be challenged, but it will probably take place on sites other than the four initially selected and with several underground laboratories rather than a single one.

The last point that may emerge from this year of reflection: an overall look at the organization of waste management and, more generally, nuclear safety in France.

Three Sites

No longer can it be a question of going back on the general philosophy of choosing to bury forever in the bowels of the earth the most radioactive nuclear waste (see below). Given the current state of knowledge,

experts say it is the least evil of all solutions. Reversible burial or long-term storage at the surface preached by the Greens (while awaiting more satisfactory techniques of elimination) presents more dangers than advantages, experts say.

However, it will be extremely difficult to go back to three of the four sites chosen, those at Neuvy-Boin in Deux-Sevres and Segre in Maine-et-Loire, because the mobilized opposition is too strong. "They are still armor-plating their tractors and oiling their hunting guns!" one observer says.

Several Billion

It is also difficult to return to Montrevel near Bourg-en-Bresse with the political mobilization. "We have used up a lot of our ammunition and are now 'burned' on those three sites," one high official admits. There remains Montcornet in Aisne, the only one where drilling could begin before Rocard ordered the freeze. Others will therefore have to be found.

The second near certainty: The strategy that has heretofore prevailed, consisting of building but one underground laboratory, is no longer credible. Already in April, the College on the Prevention of Technological Risk proposed building at least two such laboratories. The budget devoted to that activity (one laboratory costs Fr1 billion) should be increased by several billion.

The period of reflection imposed by Rocard did in the end point up a new problem relating to nuclear organization: The National Agency for Radioactive Waste Management (ANDRA) is on its own in convincing the people, reluctant to accept as a sound practice the burial of nuclear waste deep underground. "There is a problem with this structure, which is that the AEC passes the buck to the EDF [French Electric (Power) Company], which hands it over to COGEMA [General Nuclear Materials Company], which goes back to ANDRA," Bataille admits. The shillyshallying of the government, which gave its green light to the search for the site in 1988 only to withdraw it a year later, helped destroy ANDRA's legitimacy.

"We were left hanging because of political uncertainties," one ANDRA official bitterly observes. "At some sites, we were directly torpedoed by certain prefects."

Rethinking Nuclear Safety

However, beyond the problem of ANDRA, it is the entire question of nuclear safety that must be reviewed. The College for Prevention of Technological Risk is asking for a "review of the general balance of the complex relationship between the safety authority (Central Department of Nuclear Facility Safety), the main producer of waste with a long life span (COGEMA), and the manager of such waste (ANDRA)." But Bataille goes even further: "We can no longer leave France's main strategic choices in the field of nuclear energy solely up to the AEC, COGEMA, or the EDF," he emphasizes. "Democratic expression and the government must regain their freedom to make decisions and choices. Otherwise, the debate with local people has lost its meaning."

The recent affair of AEC discharges is absolutely relevant and points up the need for greater transparency, now being demanded by everyone in politics. Furthermore, Minister of Environment Brice Lalonde last week announced his intention of asking the prime minister to reexamine the organization of nuclear safety in France.

Will it be enough to make people at sites ANDRA has its eye on put away their guns and tractors? Probably not, but it will somewhat dissipate the atmosphere of secrecy and irrationality now poisoning the debate on nuclear energy in France.

French Firm Develops Diesel Alternative

91AN0054X Newbury FRANCE ALERT in English 3 Oct 90 p 32

[Summary of article published in Chislehurst AGRICULTURAL SUPPLY INDUSTRY in English 21 Sep 90 p 4: "France: Development of New Diesel Fuel Based on Rape Oil"]

[Text] A chemical derivative of oilseed rape oil has been developed by the French Oilseed Producers Federation (FOP) as an alternative to diesel fuel. Since France has very little indigenous oil resources, the development of the new product, Diester, is being watched with interest. Diester can be produced from any oilseed plant, such as soya, sunflower, or palm, in what is said to be a cheap and simple process. Tests on different types of vehicles with standard engines have been carried out using trial quantities of Diester produced at the Robbe crushing plant at Compiegne, France. No problems have yet been found with either the fuel or the engine. The future of Diester is, however, largely dependent on whether the product is exempted from France's internal tax on petroleum products.

