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TRANSLATIONS ON ENVIRONMENTAL QUALITY

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EFFLUENT CHARGES SEEN AS WAY OF COMBATTING POLLUTION

Kuala Lumpur BUSINESS TIMES in English 1 Jun 77 p 11

[Article by Mack Laing in Manila]

[Text]

MANY MAJOR Asian rivers have been sewers for centuries. Despite this there was some chance for rivers to clean themselves, at least in part, before the modern age of pollution began in earnest after World War II.

But now, the population explosion, the exodus of people from the countryside to Asia's packed cities, and, especially, the new industrialisation, is putting pollution pressure on rivers as never before.

What is the most effective way to control this last factor — to stop companies from dumping waste into the river at their back doors?

First, you could fine these companies for dumping more than a certain limit of various types of pollutant.

Discharge limits could be set by the capacity of the river to withstand pollution, as determined scientifically. Inspectors could monitor pollution levels. Inspectors or police could lay charges. The fines would be administered through the courts.

Another way would be to grant tax favours or incentives to companies which try to keep pollution down. For example, the Government would allow companies duty-free importation of anti-pollution devices.

In the Philippines, both these pollution control methods are used. The trouble is, they can become too costly for effective control.

The system of fines means an expensive force of detection, enforcement and court officers.

The most obvious pollution — pollution that stinks in other words — gets the most attention in these measures. More dangerous pollutants such as lead, cadmium and other heavy metals and thermal, or heat, pollution, are often ignored because they are harder to detect.

In addition, traditional pollution control is largely a matter of point-source inspection at only the most likely spots — sewer outlets, for example. More subtle sources, such as pesticide run-off or erosion, are often ignored.

Now there's a new idea which might get around some of the problems.

The idea is that the Government would rent the river as a garbage dump. The polluting company would be charged an "effluent charge" according to the number of kilos of waste it wanted to dump.

The charge must be set high enough so that the total

pollution load of the river is reduced. The charge must be low enough that it will not deter the company from removing pollutants from its water before dumping, if that is cheaper in the long run than the effluent charge.

Environmental engineer Dr Filemon A. Uriarte Jr. discussed effluent charges recently (26 March) at a seminar for science writers sponsored by the National Science Development Board and the University of the Philippines.

Results

He used this over-simplified and theoretical example: Eight factories discharge a total of 2,400 kilos of BOD per day into a river. This much BOD results in pollution. (BOD, or Biochemical Oxygen Demand, is a measure of the pollution load the water has to bear).

In the example, pollution control authorities want to reduce the total BOD by 800 kilos per day to a total of 1,600 kilos per day.

The eight factories put out varying amounts of different kinds of waste which require various treatment costs, thus:

Factory	Kilos BOD	Treatment cost per day pesos/kg (US$)
A	500	10 (US$1.36)
B	100	2 (US$0.27)
C	200	2 (US$0.27)
D	200	5 (US$0.68)
E	100	4 (US$0.54)
F	500	10 (US$1.36)
G	400	8 (US$1.08)
H	400	4 (US$0.54)

For each factory to reduce its waste load by 100 kilos per day, it would cost 4,500 pesos, or US$612.24, Engineer Uriarte calculates.

For each factory to reduce its waste load by one-third (to reduce the total 2,400 kg/day by one-third, or 800 kg/day), it would cost 5,600 pesos, or US$761.90.

Now suppose a n effluent charge is levied for each kilogram of waste discharged. Suppose we set the charge at 4.50 pesos per kilo, or US$0.61.

At this rate, factories B, C, E and H will save money by avoiding the effluent charge by treating their own waste. The table shows their treatment costs are below the effluent charge.

Factories B, C, E and H produce a total of 800 kilos of BOD daily. Their treatment of this waste reduces the total factory dumpings to the desired 1,600 kilos per day. Their treatment costs for this are 2,600 pesos or US$353.74.

This is far less than the waste reduction by the first two methods.

But meanwhile, the other four factories are each paying effluent charges. They total 7,200 pesos (US$979.59) per day.

Thus the dumping of waste into the river has been lowered by the desired amount at the lowest cost to the economy and the pollution authority has also gained revenue to use to further improve water quality.

Dr Uriarte saw no objection to a policy of effluent charges from government agencies.

But he wrote, "I do foresee vigorous objections from the industrial sector... The most vehement will probably come from those factories which do not have treatment plants or those which have treatment plants but do not operate them, or those which only partially operate their treatment plants.

For industries which are sincerely pursuing pollution abatement programmes, the use of effluent charges will be a welcome move... since effluent charges will either provide a less expensive way of disposing of wastes or serve as an incentive to develop less expensive means of waste treatment," Dr Uriarte said. — Depthnews.

CSO: 5000

REGULATION DEFINING ENVIRONMENTAL PROTECTION COMMITTEE TASKS

Sofia DURZHAVEN VESTNIK in Bulgarian 24 Jun 77 pp 545-548

[Council of Ministers regulation on the functions and tasks of the Environmental Protection Committee of the Council of Ministers (adopted with Council of Ministers Letter No 89 of 1976)]

[Text] Chapter 1

General Stipulations

Article 1. The Environmental Protection Committee of the Council of Ministers is an autonomous control organ of the Council of Ministers with a functional competence which, on the basis of the program-target and comprehensive approach and within the framework of its rights, shall implement the policy of the state on matters of the protection and reproduction of the natural environment and shall guide, coordinate, and control the comprehensive utilization of water resources.

Article 2. (1) State organs, organizations, and officials shall be required to assist the Environmental Protection Committee organs in the exercise of their control activities.

(2) Irrespective of their affiliation, by request of the Environmental Protection Committee and its organs, the scientific research institutes and laboratories of enterprises and organizations shall give priority to analyses and studies of a control-analytical nature in connection with the committee's investigations.

Article 3. The executive committees of okrug and city people's councils shall assist the Environmental Protection Committee organs in their activities and, in coordination with them, shall implement their Environmental protection measures.

Article 4. The Investigations conducted by the Environmental Protection Committee organs in sites of a classified nature shall be conducted in accordance with the stipulations governing the protection of state secrets and, in facilities of the Ministry of National Defense and Ministry of Internal Affairs, also with the agreement of the respective ministries.

Article 5. In the course of its activities the Environmental Protection Committee shall apply the state-social principle and shall rely both on the state authorities and the nationwide movement for environmental protection.

Chapter 2

Basic Tasks

Article 6. The Environmental Protection Committee shall have the following basic tasks:

1. To organize and coordinate the elaboration of a legal system for environmental protection; to coordinate and control the execution of the national program for environmental protection and for the comprehensive utilization of water resources; to provide specialized control over environmental protection; to coordinate and control the implementation of legal acts and decisions passed by the National Assembly, State Council, and Council of Ministers on problems related to the preservation, improvement, and restoration of the environment and the rational utilization of water resources;

2. To control and coordinate the implementation of measures aimed at the protection of the atmosphere, water, soil, landscape, and natural projects and their purification from pollution, protection of natural vegetal and animal resources, and of the soil from erosion and destruction, and the treatment and utilization of industrial, agriculture, domestic, and other refuse, the struggle against noise and vibration outside the working environment, and the preservation of the natural environment in the utilization of natural resources. To exercise preventive control in order to prevent new pollution;

3. To draw up the water resource balances of the country and allocate the waters of the complex dams and to coordinate and control the activities related to the rational utilization of water resources and the steady and normal operation of installations for the treatment of sewage waters, and to manage the study and utilization of subsoil waters;

4. To coordinate the formulation of plans and comprehensive-target programs for environmental protection drawn up by ministries and other departments and participate in the drafting of the section entitled "Basic Tasks for the Preservation and Restoration of the Environment" of the unified plan for the socioeconomic development of the country;

5. To control and help ministries and other departments and executive committees of okrug people's councils to insure the most effective utilization of allocated environmental protection funds;

6. To organize the structuring, operating, and development of the unified national system for observation of and information about the condition of the natural environment, and the national automated control system, and the optimal utilization and protection of the purity of water resources;

7. To elaborate together with ministries and other departments and coordinate their work for the elaboration and approval of norms and stipulations governing admissible harmless quantities of released pollutants in the air, water, soil, and environment as a result of various industrial, agricultural, and other activities, as well as norms on noise and vibrations outside the working environment, and to control their observance;

8. Together with the Committee for Science, Technical Progress, and Higher Education and the Bulgarian Academy of Sciences, to coordinate and control scientific research and design activities related to environmental protection, the development and application of essentially new technologies insuring pollution-free production, and the rational utilization of natural resources;

9. To study the experience of the Soviet Union and the other advanced countries in the preservation of the natural environment and the comprehensive and rational utilization of water resources, and to assist in the fast and extensive use in our country of the best achievements in that area;

10. To represent the government of the Bulgarian People's Republic in the specialized CEMA organs and other international organizations on matters related to the preservation, reproduction, and improvement of the environment and the comprehensive utilization of water resources;

11. To organize and coordinate the work on the implementation of obligations undertaken by our country along the line of CEMA as well as the other international obligations related to the protection of the environment and the rational utilization of water resources;

12. In coordination with ministries and other departments to formulate draft laws on matters related to the protection, reproduction, and improvement of the environment and the rational utilization of water resources.