GERMANY

Radioactive Run-off From Wismut Mine Investigated

91WN0022A Zurich DIE WELTWOCHE 13 Sep 90 p 29

[Article by Matthias Brendel: "Uranium Mining in the GDR: Contaminated Soil and Water, Diseased Population, and a Product Which Can No Longer Find a Market"; first paragraph is DIE WELTWOCHE introduction]

[Text]

Glowing Hole

Bonn will also inherit this "unusable trash" following the union with the GDR: uranium mines and refining plants, which—because they were suppliers to the USSR—are producing at prices that are far above current world market notations. And which have contaminated the environment over wide areas. Radioactive tips from uranium mining have contaminated the drinking water of an entire region: "We never bothered ourselves about it."

The wind whistles through the passages of the mine, 220 meters underground. At many corners it is so loud that people shout in order to make themselves understood. The current of air in the shaft is supposed to disperse radioactive particles. Hans Lenk, technical director of the mine, points with the beam of his pit lamp to a dimly glowing vein, glittering yellow in the wall: uranium oxide, nuclear fuel, material for bombs.

Year after year the 800 employees of the Koenigstein mine have dug 300 tons of uranium oxide, known as "yellow cake." Now the mine is in danger, and not just the mine: The "Soviet-German Corporation (SDAG) Wismut," once a top secret project and a state within the state of the SED [Socialist Unity Party of Germany], is facing ruin. Wismut is bequeathing to those who inherit it radioactive, contaminated soil, irradiated water, and gigantic mounds of overburden. To its employees, lung cancer.

"The German working class paid a high toll in blood for the construction of the Soviet bomb!" Martin Joensson, a specialist in labor medicine at Wismut, may have renounced his old party, but its language continues to dominate him. Between 1952 and 1988 Wismut acknowledged 5,132 cases of lung cancer as an occupational illness. In addition there are between 200 and 250 deaths annually: The lung cancer rate is five times higher than the European level.

Recently the 34,000 employees at Wismut took to the streets and went on strike: Not for their health, Wismut had bought that from them years ago with 40 percent wage bonuses, extra vacation, and all sorts of privileges. The miners are fighting to keep their jobs; they want to keep drilling for the ore that no one else would like.

The USSR, like the GDR, with a 50-percent involvement in SDAG Wismut, recently purchased 3,000 tons of "yellow cake" from the enterprise. At the beginning, in 1946, the Soviets needed the uranium for the construction of bombs, later as fuel for nuclear power stations. The price per kilo of yellow cake was calculated on mining costs, today it is DM200 and was always paid without any objections by the Soviet Union in transfer rubles.

After October 3, the USSR will try to divest itself of its share to the new partners in Wismut, the Laender of Saxony and Thuringia, and the government of the FRG. The production of uranium from Wismut is completely unprofitable: Yellow cake is traded today on the international spot market at 30 Swiss francs. The Wismut price, converted at 165 Swiss francs, does not even include the costs for the removal of the old dump sites. The Wismut general management estimates the decontamination of radioactive contaminated tips, water, and soil in Saxony and Thuringia will take 4.5 billion Swiss francs. Greenpeace people in East Berlin are looking at 80 billion Swiss francs.

In fact, too little is known today about the true extent of the damage to determine the repair costs. Just the environmental destruction around the uranium refining plant of Seelingstaedt seems unimaginable. The uranium, which is present in concentrations of 0.1 percent, is precipitated out of the ore here with sulfuric acid. After the uranium has been extracted, the leavings are a muddy concoction containing 8 grams of sulfate, 0.2 milligrams of uranium and radium 226 per liter, with a radiation intensity of 3 Becquerel [units]. (For comparison: The State Office for Nuclear Safety and Radiation Protection (SAAS) in East Berlin has set 0.08 milligrams of uranium and 0.1 Becquerel of radium as the limit in drinking water.)

Eight million cubic meters of this poisonous mix are stored in 4 settling basins belonging to the mine, an additional 2 million cubic meters of seepage from these basins containing uranium in a concentration of 2.8 milligrams per liter were piped to an artificial lake.

Occasionally, whenever the water management board permits, Karl-Heinz Eiffe, technical director of the refining plant, has a few thousand cubic meters of this brew pumped into a nearby river. The "White Elster" carries the poison northwards and into the Saale near Halle. In this way, "by means of intermittent discharges," Eiffe hopes to dispose of his unwelcome "flood water." The sand that finally remains in the settling basins causes him even greater problems. One kilogram of it gives off radiation with an intensity of 11,000 Becquerel, exceeding natural radiation more than 100-fold.

Eiffe has already had two of the original six basins closed down, dried out and covered with a thin layer of soil. For years the grassed over basins were open for agricultural use. Not until spring did the newly appointed nature conservancy official for the kreis see the measurement levels, which had previously been kept confidential, and he immediately banned what had been until then the customary grazing of milk cows.

Dump for Used Tires

To this day no one can say whether the radioactive contamination of the area has caused genetic damage in the animal and plant world. "We never worried about that," Eiffe states candidly. What is the point? Even last year no one would have ever dared to hold Wismut accountable for its actions.

Johannes Dittrich was one of the first to speak out following the turnaround. The pastor, responsible for several parishes north of Seelingenstaedt, claimed publicly that 80 percent of his parishioners were dying of lung cancer. The pastor is convinced that the cause is the radioactive contaminated sand from the settling basins, which in dry summer weather blows onto fields, meadows and into the surrounding villages.

After the story became public, the pastor ran afoul of the local LPGs [Agricultural Producer Cooperatives]: Sales of foodstuffs from the region practically collapsed. In the meantime, many local residents do not want to hear any more about the suspicions of the "nest fouler" Dittrich. In order to clarify the matter, the Land Office for Environmental Protection in Rhineland-Palatinate is going to send a monitoring truck this month and study the pollution from radiation around Seelingenstaedt.

Forty kilometers south of Seelingenstaedt, in the little mining town of Schneeberg, the inhabitants are so intimately acquainted with cancer that they talk about it as the "Schneeberg illness."

Schneeberg has a long tradition as a silver mine and made the Grand Duchy of Saxony rich. Along with the silver, the miners dug uranium ore which they piled up in mounds and used as building material. After the war, Wismut appropriated these mounds, used the old silver galleries to look for uranium and piled up more tip heaps. In the 1950's the tips were sown with grass and turned over to the city as land for construction.

Lisbeth Traenkner lives in a house 15 meters from the old mineshaft entrance "Fundgrube [Treasure Trove] Sauschwart." Years ago a mine safety squad from Wismut sealed the entrance, a hole 25-meters in size, with a seven-meter thick concrete plug. The plug was supposed to prevent the gassing off of radon, a product from splitting uranium, from the earth's interior. The gas promptly found new ways through the earth.

Prof Edmund Lengenfelder, head of the Radiation Biological Institute at the University of Munich, measured a radon decay rate of 5,000 particles per second in one cubic meter in Traenkner's kitchen, the equivalent of a radiation intensity of 5,000 Becquerel per cubic meter. Legenfelder and a colleague from SAAS, who was also present, advised Traenkner, who is a widow—her husband died in 1988 at the age of 56 from lung cancer—to look for a new home. Lisbeth Traenkner was able to find one. The new owners of her old house are a young married couple who bought the property cheaply from the city.

"Every second or third house down in Schneeberg is contaminated by radiation and in need of being cleaned up," in the opinion of Wolfgang Petter, in charge of radiation protection in the Seelingenstaedt plant. Wismut would very much like to put the burden of the cost of concreting the house basements on the former Grand Dukes of Saxony.

The greatest problem for those who inherit Wismut is doubtless the recultivation of enormous piles of overburden in the Ronneburg area north of Seelingenstaedt and in the Erzgebirge. There are 302 million cubic meters of debris there containing low levels of radiation, covering an area totaling 590 hectares. Water seeping from the dumps contains sulfate in a concentration of 20 grams per liter, in addition to 10 milligrams of uranium. The ground water is so severely contaminated that drinking water has to be pumped into the region through a 40-kilometer long pipeline system.

At Wismut there are no illusions concerning the utility of the dumps. "The dumps and tips from ore mining represent extreme biotopes," states the Wismut brochure, "Uranium Mining Contra Environment?" "the pioneer settlement of which places severe demands on the ability of the pioneer organisms to adapt."