Chapter 3

Organs of the Environmental Protection Committee

Article 7. (1) The rayon environmental protection inspectorates shall be the organs of the Environmental Protection Committee.

(2) The rayon environmental protection inspectorates shall operate on the basis of a directive approved by the chairman of the Environmental Protection Committee.

Article 8. (1) The state-social principle of administration of activities related to environmental protection shall be provided by an Environmental Protection Council and a Water Resources Council as auxiliary organs of the committee, consisting of representatives of ministries, departments, and public organizations, noted scientists, specialists, and others. The chairman of the Environmental Protection Committee shall be the chairman of these councils as well. The membership of these organs shall be determined by a deputy chairman of the Council of Ministers.

(2) The councils shall submit suggestions on resolving problems related to the protection and reproduction of the environment and the comprehensive utilization of water resources; they shall discuss and issue opinions on drafted plans for forecasts, concepts, programs, and the "Preservation and Reproduction of the Environment" section of the unified plan for the socio-economic development of the country.

(3) The Environmental Protection Council and the Council on Water Resources shall participate in discussions of information supplied by individual ministries, other departments, executive committees of okrug people's councils, and other organizations on the implementation of the plans and programs for the preservation and reproduction of the environment and the comprehensive utilization of water resources.

Article 9. The environmental protection national committee of the National Council of the Fatherland Front and the okrug, city, and village social committees for environmental protection of the respective Fatherland Front committees shall provide social assistance to and help the Environmental Protection Committee and its organs in the implementation of their tasks.

Chapter 4

Rights and Obligations of the Environmental Protection Committee and its Organs

Article 10. (1) The Environmental Protection Committee shall control the execution of environmental protection legislation, issue mandatory prescriptions on environmental protection from pollution and harm, and impose penalties on violators in cases stipulated by the law.

(2) The Environmental Protection Committee and its organs shall maintain close relations with the state and people's control organs. They shall coordinate their control activities with them and seek their assistance in the implementation of such activities.

(3) The Environmental Protection Committee and its organs shall immediately inform the respective prosecutor's office organ should they establish that crimes related to damage to the environment have been committed.

Article 11. Implementing their control activities the Environmental Protection Committee organs shall identify themselves by presenting official cards or an order issued for the purpose.

Article 12. The Environmental Protection Committee shall exercise specialized control over and assist in:

1. The proper and expedient utilization of vegetation protection facilities;

2. The accelerated use of integral and biological struggle against crop- and forest-harming agents and the observance of established scientific norms and requirements in the application of mineral and natural fertilizers and the use of herbicides;

3. The protection of the environment from damages and its rational utilization and enrichment and recultivation of degraded landscapes;

4. The protection, restoration, enrichment, and optimal utilization of the genetic stock with a view to preserving the ecological balance of the environment;

5. The preservation and management of protected natural sites;

6. The implementation of plans and programs for:

a. The building of treatment installations;

b. The domestic production or importation of treatment equipment and facilities;

c. The building of antierosion systems and the implementation of agrotechnical antierosion measures;

d. The recultivation of areas disturbed by strip mining, quarries, and others, and the draining of swamped areas;

7. The implementation of water resource measures aimed at the comprehensive utilization and preservation of the country's water resources;

8. The proper exploitation and effective operation of installed treatment facilities;

9. Rendering harmless and utilizing industrial, agricultural, consumer, and other waste;

10. The protection from pollution with petroleum, petroleum products, and other harmful substances of the Black Sea and the Danube River.

Article 13. The Environmental Protection Committee shall organize and coordinate the participation of our country in international cooperation in the field of environmental protection and comprehensive utilization of water resources. To this effect it shall:

1. Organize and coordinate the implementation of the obligations assumed by the Bulgarian People's Republic based on the "General Expanded Program for Cooperation Among CEMA-Member Countries and Yugoslavia in the Field of the Preservation and Improvement of the Environment and the Related Rational Utilization of Natural Resources;"

2. Organize and coordinate the implementation of the obligations assumed by the Bulgarian People's Republic based on the Complex CEMA Program for Cooperation in the Field of Water Resources along the line of the Conference of Heads of Water Resource Organs of CEMA-member Countries;

3. Organize, coordinate, and, together with the respective departments and organizations, engage in multilateral and bilateral cooperation with the Soviet Union and the other countries for the preservation of the environment and the comprehensive utilization of water resources.

Article 14. In the course of the implementation of its assignments the Environmental Protection Committee has the right to demand of the respective departments and organizations the necessary information related to the preservation, reproduction, and improvement of the environment and the rational utilization of natural resources.

Article 15. With the agreement of the respective ministries, other departments, enterprises, organizations, higher educational institutions, and institutes the Environmental Protection Committee may recruit scientific workers and specialists to work on individual problems in the field of the preservation, reproduction, and improvement of the environment and in controlling the protection of the environment.

Article 16. The Environmental Protection Committee shall control the observance of stipulations related to the protection and restoration of the natural environment before capital construction financing has been made available for various projects. Should such requirements be violated the committee shall submit a suggestion to the Council of Ministers that financing not be opened or that construction be stopped.

Article 17. (1) Through its representatives the Environmental Protection Committee shall participate in the acceptance and delivery of completed projects which may pollute or disturb the condition of the environment; in the case of nonfulfillment of planned projects for environmental protection it shall ban their commissioning for regular operations until the respective requirements have been met.

(2) The Environmental Protection Committee and its organs shall participate in the allocation of sites for the construction of projects which pollute or harm the environment.

Article 18. (1) The Environmental Protection Committee shall stop the production activities of enterprises which violite stipulated admissible norms governing the pollution and harming of the environment until the normal work of their treatment installations has been secured.

(2) The Environmental Protection Committee shall issue mandatory instructions to enterprises to convert for a specific period of time to a corresponding production system which would prevent environmental harm, based on the forecasts of the Unified National System for the Observation of and Information on the Condition of the Natural Environment.

Article 19. Together with the interested departments the Environmental Protection Committee shall formulate and keep up to date the country's unified water resources plan, water resources record of main water resource stocks, and the country's detailed hydrogeological map, and shall coordinate hydrological and hydrogeological studies. To this effect:

1. Together with interested ministries and other departments, it shall formulate annual and long-term plans for the comprehensive study and utilization of water resources for residential and industrial water supplies, irrigation, and electric power production;

2. It shall organize, conduct, and control hydrological, meteorological, water resources and laboratory observations, measurements, and studies of waters in complex and big dams and observe erosion processes in the course of the collection of such waters;

3. It shall elaborate and approve system plans-schedules for the utilization of the waters of complex dams and control their implementation by the respective water users;

4. It shall issue permits for water utilization and damming of sewage waters and for construction and extraction of quarry materials in river beds.

Article 20. (1) In coordination with the National Committee for Environmental Protection, the Environmental Protection Committee shall formulate, suggest, and control the application of a system of moral and material

incentives for the effective protection of the environment in the study, design, construction, maintenance, and exploitation of treatment installations, and the development and utilization of new technologies insuring wasteless production and the related effective utilization of raw and other materials.

(2) Together with the National Environmental Protection Committee, the Dimitrov Communist Youth Union, the Bulgarian trade unions, and other public organizations and institutions, the Environmental Protection Committee shall organize a competition for environmental protection.

(3) The chairman of the Environmental Protection Committee shall offer public thanks and shall reward or submit for the awarding of distinctions and rewards the names of collectives and individuals for high achievements in the field of environmental protection and comprehensive utilization of water resources.

(4) Together with the National Environmental Protection Committee of the National Council of the Fatherland Front, the Ministry of Public Education, the Dimitrov Communist Youth Union, the Bulgarian trade unions, the Bulgarian Tourist Union, the Hunting and Fishing Union, and the other social organizations the Environmental Protection Committee shall formulate and implement programs for social supervision and educational and propaganda activities for the preservation and reproduction of the environment; it shall be in direct contact with mass information media.

Article 21. The decisions of the Environmental Protection Committee taken within the framework of its competence shall be binding to ministries, other departments, executive committees of okrug people's councils, and economic and other organizations and individuals. The committee's decisions may be annulled only by decision of the Council of Ministers.

5003
CSO: 2200

PROBLEMS IN WATER SUPPLY CITED

Bonn INFORMATIONEN in German No 11, May 77 pp 17-18

[Report by FRG Ministry for Inner-German Relations: "GDR Wants To Reduce Water Consumption"]

> [Text] By 1980, water consumption in the GDR industry is to be decreased by 20 percent. With this demand, the GDR minister for environmental protection and water management Dr Hans Reichelt for weeks has been calling publicly for the rational use of water as a precept of economic reason. The decrease in water consumption in the GDR--especially in industry--had been set already in 1976 as a task in the directive of the Ninth SED Party Congress on the Five-Year Plan for the Development of the National Economy in the Years 1976 to 1980.

At the present time, approximately 5.8 million cubic meters of water are consumed daily in the GDR. The demand is growing annually by 4 percent. In 1975, about 6.2 million cubic meters of drinking water and non-drinking water were available daily. In case of a longer drought--as in 1976--bottlenecks in water supply develop, especially on a regional basis because an equal amount of water cannot be made available in all bezirks.

Of the water required every day, industry consumes approximately 75 percent, agriculture about 14 percent, and private consumption comes to about 10 percent. On a daily per capita basis 40 to 70 liters are consumed in urban old buildings, 110 to 125 liters in modernized apartments, and up to 250 liters of water--on hot days up to 400 liters--in newly constructed apartments, with bath, flush toilet, washing machine, electric water heating appliances, and modern heating systems.

Industry, which requires nearly 4/5 of the available water for its purposes, has been called upon to effect drastic reductions in consumption. This is to be accomplished through new, water-saving technologies, equipment and means of rationalization of the water supply and the treatment of waste

water. Minister Reichelt demanded "to find completely new ways and to develop processes" for the production of industrial goods that use "little or no water." The nevertheless rising water consumption in industry is to be compensated for by greater multiple use. A prerequisite for multiple use is keeping the water clean, in short the constant purification of used water. This treatment of waste water requires large investments of money and material. Thus the processing of water of Quality Class 4 (highly polluted) requires 8 times the expenditures by comparison with Quality Class 1 (clean).

Polluted Waste Water

Of the industrial waste waters piped into the rivers, 60 percent are so strongly polluted that only about 17 percent of the 2,900 kilometers of main waterways in the GDR can be used for the supply of drinking water with justifiable expense. The responsibility for keeping the water clean was placed on industry, which for that reason has to pay fees based on water consumption, use and production of waste water.

The expenditures required for the solution of the waste water problem differ from plant to plant in the individual branches of the national economy because the quantities of waste water and the pollution differ. In addition there is the fact that prescribed measures for the purification of waste water cannot in every case be brought into tune with the fulfillment of the plan: for example, the construction of filter and purification plants can hinder production. In another case, a plant could not be forced to build a purification plant, in spite of repeated imposition of fines, because the necessary building materials were not made available to it.

The water resources economy of the GDR meets the demands of industry, agriculture, as well as the population through its resources consisting of 32,000 kilometers of waterways, 3,500 lakes and ponds, as well as in the 150 dams and reservoirs. In addition to the expansion of the reservoirs and storage-basins and the creation of new capacities for the processing of drinking water, the Eibenstock dam in the area of the Zwickauer Mulde (Zwickau Depression), southwest of Aue, is being built. With a capacity of this facility of 200,000 cubic meters per day, the supply of drinking water by 1980 is to be stabilized and the quality of water is to be improved for about 1 million inhabitants in Karl-Marx-Stadt, Zwickau, Stollberg, and Aue, as well as 230 smaller communities.

The current national economic plan provides for the increase in the capacity of numerous water works, the expansion of the pipeline network and the connection to the drinking water supply for approximately 100,000 inhabitants. In this respect East Berlin, Leipzig and Karl-Marx-Stadt are first in line, for in 1976 the greatest bottlenecks in water supply happened here. By connecting additional households to the public water supply, a practically 100 percent central water supply is to be attained in the course of the next few years. In 1975, 85.2 percent of the households were connected to the public water supply network. Actually, only 64.2 percent of all households were connected to a public sewage network; but only 47 percent of all household waste waters were cleansed in purification plants.

Artificial Lakes

The agriculture of the GDR covers its demand for water for the irrigation of fields increasingly from rivers, but also from lakes which in part have been artificially formed through the mining of brown coal. In addition, more and more water from the Baltic Sea is used for irrigation through the artificial creation of lakes close to the Baltic Sea coast. Also smaller lakes are excavated and thus expanded. According to information from the GDR, the waste water of agriculture, too, constitutes a source of worry. Through the expansion of industrial-type animal production there is a constant increase in liquid manure (dung water and solid waste). This increasing quantity of liquid manure constitutes a pollution burden for nature which corresponds to a multiple of the pollution produced by the GDR population and which is a heavy burden for the surface and subsoil water.

Since the increase in plant production is possible mainly only through the intensified use of fertilizer and crop protection products, a new source of water pollution is created here.

All the areas of water resources management in the GDR have now been called upon by Minister Reichelt to increase their efforts to reduce water consumption and water pollution. In order to compensate for the greater demand for water, the minister is also hoping for the help of nature. On 27 March 1977, Dr Reichelt said on Radio GDR: "We are in favor of continued and above-average precipitation."

8970
CSO: 2300

INDUSTRIAL CONTAMINANTS 'KILL' SAVINJA, VOGLAJNA RIVERS

Acid Dumped in Rivers

Ljubljana DELO in Slovenian 11 May 77 p 12

[Text] Celje, 10 May 77--Yesterday over 300 kilograms of pure sulfuric acid was discharged from the titanium white factory in Celje into the waters of the Voglajna and Savinja rivers. This was the second incident of this kind in the recent few days. Larger quantities of incompletely neutralized waste waters--approximately 200 cubic meters--also came from the TIO-2 plant of the Celje zinc factory the previous day, when first the Voglajna and then the Savinja were polluted by 1,100 kilograms of sulfuric acid.

In the last few days, according to data of the Celje Public Security Administration, the titanium white factory experienced a shortage of lime, which is used for neutralizing acids. Instead of stopping the production, incompletely neutralized waste water was discharged into the sewer and thence into the two rivers. According to reports that could not be confirmed at the zinc factory, production was interrupted only yesterday, after more than a ton of sulfuric acid had already been dumped in the Voglajna River during the two days. The damage has not been evaluated for the time being. It appears, however, that no fish were killed there, but it should be pointed out that the Voglajna River as well as part of the Savinja River already are devoid of any forms of life.

When we inquired again at the zinc factory, the matter was still being investigated. It was felt that the pollution had not been of such proportions as some people seemed to have reported and that, a year ago, incidents of that kind used to occur every week. Supervision of waste water purifying operations at the zinc factory is now more strict, and the polluting has supposedly decreased significantly in the last few months. All this, however, is no excuse for the latest incident, nor is the fact that the Voglajna River is devoid of life an extenuating circumstance on the grounds that what is dead cannot be made even more dead.

Any additional pollution is, at the very least, a serious setback in the uphill battle for better protection of natural resources and improvement of the seriously threatened environment.

New Fish Kill

Maribor VECER in Slovenian 13 May 77 p 16

[Text] As we already briefly reported yesterday, there has been another poisoning of the Savinja River. The river was poisoned all the way from the place where it is joined by the Voglajna River to Rimske Toplice and, to a degree, even as far as Zidani Most. The most obvious indication that it was a matter of poisoning were great quantities of dead fish floating in the river. The fish did not swim, they floated on the surface and were carried on by the river.

40,000 Fish

The first dead fish were spotted very early in the morning, according to Darko Jancic, president of the Lasko fishermen's community. [He continued:] We immediately collected samples of water and the fish and sent them in for analysis. Although the exact number of dead fish cannot be established, we can estimate that some 40,000 perished. This, of course, caused great damage.

The greatest damage is probably in the repeated destruction of life in the Savinja River, which has during the last few years somewhat improved so that a few fish reappeared. In addition to the fish their spawn was destroyed, too.

There was considerable excitement at Lasko yesterday. Not only the fishermen but the rest of the population, too, were upset over the fish kill. The bridge across the Savinja River was full of people who were watching the floating fish. Many of the observers felt so strongly as to suggest a protest march to Celje, since nothing else seemed to have any effect. Something like this must not happen again. A poisoning of this kind precludes any chance of eventually improving the situation in the Savinja River.