So other solutions have to be found. The initial purpose of covering the tips is to prevent the further entry of rainwater, with the inevitable exit of the dreaded seepage. As cover material the Wismut brochure suggests: "Ashes from soft-coal generating stations, clarified sludge, household garbage."

Just as Dr Karl-Heinz Eiffe envisions the future of his plant as a "disposal center, for example, for used tires," so the Wismut executive board has already sketched out plans for the continuing use of the tips when they are made cultivatable. For example, the "preparation of suitable surfaces for the purpose of orderly dumping by succesive users."

The government of the FRG, which now has to swallow the bitter pill of Wismut, has already armed itself against exaggerated demands from environmentalists to clean up additional parts of Saxony and Thuringia: The "Ordinance for the Provision of Nuclear Safety and Radiation Protection" along with the decree for its implementation, which the SAAS in East Berlin passed for the smooth termination of uranium mining in the GDR and which promoted, rather than prevented, the destruction of the environment, goes into effect on 3 October as one of a few GDR regulations in the entire area of the FRG.

Greifswald Nuclear Plant To Be Closed Down 15 Dec

AU1412111790 Berlin NEUES DEUTSCHLAND in German 12 Dec 90 p 3

[ADN/ND report: "No Nuclear Power From Greifswald Anymore"]

[Excerpts] Bonn—Unit 1 of the Greifswald Nuclear Power Plant will be closed down immediately after the substitute heating facility is put into operation on 15 December, the FRG Environment Ministry announced in Bonn on Tuesday [11 December]. Thus, the last unit of the nuclear power plant will be closed down. Further permanent operation of the facility, which has been

operated at greatly reduced capacity only for the production of heat recently, would not have been acceptable without considerable reequipment in terms of safety technology. The costs for the substitute heating facility for providing Greifswald with heating steam amount to 46 million marks, according to the Ministry. [passage omitted]

Units 2 and 4 were closed down in spring 1990 after an analysis made by the Reactor Safety Society. Unit 5 is still being examined. However, it is to be predicted that this unit could not be put into operation without considerable reequipment. The safety evaluation for unit 5 and units 6 to 8, which are of the same construction, will be completed in spring 1991. [passage omitted]

ITALY

Environment Minister Ruffolo Discusses Economic Incentives

91WN0150A Milan MONDO ECONOMICO in Italian 10 Nov 90 pp 28-29

[Report on Interview with Giorgio Ruffolo, minister of Environment, by Nicoletta Picchio; place and date not given: "A Neglected Environment"—first two paragraphs are MONDO ECONOMICO introduction]

[Text] One trillion [lire] less than last year. The 1991 Budget Law shows how the government is neglecting the environmental question. Minister Giorgio Ruffolo confirms that for the time being there will be no immediate negative consequences. Thanks to the 1.5 trillion in unspent obligated funds, old projects under way can go forward. But at a time when the alarm is again being sounded at the World Conference on Climate in Geneva about the devastating consequences of the greenhouse effect, the choice is in clear contradiction with the current need to bring funds together quickly for investments in the ecological field.

How should one confront the environmental question? By energy saving, according to Ruffolo; above all, by adopting a fundamental principle: Ecological problems should be confronted with market concepts. Not by more directives, but by a price policy. "If a resource, like water, for example, is rare and precious, it should cost more," said the minister. Hence, in the future environmental policy should hinge on incentives and disincentives.

[Picchio] Will it be possible to recover at least a part of the funds during the debate in Parliament on the Budget Law?

[Ruffolo] At the last meeting of the Environmental Committee I rejected amendments that the opposition presented to increase the financing for my Ministry. But I did it exclusively for disciplinary reasons. While not departing from government responsibility, I shall encourage my colleagues' rethinking, and will without fail support changes in the Budget Law that reestablish greater respect for environmental problems.

[Picchio] Would the government have been able to pursue an alternate policy?

[Ruffolo] Certainly. There was too much interest in a purely quantitative view of financial control. Both the letter and the spirit of planning was lost. Each logical requirement to define priorities within the framework of national needs was sacrificed for a control which eliminated those expenses that were easiest to cut at that moment, not the least important ones. That certainly is a situation for the environment.