A protest march, of course, is no solution, we were told by Rudi Podbregar, principal of the General Services Administration at Lasko and vice president of the environment protection commission. It is, however, necessary to do everything to prevent an incident of this kind from recurring. There have already been three pollutions and poisonings of the Savinja River this month, but none of the previous incidents was so bad as the present case. The inspectors have taken water samples and specimens of fish and sent them to Ljubljana for analysis.

At noon the environmental protection commission met at Lasko and, among other things, decided to call on the president of the Celje Opstina Assembly's Executive Committee, Marjan Ahacic, to discuss with him the course of action necessary to prevent such incidents in the future.

Although by noontime most of the dead fish had already been carried on by the river, it was still possible to see quite a few that were washed ashore. Congregating at the mouth of affluent streams and even near sewage discharge pipes were extraordinary large schools of fish in search of more tolerable water environment. Fishermen told us, however, that they, too, were doomed.

The trout perished immediately, and toward 1100 other species could be seen dying--we were told by Franc Vitanjc, president of the Celje fishing community.

Celje Fishermen Upset

Although it was mainly part of the Savinja River in the direction of Lasko which was poisoned, people in Celje, especially the fishermen, are upset, too. The reason is that their fishing zone extends as far as Tremarje, and in that region all life was destroyed.

According to Franc Vitanjc, the poisoning is extremely severe. Because very inert poisons are involved, which take a long time to decompose, it may be expected that the Savinja River will remain devoid of life for at least another three years. And this happened precisely when the river began to show signs of improvement and recovery. Contrary to expectations quite a few trout began to appear. These fish used to go spawning from the Sava River to the Gracnica River, but now they can no longer be found there since they changed their spawning location to the Savinja River up to Tremarje. The poisoning has thus also damaged the roe. I can say that the roe was already affected by the polluted water on Sunday, since the filth tended to remain near the bottom.

We inquired of Comrade Vitanjc as to the extent of the damage. There are several kinds of damage. The results of the last five-years effort have been destroyed, the normal offspring has been destroyed, and any fishing is now precluded. In addition to the fish, the roe also were destroyed, as well as the river's fauna and flora. Further spawning has been made impossible, and the migration of new fish from the Sava River to the Savinja River is ruled out. Our damage claim will include all these items.

The fishermen's indignation is understandable. They care for the fish and impose fines on every member who exceedes his limit. They have been thus penalizing individuals even because of one single fish, and here someone comes along and dares to kill several ten thousands of fish.

If the industrial expansion in Celje has thus far had a reasonable chance of being approved it now certainly should not be given a green light. With this fish kill, they had closed the door to further industrial expansion, said Franc Vitanjc.

Who is to Blame?

Who is to blame? That is still an open question for the present. It has not yet been established where the poisonous substances came from. However, the culprit probably is not far. The analyses revealed that the poisons were zinc and copper, hence it will not be hard to deduce where this came from. Since guessing would probably be useless, it is best to wait for an official determination.

Of course, the determination by itself will not be enough. Much more than that is required. Merely pointing at the culprit has thus far fallen short of corrective action. It will be necessary to mete out an appropriate punishment for the culprit. By saying appropriate we mean severe, and when the sentence is pronounced we should bear in mind the poisoned water, destroyed fish and the loss of credibility in the eyes of the public, which the industry recently seemed to have gained by apparent indications of a changed attitude with respect to environmental protection. It does not mean a great deal if one does not pollute much for some time but then suddenly dumps so much poison that everything is destroyed.

Polluters Must be Punished

Ljubljana DELO in Slovenian 13 May 77 p 13

[Text] Celje, 12 May 77--Today, hardly three days after the titanium white paint plant of the zinc factory in Celje dumped over a ton of sulfuric acid with its unfiltered waste water into the Voglajna and Savinja rivers, an as-yet-unidentified polluter again poisoned an entire stretch of the Savinja River. This time the poisoning is even more severe and extensive than it was on the previous occasions and its consequences are correspondingly more grave. Hundreds of fish that perished in the poisoned water were still being washed ashore as late as noontime today, several hours after the poisoning occurred.

The latest poisoning of the Savinja River caused great indignation in Celje's greater surroundings. The damage is that much greater because a fatal blow has been delivered to life in the very part of the river which, according to some indications, was gradually becoming capable of sustaining life again. The number of fish that perished in the Savinja River below Tremarje was, surprisingly large; indeed the river was, in the early morning hours, virtually filled with dead fish, showing their upturned white bellies as the river flowed toward Lasko.

"Residents of Lasko found the first dead fish as early as 0430," said the Celje fishermen who were notified of the event from Lasko. "We

found the first dead fish near the Savinja River bridge at Polule shortly afterwards. The number of dead fish kept increasing. There was a surprisingly large number of the fish in the river. The concentration of the poison must have been extremely high so that even the whiting, which is one of our most hardy fish, perished."

Today's poisoning was a heavy blow for the living things in the Savinja River. It will have grave consequences for their offspring. It appears that offspring of the trout this year--first time after many years--came from the Sava River to spawn in the Savinja River. Although no precise assessment of the damage has yet been made, it is estimated to amount to over 3 million dinars.

This incident caused a storm of indignation among the citizens of the Lasko Opstina, where a special commission convened today. "It is as if we were talking to a void," they said. "Hardly any attention is paid to our constant admonitions concerning the harmful consequences of polluting the Savinja River. The latest poisonings which were in all likelihood the result of carelessness allow no more leniency. It is necessary to establish strict accountability, the offenders must be properly punished and the public should be informed about the action taken by the authorities." It was resolved that the protest of the citizens of the Lasko Opstina and their demands would be communicated to the Executive Council of the Celje Opstina's Assembly.

In addition to the Celje and Lasko fishermen's communities, the site also was visited by a commission of the Administration of Public Security from Celje. At the time when this item goes to press there has been no official report as to who was the responsible party. It is suspected, however, that this time, too, the poison came into the river with the waste water of one of the industrial working organizations along the Voglajna River and Savinja River. The commissions took water samples at several locations and collected specimens of the dead fish. Appropriate authorities were informed about the poisoning and it may be expected that the culprit will soon be discovered.

Although it is too late to close the barn door now, the demand that is being made at this point in time is nevertheless clear: Irresponsible conduct of this kind which has such dire consequences for the living things in the already seriously afflicted river cannot remain unpunished. That the polluters must be curbed is, after all, not the consensus of only the fishermen but of all persons who possess a scintilla of common sense.

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INCREASING NUMBER OF FISH KILLS IN SLOVENIAN RIVERS

Ljubljana DELO in Slovenian 14 May 77 p 7

[Article by Mojca Kaucic]

[Text] Not less than 4 successive fish kills in Slovenian rivers have caused great economic damage in the last 10 days. On 4 May 1977 electrolytic discharges poisoned thousands of fish and their spawn in the Ljubljanica River. Subject to final determination by the courts, the responsible parties for this are the drivers of a tank truck belonging to Komunalno Podjetje Ljubljana [Communal Enterprise Ljubljana]. Two days later, on 6 May 1977, waste oil and organic substances were discharged into the fish hatching stream, Mala Voda, in Polhov Gradec from a workshop in house No 27 in Setnik, which destroyed the fish over a 4.5 kilometer stretch of the stream. Two days later, on 8 and 9 May, over one ton of sulphuric acid discharged from the titanium white factory of the Celje zinc plant destroyed the fish in the Savinja River.

During the night of 11-12 May, all the fish in the Savinja River, up to the place where it flows to the Sava River, were killed. Sample specimen of the fish as well as of the water revealed the presence of acids and heavy metals. All these substances also destroyed the spawn in the river, which has not yet recovered from the last fish kill.

Everyone Is Asking: What Are the Penalties for Such Acts?

The two drivers of the communal enterprise are facing a three to five year prison sentence, if it is found that they acted negligently. For a deliberate act, however, the court may double the sentence--from 5 to 10 years. There is, however, a possibility that the two drivers were not adequately informed of the dangerous nature of the fluid they were transporting. Should this turn out to be the case, the leading personnel of the enterprise who were required to familiarize their employees with the proper procedures for handling the transported substances will have to defend themselves in court.

With perseverance, albeit with a heavy heart, the League of Fishermen of Slovenia is logging the data on all individual fish kills. The data are filed away with the hope that the files may not grow too fast. Unfortunately, the experience has so far shown that these hopes were in vain. Such multitude of fish kills made us go to the neatly arranged files to dig up the most eloquent data.

Starting with 1962, we counted 722 major fish kills in 14 years. To these we may add seven of the more serious ones of this year. The number of lifeless sewers, which once were living streams, is increasing in our republic from year to year. Not even the most undemanding organisms can live in those waters. Whenever there exists the slightest possibility for saving a poisoned body of water from total ruin the task is undertaken with all available means. Every year the fishermen stock streams and rivers with millions of fine young fish and then wait a year or two to see the results of their efforts. The catch in our waters is poorer from year to year. Last year a total of 607,500 fish were caught, weighting a total of 236,000 kilograms. The average catch should be 100 kilograms per hectare, and the total surface of the bodies of water in Slovenian is 7,144 hectares. A simple calculation shows that the above quoted number is much smaller.

Why are our waters increasingly less hospitable for fish life? Why are the efforts of our fishermen not rewarded to the extent overyone who is familiar with their work would expect? Because we have, ever since the liberation, been building industrial plants without realizing that such development could have adverse side effects. Increasingly more industrial waste is produced, which must be taken out of the factories and other industrial plants. Where have the effluents, full of filth and noxious substances, been discharged during all these years if not into our waters? For a time the consequences were not too noticeable, at least not for those who paid no more attention to the problem than was absolutely necessary. All of a sudden, however, the quiet rivers of poisons and filth began to overflow their banks and presented a hitherto concealed threat.

This was the reason that as early as 1957 the Basic Law on the Bodies of Water was enacted, which provided that all industrial objects, sewer systems, and similar installations must be equipped with suitable cleaning installations, which would prevent further destruction of our country's natural resources--bodies of water and all living things they contain. The deadline set by the law expired already ten years ago, but we find that its provisions have not been fulfilled to this date. From the data of the Water Resources Community we can see that of 553 industrial plants, only 326 possess filtering equipment. And, among those 326, there are many in which the filtering equipment is not operating or is only partially effective.

The economic damage that is caused because of this cannot be overestimated. The efforts invested in preservation of natural resources are, so to speak, wasted. Organizations in the economy, and not infrequently private producers, too, are discharging into bodies of water all kinds of noxious substances that destroy all living things. Various acids, detergents, pesticides, ammonia, chlorine, waste oil, petroleum derivatives, electrolytic waste and organic materials kill the fish, insects and plants in the water. The shortest time required for life to return to such devastated parts is three years. Sometimes, however, as much as ten years is required before the basic life supporting conditions are reestablished, and there are quite a few instances where the time required for restoration of life is unknown.

Who will compensate the fishing groups for the damage they have sustained? What can those who bear the responsibility for these reprehensive acts expect? Some will have to make partial restitution and some may expect prison terms. Perhaps the riddle of mysterious perpetrators of massive fish kills in our rivers will soon be disentangled.

Whatever the penalties meted out by the courts in these and future cases, which, unfortunately, will still be occurring for some time, our bodies of water are dying regardless of whether the irresponsible organizations are reaching in their coffers to "settle" the damage they caused or not. No sums of money can repay the destruction of fish, crabs and all the living things in the rivers, streams and lakes, which are, with their almost invisible existence, enriching our life.

12070
CSO: 5000

MYSTERIOUS WELL FUMES KILL THREE, INJURE TWO

Ljubljana DELO in Slovenian 21 May 77 p 8

[Article by Z. Hojnik]

[Text] Vir pri Domzalah, 20 May 1977--This morning three workers died and two had to be taken to the hospital because of serious poisoning with an as-yet-unidentified gas in an abandoned well at the Oljarna Domzale TOZD [Basic Organization of Associated Labor] of the factory of oil and vegetable fats Zrenjanin.

Albin Rojc, 33-year-old worker, wanted to pump out the water from an abandoned well. He climbed into the 15-meters-deep well. Why he climbed in is not clear, because all the necessary pumping equipment, motor and switches are located outside of the well. Somewhere on his way Rojc suddenly collapsed and fell into the deep. His friend and coworker, Anton Pirc, who was to assist him in pumping the water out of the well, saw this and immediately ran for help. Almost all workers who were around came running and brought rope ladders. Without hesitation Alojz Slabe, 37, descended into the well to rescue Rojc.

Slabe put on a fireman's belt and descended into the well. He also held a string on which he was supposed to tug if he needed help. After descending only three meters Slabe collapsed. The workers who were present wanted to pull him out but were unable to do so because he lost consciousness.

The others did not wait long to think the matter over. Marjan Nakrst, 44, decided to hurry to Slabe's rescue. He descended to the place where Slabe was hanging and he, too, collapsed.

The workers outside were then seized by panic. All wanted to come to the rescue of the helpless men in the well at the same time. However, it was impossible to render any help from the outside and many recklessly wanted to risk a descent into the well. In these brave attempts Joahim Zibert and Anton Pirc, who wanted to descend into the deep, lost consciousness. They were fortunate to remain alive but they had to be taken to the hospital.

Now no one dared even to look into the well. Nevertheless, workman Adolf Zupanek climbed into the well and succeeded in tying a rope around Zibert with the last remnants of his strength. Both were then pulled out to safety. At that time the firemen arrived who succeeded in pulling Slabe and Nakrst out of the well. Both died within 10 minutes despite the medical attention given to them.

The firemen wanted to use breathing equipment at the rescue but the well which is only one meter in diameter had an iron bar across its opening which prevented entry of a person carrying breathing equipment on his back. After some time they succeeded in tying a rope around Rojc, who was in the water, and pulling him out.

At the oil factory we were told that that well, more than 30 years old, and useless. It collects water, which must be periodically pumped out. The last time this was done was three years ago. There were three other pumpings prior to that.

Water that is pumped out of the well is discharged into the industrial channel of the Mlinscica River. No one is now permitted to enter the basement where the well is located. It must be determined whence the poisonous gas came. No one in the enterprise could tell us why Rojc wanted to descend into the well, when all the pumping equipment was located outside of it. Likewise it is not clear why the workmen, upon seeing that something was wrong, continued to push on into a hazardous situation.

The commission of the Administration of Public Security in Ljubljana, jointly with a chemistry expert of the Republic People's Security Service, took samples of the water from the well and the Mlinscica River. The water from the Mlinscica River had as bad an odor as that in the well. The preliminary tests could not establish what kind of gas it contained. It is possible that the gas is hydrogen sulfide (H_2S), but this has not yet been confirmed.

Immediately after the tragic event it was decided at the oil factory that the families of the victims would receive support. Assistance will also be provided by the trade union organization in Domzale.

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LENDAVA DRINKING WATER POLLUTED WITH PETROLEUM DERIVATIVES

Ljubljana DELO in Slovenian 5 May 77 p 2

[Article by Boro Borovic]

> [Text] Lendava, 4 May 1977--The growing concern over the danger of pollution of the sources of drinking water, and particularly the Radenska mineral water springs in Pomurje, by petroleum derivatives, if a tank-truck should overturn on this route, is well justified. All the efforts and measures that have been taken so far, primarily by the enterprise INA-Nafta of Lendava, have not, so far, succeeded in stemming the fears of the "black death"--and the catastrophic consequences of such an accident.

This was confirmed by the recent session of the Executive Council of the Gornja Radgona Opstina at which several decisions and proposals were adopted. This was reported in an earlier issue of DELO. Similar concern apparently prevails also in the Lendava Opstina, which, jointly with the enterprise INA-Nafta, seeks new ways for solution of the everything-but-simple problem of safe transportation of petroleum over this densely populated mineral springs area.

This is, at least, the conclusion we draw from the statement of Ladislav Ivanec, president of the Executive Council of the Lendava Opstina's Assembly, who invited us for a press conference today. He said: "It is high time for the representatives of our and Radgona's Opstinas and the two most immediately concerned collectives, namely, the enterprises Nafta and Radenska to come together. Only in this way we can find the best mutually acceptable solution. Accordingly, we propose that the Executive Council of the Gornja Radgona Opstina's Assembly, which has so far made the most thorough study of the entire complex of problems, call a joint meeting of the interested parties at the earliest possible time."

According to Ladislav Ivanec the Lendava Opstina is willing to take an active part in this campaign, in which the Public Security Administration of Murska Sobota and the people in charge of the firearms' organization

should also be included. Although the number of tanker trucks that daily drive over this route is not as high as 80, but only 30 to 40, this does not mean that the danger of a petroleum spill is any smaller.

This is why it is advocated in Lendava that a joint solution be found in the first place for a suitable redirection of this traffic to other routes including the renovated railroad from Lendava to the interior and vice versa. Another important measure in this connection is considered to be a lowered speed limit for these vehicles and its stricter enforcement on all routes used by shippers of petroleum. In addition, priority is given to safety improvements in the tanker-truck design and to the setting up of effective rescue operations in case of petroleum spills.