[Picchio] However, the fact that the Ministry disposed of 1.5 trillion in unspent obligated funds must mean that something is not working right.

[Ruffolo] Actually, there is a need to mobilize outlays for environmental investments. Today it takes years to make a purifier or a garbage treatment plant. We cannot tolerate such a situation, considering the emergency we are now in. As for the unspent obligated funds, they result from the fact that the three-year plan was approved barely two months ago, two years late. And through no fault of ours. In any event, there is a problem of simplifying spending procedures. For 1991 the Ministry will have 967 billion allocated by the Budget Law in addition to the unspent obligated funds. As a first step in implementing the plan, we are having an inspection in the Regions to see how the 4 billions transferred by the Ministry of Environment over the past three years were spent. I doubt it will prove satisfactory. Therefore, I am about to present to the Cabinet a proposal to introduce emergency investment procedures for the first three-year plan. It was done for the World Cup and I hope it will also be possible for the environment.

[Picchio] What are the emergencies?

[Ruffolo] There are three fundamental priorities: garbage treatment, water purification, and air decontamination. It is no coincidence that 90 percent of the three-year plan's resources are devoted to these aspects. But if we are to achieve significant results, one principle must necessarily gain acceptance, and that is to confront environmental problems with the market mentality. The directives are too muddled; it is hard to implement effective controls. I do not say they should be abandoned; but we have made a great effort to assimilate European directives, and we have succeeded. Now we are making a great effort for simplification. I have charged a committee to prepare a major law under delegated power which would give the government the opportunity to define an environmental code for each great section, that is, water, air, earth, and garbage. But while the directives take effect months, sometimes years later, a policy of incentives and disincentives has immediate effects. Prices operate in real time.

[Picchio] And in an effort to reconcile demands of industrial development with the environment, do you seek in this way to sensitize entrepreneurs?

[Ruffolo] I think that with this concept everyone would gain, entrepreneurs, government, and consumers. It is by no means easy to harmonize plant development with safeguarding the environment. But a step forward is necessary. One way to achieve this is to define clear legislative and administrative limits for plant activity. And until now, environmental policy has been based almost exclusively on that approach. But while entrepreneurs do in fact complain of the excessive bureaucracy connected with the directives, I am surprised by their negative reaction to an economic approach providing economic and tax incentives and disincentives. Moreover, that principle has now been put into practice in almost all OECD countries.

[Picchio] However, with us, such an approach has difficulty in getting started, since the bill you presented on incentives and disincentives has been stalled in Parliament for one year.

[Ruffolo] As a matter of fact, it got stuck in the Senate. I brought up the problem in the Cabinet meeting which approved the Budget Law. It would be a law made under delegated power and contains two articles. In the first article, there are new taxes on some plastic products, on pig farming, and higher rates for water. In the second, there are the incentives. Among those are facilities for acquisition of catalytic converters, and special financing through Law 46 on technological innovation. Some changes will be necessary, and we are working on them right now. Nothing substantial, only a few refinements. Meanwhile, we are developing some important program agreements with factories. We have signed some with AGIP [Italian National Oil Company], Unione Petrolifera, Enimont, and FIAT. We are discussing with the latter a further development in that agreement, which up to now concerns catalytic converters, changes in motors, and alarm rays. There will be the matter of taking into account new EC limits on automobile gasoline emissions. Automobile plants will be forced to modernize the processes of purification and production changes.

[Picchio] In any event, are ecological taxes inevitable?

[Ruffolo] Ecological tax has a punitive, demeaning connotation. It suggests the notion of a bad mark. On the other hand, it is a matter of incentives and disincentives. Market prices do not reflect the scarcity of environmental wealth. To discourage these distortions, one must introduce taxes and rates for products whose consumption should be slowed down and, on the other hand, accelerate production and consumption of products and of processes technologically compatible with the environment. Industry should be very responsive to such a principle of efficiency. Furthermore, we had proof of this in the mid-1970's. Faced with petroleum price increases, the industrial world and the consumer world reacted by reducing consumption and increasing energy efficiency. In OECD countries from 1975 to 1983, around a 25 percent saving in energy took place. Then the price of petroleum went down and we started squandering again. We should not repeat today the errors of that time, because petroleum is scarce and noxious, and we should make it cost more. And in the long run, see to it that it can be replaced by renewable sources of energy, not by other combustibles. Meanwhile, we should continue to economize on its use, since burning petroleum increases the greenhouse effect.