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USSR

INDUSTRIAL MINISTRIES SLOW TO IMPLEMENT ENVIRONMENTAL PROTECTION MEASURES

Moscow EKONOMICHESKAYA GAZETA in Russian No 22, May 77 p 14

[Article by A. Tsygankov, Deputy Chief, Department, State Committee for Science and Technology: "Don't Keep Procrastinating--On Sectorial Control of Nature-Protection Measures"]

[Text] Beginning in 1974, the section of the state plan "Protection of Nature and Rational Utilization of Natural Resources was put into effect in our country, and a department of Gosplan SSSR was especially created for its implementation. The plan includes indicators for disposal of purified waste waters, waste gases, water recycling cycles for all sectors of the national economy.

"...with the development of the national economy, growth of cities and industrial centers--as stated in the Summary Report of the CC CPSU to the 25th party congress--conservation of the surrounding environment will require constantly increasing funds--for the current five-year plan alone, 11 billion rubles have been allocated for this purpose. And this sum will continue to grow."

The effectiveness of work done by sectors depends on the efforts of the staff of each ministry engaged in the development of concrete measures for the use of natural resources. Consequently, special functioning subdivisions of the sectorial staff must operate while taking into account both their problems relative to the production of basic types of products and regional special features, taking into consideration the diversity of our country's natural zones.

How is the work in practice?

By way of a positive example the experience of the Ministry of the Chemical Industry may be cited. Systematically improving the structure of the organization, in 1975 it formed a special administration for the consideration of labor safety techniques, industrial sanitation and protection of the environment. A special trust was created in the sector for the commissioning and adjustment of purification installations and a branch-control service. At the same time there is a department in the administration for science and technology responsible for the development of scientific-research and experimental design work.

On the whole, while much still remains to be done in the chemical industry to ensure an ecologically safe level for technological processes, the organizational forms of control meet present-day requirements.

A similar administration has been created in the USSR Ministry of Coal Industry, which in its work depends on the head institute--Permniiosugol', specializing in the field of protection of the surrounding environment. In the production associations of this sector, specialized administrations are being created for controlling waste heaps and land recultivation.

Similar departments have also appeared in other ministries, for example in the USSR Ministry of Petroleum Refining and Petrochemical Industry, the USSR Ministry of Construction Material Industry, as well as in the Ministry of Paper and Pulp Industry, which has applied many efforts for the creation of purification installations for enterprises located in the region of Lake Baykal.

The list of ministries where we may believe that sufficiently serious attention is being paid to questions of organization and control of protection of nature unfortunately ends here.

In such a sector "famous" for its refuse as nonferrous metallurgy only a small department of three people has been created to bear on its shoulders the whole weight of the problems. The matter of creating a specialized subdivision in the USSR Ministry of Power and Electrification is dragging out unjustifiably. But in terms of the amount of refuse consisting of sulfurous anhydride, ash and slag and organizational and technical measures, the situation cannot be considered satisfactory in this sector. The first two experimental-industrial pieces of equipment for trapping sulfurous anhydride can in no way agree with their blueprints or be made out of metal, although the time has long gone by.

At the USSR Ministry of Food Industry, all questions on protection of the environment are handled... by one person, while at the USSR Ministry of Meat and Dairy Industry, there is not even one, although waste water and wastes at enterprises of these sectors inflict significant damage to water bodies. Without a doubt it would be an oversimplification to tie this whole matter to numbers, but the continuously growing complexity of the questions to be solved on the interaction of ministry and the surrounding environment still requires setting aside a necessary number of highly qualified specialists with a good knowledge of both the basic technology of their sector and the technology of purification.

The inclusion of subdivisions for the protection of the environment under these or those main administrations depends on happenstance or the traditions of the sector. At the USSR Ministry of Ferrous Metallurgy and the USSR Ministry of Nonferrous Metallurgy, they are included under the main administration of power, while at other ministries they are incorporated under technical administrations and administrations for science and technology.

The situation at the production associations evokes concern, inasmuch as the creation of subdivisions for the administration of environmental protection measures is not determined by any norms, but depends on the positions of the leaders of the association. In developing a structure for each association, specific officials with clearly delineated rights and duties in this field should be made responsible for the protection of nature.

Questions of incentives for personnel of associations and ministries putting into operation of new, more effective purification equipment and reducing harmful wastes are being handled very poorly. It would be desirable for the USSR State Committee for Labor and Wages to collect proposals of the sectors on these questions and to create a single procedure for bonuses.

Thus on the whole most of the ministries have still not carried out a scientific analysis of the structure of organs for the protection of the surrounding environment. Naturally, the specific character of each sector must leave its imprint on the forms and methods of such work, but dragging one's feet and neglecting the resolution of complex problems of control over the protection of nature may result in palpable economic damage.

Taking into consideration that most sectors have scientific-research subdivisions occupied with problems of scientific organization of labor, it seems clear that, without further procrastination, they should be assigned the job of working out the general structure of subdivisions engaged in both the planning of scientific research and design-and-development as well as questions of interdepartmental control. Furthermore, aside from the introduction of new methods of waste waters and gas wastes, the main attention should be focused on improving technological processes that exclude contamination of the surrounding natural environment.

Actually, every sector is in need of a comprehensive goal program, which may be called conditionally a general scheme for the development and introduction of wasteless technological processes and schemes. From such general schemes calculated for a range of 15-20 years, it would be possible to compile under the aegis of Gosplan a general scheme of waste-free technology for the country's national economy, which could be used in the future in the development of concrete five-year plans.

Recently at one of the meetings of the section for progressive waste-free technology of the Interdepartmental Scientific-Technical Council for Complex Problems of Protection of the Surrounding Natural Environment and Complex Utilization of Natural Resources of the State Committee for Science and Technology, a discussion took place on questions of a purposeful program for the development of waste-free technological production operations. The discussion showed that success could be anticipated only with the improvement of the system of sectorial control.

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CSO: 5000

PROTECTING THE AIR BASIN

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 5 Jun 77 p 4

[Article by Yu. Chirkov, Doctor of Chemical Sciences]

[Text] Today is World Environmental Protection Day. Protection of nature on our earth, its beauty and wealth, without which man would have a poor life on our planet. While performing wonders of scientific and technical creativity, while forcing thousands and thousands of highly complex machines and clever mechanisms to work for him, while producing fire from water and ice from flame, man has no right to forget that he is doing all this on the earth, using the organic resources of nature itself. And to exhaust, to ruin all its treasures means to doom future generations to poverty.

The health of nature is the health of mankind. And it is assumed that the forests will always be vigorous and inexhaustible, that the lakes and rivers will be blue, that the oceans and seas will be pure blue and that the air will be saturated with its ozone freshness.

The Communist Party and all the Soviet people are doing much in order that our motherland, incredibly endowed with natural gifts, will become still more beautiful and richer. Millions of hectares of new shelterbelts and young groves, thousands of kilometers of irrigation canals in the republics of Central Asia and the Ukraine, artificial reservoirs, gardens and parks on former sands and even on the slopes of tailings from strip mines, this is by no means a complete listing of the good done by the Soviet people in the name of nature. In supplying industrial giants with modern equipment for the purification and neutralization of harmful wastes we are struggling against them. The enormous projects for switching the runoff of northern and Siberian rivers into the Volga and the deserts of Central Asia and the construction of the Kerchenskaya dam for the hydrological improvement of the Sea of Azov are our plans.

Concern for nature is not just the global undertaking of nations. Each person can and must give his thanks that he, a part of nature, can breathe. And how joyful it is to learn that the pioneers of Elista have planted still another apple orchard and that the mining towns of the Donetsk are being beautified with new avenues.

A diesel engine, removed from the body of an automobile, somehow resembles an enormous fish which has been dragged up on a sandy shore. Gunned to its complete power, it trembles and vibrates. And it roars although the ears are plugged.

But in this case researchers are not interested in its convulsions and roar; they are concentrating on the engine exhaust gases. The exhaust gases passing through a special attachment filled with catalysts lose their lethal force.

Ordinary stand tests are made. Specialists check the effectiveness of the catalysts and study the combusting auto gases. These remarkable catalysts were created at the Institute of Organic Catalysis and Electrochemistry of the Kazakh Academy of Sciences. Alma-Ata chemists are seeking the key to solution of one of the burning problems of today -- safeguarding of the environment against poisonous effluent.

Someone has said that the earth is "an automobile without an exhaust pipe" moving alone in space. The comparison is figurative, and not a happy one. Boilers, chemical plants and automobiles contaminate the air which we breathe. Things have gone so far that already a sorrowful alternative is being mentioned: "Either people will do everything possible in order that there will be less smoke in the air or the smoke will become such that there will be fewer people on the earth..."

In 1937, upon graduating from Moscow State University and defending his Candidate's dissertation, Dmitriy Vladimirovich Sokol'skiy, a young professional chemist, the son of an underground Bolshevik, moved to Alma-Ata. That marked the birth of catalysis in Kazakhstan. Thus developed one of the major centers of organic catalysis in our country -- the school of Hero of Socialist Labor Academician A. V. Sokol'skiy...

More than 70% of the chemical production (and its scale is grandiose) is catalytic. It is understandable that even small improvements in existing catalysts can yield a savings of millions of rubles. But this is not simple to do. Even locked in formulas, symbols, speculative schemes and computation models catalysis reveals its secrets very reluctantly and unwillingly. Open any monograph on catalysis and on one of the first pages you will without fail read the sorrowful phrase: "Theory for the time being cannot predict the rate of even a simple chemical reaction."

And so now we find that in the age of high-speed computers scientists are still selecting the necessary catalysts by the "trial and error" method. The chemist takes a substance and sees whether or not it accelerates the necessary reaction. If the answer is yes, an attempt is made to improve the catalyst, and if not -- which is the most common case -- the chemist proceeds to an investigation of other substances. A test is made, it is no good, and another test is made... The complexity of the search for optimum catalysts and the lack of clear algorithms has the result that even

the leading proponents of catalysis frequently publically declare their doubts and advocate modesty and healthy skepticism.

All this may be true, but life requires newer and newer improved catalysts. After all, a good catalyst represents efficiency, high productivity, power over the chemical process. And here something surprising is discovered: the specialists in catalysis are not as weak as they seem. They have enormous intuition, rich experience (they have already investigated hundreds of thousands of substances of different nature and chemical composition), they have unwavering principles established in experiments and all this enables them to foresee the catalytic effect of different substances and act reliably and routinely. I became convinced of this from the work of Sokol'skiy and his students.

...The motor knocks, vibrates, trembles from excitation and power. There are 300 million motor vehicles raising havoc, moving over all the roads of the planet. Even now there is an anecdote in wide circulation: a citizen, "choking" from oxygen while on a stroll outside the city, passed out; in order to bring him to it was necessary to put him beneath the tailpipe of an automobile.

Black humor, but supported by rather eloquent figures. The smelting of each 1,000 tons of steel involves the ejection of 50 tons of carbon monoxide into the atmosphere, as well as 30 tons of dust and 30 tons of sulfide gas. The production of 1,000 tons of sulfuric or nitric acid releases into the air 20 tons of nitrogen oxides and sulfur gas -- the "plumes" rising from factory stacks. One thousand automobiles with carburetor engines each day release about three tons of carbon monoxide, 200-400 kilograms of other products of incomplete combustion of gasoline, 50-150 kilograms of nitrogen oxides. And sulfur gas, carbon monoxide and nitrogen oxide are extremely dangerous poisonous gases: man will die after a half-hour if the air contains only 0.1% CO.

Nina Mikhaylovna Popova, Doctor of Chemical Sciences, a student of Sokol'skiy's, heads the oxidation laboratory at the institute. She met me very affably: "Please come in!" But the problem is serious and there are so many difficulties! But she gradually began talking and became involved in what she was saying:

"The first catalysts for afterburning (carbon monoxide into harmless carbon dioxide, nitric oxide into inert nitrogen) were proposed abroad in 1960. On platinum. Our institute has developed far cheaper catalysts using less scarce metal. And there is not much in our catalyzers: 0.05% by weight. You can imagine what a savings there will be, for example, for a million machines."

The main difficulty was in creating a successful design of an afterburner. A good variant was made at the Scientific Research Laboratory of Transport Engines (NILTD -- Nauchno-Issledovatel'skaya Laboratoriya Transportnykh

Dvigateley) of the Ministry of Tractor and Agricultural Machine Building. This afterburner with our catalyzer has undergone a serious test: the automobile has run 50,000 kilometers. We are conducting work also with the Volga Automobile Factory. It is proposed that our cleaners be mounted on these vehicles.

It is good to burn automobile gases successfully, but it is far better to avoid them completely. And this could be done by using the electric automobile, about which so much has been written in recent years. But they must be special electric automobiles, not using storage batteries, but instead, fuel cells -- electrochemical current sources in which, for example, it is possible to combust hydrogen instead of gasoline and as the combustion product have very pure water instead of harmful gases.

Abroad specialists have already experimentally created tractors, motorcycles and automobiles operating on fuel cells. It is already possible to see photographs of automobiles to whose roofs there are several light steel tanks attached. These contain liquid hydrogen. However, all this may be more propaganda than the real thing.

What is to hinder the victory of the electric automobile operating on fuel cells? Well, the best of them have a specific weight of 5 kg per KW of energy -- the same as for diesels. The main problem is the expensiveness of the catalysts. A platinum catalyst cannot be placed on every automobile! A second barrier is the fuel: pure hydrogen is very expensive; the inexpensive industrial hydrogen contains impurities which will put the catalyst out of action, and also make other parts of the fuel cells malfunction, and this sharply reduces their longevity.

Only very recently there were few who believed that these difficulties could be soon overcome. Scientific prophets mentioned the tens of years which would be required for this. However, from the very first days after creation of the Institute of Organic Catalysis and Electrochemistry work began in the fuel cells laboratory on the creation of inexpensive material.

A series of five monographs (calalysts for use in the afterburning of automobile and industrial gases, authors A. V. Sokol'skiy and his students) was awarded the State Prize of the Kazakh SSR.

5303
CSO: 5000

DETECTING AIR POLLUTION WITH LASERS

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 31 May 77 p 4

[Article by A. Melua, Senior Scientific Specialist LenNIIPgradostroitel'stva]

[Text] It is a very difficult matter to trace the purity of air. And first of all, because remote research methods are necessary. But on what basis are they being developed? If radio waves are used for probing air contaminants, we do not obtain the necessary results because the length of the wave is many times greater than the transverse diameters of the particles, the contamination components. The radio signal passes through the contamination without "noting" it. It is necessary to use radiation with a shorter wavelength, for example, laser radiation. At the same time, the regime of their operation can be pulsed. This has also served as a basis for creating laser probes, or as they are also called, lidars.

For the first time investigations of air quality in a city by means of an aerosol laser probe have been carried out by a scientific team at the LenNIIPgradostroitel'stva.

A lidar consists of a receiver-transmitter, laser and scope (indicator). The indicator used is a two-ray oscillograph. A photorecorder registers on a film the oscillogram of each of the "shots" made by the lidar. The total weight of the apparatus (without power sources) is more than 300 kilograms.

The lidar can be of the aerosol type and with combination scattering. The first detects in the air particles of dust, smoke, water, and the second -- gases. Thus, any foreign inclusion in the air is readily discovered. The effective radius of the lidar attains more than ten kilometers.

If one selects several control points for setting up a lidar it is possible to investigate an area of ten square kilometers. Obtaining diagrammatic maps of contamination in this way, urban planners analyze them and use the results in planning work.

In what way does laser probing assist urban planners? A scrutinization of the diagrammatic maps gives an objective picture of the quality of urban air. It is possible to detect zones of increased concentrations and tendencies to their propagation in dependence on specific meteorological factors. By comparing the diagrammatic maps of contaminations of the air basin with maps of the distribution of industrial enterprises it is easy to determine the "contribution" of each of them. On the basis of these data specific measures are being formulated for the sanitization of the air basin.

The siting of residences and childrens' facilities and places of rest, as well as the planning of transportation flow, these are part of the broad range of tasks which can be solved using materials from laser probing. In the long range it will be possible to create an automated system for monitoring the quality of the atmosphere in a city. Several stationary lidar stations, located in different parts of the city, being switched on periodically, in accordance with a stipulated program will carry out measurements in their region. The oscillograms processed using an electronic computer are fed to a central station where on a large screen it will be possible to see the distribution of contamination components at any altitude above the ground surface. The statistical processing of the data over a long period of time will make it possible to detect the patterns of dissemination of contaminants, and this in turn will make it possible to predict the quality of the air basin.

The cost of creating such a system for a major city such as Leningrad is estimated at several million rubles. The expenditures are great, but over a period of two or three years it will be possible to create a system for the collection of information which has long been awaited by city planners, sanitation specialists, transportation experts and many specialists in complex communal activities.