[Picchio] In Geneva these days the greenhouse effect is actually being discussed by hundreds of ministers of Environment and of Industry at the World Conference on Climate. What measures are likely to be adopted?

[Ruffolo] Reduce hydrocarbon emissions, exploit sources of alternative energy, and find ways for energy conservation. Those are the things to do. The Italian president's commitment is to stabilize carbon dioxide emissions by the year 2000 at 1990 levels, in addition to establishing the principle that the costs of that process should be equitably established among the various countries. Let us hope that this approach is shared at the world level. The Italian government, above all, should demonstrate that the decisions we urge on other countries are supported by us with appropriate government action. Without measures our carbon dioxide emissions will increase at the rate of 11 percent. The path to follow in the short range is precisely that of saving energy.

[Picchio] Is the idea of a carbon tax, that is, a tax on the emission of carbon dioxide, which has been discussed at the international level, concretely feasible?

[Ruffolo] It is being seriously discussed. Denmark and Sweden have already introduced it, and the United States is making a very careful study of it. It can be a useful instrument, primarily if people agree that energy should be taxed because it should be consumed less.

NORWAY

Report Shows Few Goals Established in 1970's Achieved

91WN0124A Oslo AFTENPOSTEN in Norwegian 14 Nov 90 p 6

[Article by Ole Mathismoen: "Only Four of the 27 Environment Goals From 1970's Met"]

[Text] The Storting takes a rather perfunctory view of political objectives. The Norwegian bureaucracy is even less interested in these goals. Only four of the 27 environmental objectives approved by the Storting in the 1970's have been met.

This is evident from a report prepared by the paper FOLKEVETT, published by the organization known as The Future in Our Hands. During the presentation yesterday journalist Jon Knut Berg said the survey showed that the Norwegian bureaucracy does not take

the objectives contained in various Storting reports very seriously. He was afraid that many of the environmental goals the Storting approved in the spring of 1989 in connection with the Brundtland report will suffer the same fate.

The study was carried out by systematically examining a number of Storting reports and bills from the 1970's. Out of a total of 27 environmental goals that were found only four have been fulfilled, six have been partially fulfilled and 17 have not been fulfilled. In some respects the situation has become worse, among other things it is estimated that 400,000 more people are bothered by traffic noise today than in 1974.

Little Obligation?

During the presentation of the report Storting representative John G. Bernander (Conservative) said that this shows how little obligation is attached to Storting reports.

"They tend to be a collection of good wishes and goals. To get away from that we must make it a fixed practice to always ask control questions when goals are approved. How much will it cost to achieve this goal and is it possible?"

Socialist Left [SV] leader Erik Solheim referred to the many optimistic environmental goals the Storting approved in the spring of 1989 before the last Storting election:

"But the Storting has not passed a single resolution since the election concerning how these goals should be implemented. The main problem is that environmental objectives lack a bureaucracy of the kind road construction has, for example, which is strong enough to fight for the passage of legislation. The Storting approved the Norwegian highway plan and the Norwegian follow-up of the Brundtland Commission's work in the same month. The highway plan was implemented as planned, while the Norwegian Brundtland plan is on ice," Solheim said.

Environmental Deception

Reidar Andestad, leader of The Future in Our Hands, said the Storting carries out a deliberate environmental deception. That public opinion and organizations are "duped" into believing that what they are fighting for is taken seriously and becomes Norwegian policy when the Storting passes a resolution.

Andestad received some support from Professor William Lafferty of Oslo University.

"The report reveals that our politicians do not require the implementation of their own resolutions. When a majority of the people really become aware of this, the politicians will have an even greater confidence problem than they have now," he said.

Want Environmental Office

The Future in Our Hands sent a letter to Prime Minister Gro Harlem Brundtland and Environmental Affairs Minister Thorbjorn Berntsen yesterday with a proposal that an environmental office be established in Norway with the primary task of making sure that environmental decisions are implemented.

"The report fully shows what we have said all along. Everyone is for environmental protection in general terms, but most draw back when it comes to practical policy," said Erik Solheim.