Today the methods for laser probing of the atmosphere from ground control points are being improved. But such investigations are also possible from an aircraft and from a spaceship. A laser ray sent from a geocentric orbit can perform several missions, such as a study of the quality of the atmosphere at a nationwide scale and an investigation of local relief. This is economically more advantageous than the construction of an automated system for each city. And indeed, the results obtained after measurements over the earth's entire surface will be far more valuable. Only by means of space vehicles is it possible to obtain an objective picture of atmospheric quality at the scale of the country and the entire earth.

Complex laser probing, supplementing surface experiments, will favor the solution of the fundamental problem -- creation of healthy conditions for man's work and rest on the earth.

5303
CSO: 5000

BRIEFS

ANITPOLLUTIONARY ACTION TAKEN--The Ministry of Industry has it to its credit that it turned words into deeds in an admittedly short time over the question of environmental pollution by industrial plants. The minister, Mr K. Konofagos, announced on the 15th of this month that the appropriate department in his ministry had mapped all industrial plants in the plain of Attica, marking factories in three "polluting" categories:
(a) those causing a high degree of pollution
(b) those causing secondary pollution only and,
(c) those causing pollution which can be tolerated.
[Text] [Athens HELLENEWS-EXPRESS in English 23 Jun 77 pp 5, 6]

CSO: 5000

CHARACTER, POLICIES OF CONSERVATION GROUP DAV REPORTED

Frankfurt/Main FRANKFURTER ALLGEMEINE in German 13 Jun 77 p 7

[Article by Roswin Finkenzeller: "Against New Blast Furnaces, New Funicular Railways, New Second Homes"]

[Text] If the Upper Bavarians stick together, they would have it all their own way in the German Alpinists' Club. But they are not sticking together and see no reason for doing so. In any case they are wondering how seriously their mountaineering chums from the North German Plain take their membership in the Alpinists' Club. The average youth from Miesbach or Garmisch-Partenkirchen joined the DAV because the emblem, an edelweiss, is a fine decoration for any folkloric hat and because a night spent in one of the club's own cabins for members is cheaper than for the usual tourist. One should not underestimate inducements one and two. A section leader admits: "We sometimes ask ourselves why people are with us at all. Financially the fellow who pays his dues doesn't get so much out of it."

Typical club life suffers in Bavaria among the large number of members. In the north of the Federal Republic, where the conquerors of peaks are naturally a marginal group, club life flourishes on the other hand. An Upper Bavarian section as a rule is a loose and unsupervisable mass, while a Westphalian section is a dedicated community. Incomprehensible for a son of the mountains are exotic reports that northern sections are developing socially exclusive activities and that non-Bavarian political congeners are consuming pea soup in evening dress. But the fascination for degrees of difficulty 3 through 6 and the partly disconcertingly good mountaineering knowledge legitimize the "lowland Tyroleans" in the common work of the Alpinists' Club. The first chairman, Reinhard Sander, is from Frankfurt. If he came from Holstein it would be just as well.

Sander is busy bringing verve (an unbavarian element) into the club. Under his chairmanship a program of principles has been under discussion for a year. Many an edelweiss wearer, who had the most harmless ideas about his club, will wince, as it were, at the words "program of principles." Despite this it has now been decreed -- in due order, as at a party congress -- by the delegates of the sections in the Rosenheim Inntal Hall after a few

verbal reports. The majority supporting the program was overwhelming -- somewhat to the surprise of its authors. For here a yardstick was supplied which is also to be applied to the club's own behavior.

Let us take the catalogue of installations rejected by the program: new blast furnaces, new funicular railways, new macadam roads, nuclear power plants, weekend houses. What? Weekend houses? There is someone sitting in Hamburg, and because he loves the Alps and likes to spend as much time there as possible, he first joins the Alpinists' club and then ogles a roomy weekend cottage in the peaceful valley. Should the one now exclude the other? In the months of discussion in the sections the members were soothed that it was not meant all that seriously. So it came about that the draft was editorially buffeted about quite a bit, but retained in its essentials.

Despite this the question remains: Who would tweak his own nose? Since it says in the program: "Public motor traffic should be strictly forbidden on access roads to Alpine lodgings. Supply trips and flights would basically not be made on weekdays." In the Inntal Hall a cabin custodian spoke, full of professional concern. As an introduction he said he was a great friend of concern for the environment. His best reference was the guest of honor of this annual meeting, Minister President Goppel. Did not Goppel remember that joint climb from the Zugspitze, when he, the custodian, had hammered into his comrade of the rope that the Watzmann road should never, never be built? Goppel remembered. Thus proven as a protector of nature the speaker then attacked the program words "in principle." He claimed that he had "religious obligations" on Sundays and mentioned the possibility of bad flying weather on Fridays, both arguments for a motorized weekend. But that did not help him, any more than the fact that he had chewed the ear of a Minister President about the Watzmann on a tour of the Zugspitz. So the "principle" verdict remains.

So that it would be clear what was really at issue, the main committee of the Alpinists' Club resolved on the evening before the Rosenheim meeting: "The sections of the DAV are bound to the theses laid down in the basic program." So, in so many words, it seemed to become a really unpleasant story. Many a delegate thought: Naturally we must demand that the "forest and economic roads," those ugly and hot forest division roads which one comrade rightly described as "real highways," be used and enveloped in dust only by people who really have to use them. On the other hand it has its advantages if someone can wangle a special trip permit as member of an Alpinists' Club section and of course as a co-owner of a mountain cabin. Should we take this privilege away from ourselves? No new funicular railways -- also agreed. But if they build one anyway, aren't we the first to scream for a trip ticket discount?

Pondering such things the delegates changed the passage, which then read: "The sections of the DAV bind themselves to the theses laid down in the

"program of principles." Weren't they clever, those unified friends of the mountains? Did they not leave a little back door open for a little egoism? One of the authors of the program said later that it would be better to leave people believing this. In reality the crafty alteration makes no difference according to the club regulations, for whoever promises to be bound has already bound himself.

A basic program, and what next? The German Alpinists' Club does not want to treat it as would the Union for the Protection of Nature, which intends to exploit the plebiscite element of the Bavarian constitution and is striving for the introduction of an "association complaint right" through a referendum. The Alpinists' Club is counting on its good relations and links with mountain-loving politicians. It regards something which almost anyone would overlook as almost the most important point of the program, namely the demand for an "environmental toleration evaluation." This means that in the future no "spatially significant measure" is to be executed without ecological assessments by certified experts. In brief the big wheels of the club recommend two things to their infantry: kindly march smilingly through the institutions, and for the sake of good example sweep in front of your own cabin door.

6108
CSO: 5000

ACTIVITIES AND PROGRESS OF CONSERVATIONISTS REPORTED

Frankfurt/Main FRANKFURTER ALLGEMEINE in German 28 May 77 p 7

[Article by Key L. Ulrich: "Frequent Compromises, and Frequently the Citizen Pays for Them"]

[Text] Citizens' initiatives for environmental protection have a new Ruetli [foundation site of Swiss Confederation] oath. Formerly they wanted to be "as firm as the Wyhler," but today they promise not to become "Bergkamener"; by that is meant that they will not permit themselves to be "bought" by the perpetrator of an injury to the environment, as the opponents of a power plant project in Bergkamen are accused of having been. Such a promise is nevertheless easier for those people who live far from the scene of the event. It is most difficult, on the other hand, for those whose existence is already threatened, because some cattle somehow died, and no one can prove exactly whether the neighboring industrial plant was really responsible. The factory does not want to yield, nor does the population. So what should one do: a Ruetli oath or preferably some cattle trading?

In Krautscheid in the Westerwald the Rheinland-Pfalz Land government mediated a settlement between citizens and a factory. In a protected zone, which may not be used as pasture because of the lead pollution found there, the Varta Battery Company is compensating the owners. The land is now changing hands. Even for areas outside the "use deficiency zone," which is not recognized by the local citizens' initiative, a settlement is coming up between the Varta firm and villagers. A neutral expert has been ascertaining, with the help of the citizens' initiative, the loss of vegetables and fruit in the gardens. Payment is pending. The firm is said to be willing to sign a 10-year contract for compensation, says the chairman of the environmental protection association, Kleine-Reidick. That was rejected of course, but not the retroactive payments back to 31 December of last year.

Some concerned people in Krautscheid are now asking whether it is now "on the road to Bergkamen." But if they let it go to court to force a relocation, it could easily go wrong. Lead contamination of the environment,

especially of man and animals, is a new field for legislation; the law is therefore treading on shaky ground.

In the Sauerland village of Brunskappel, a citizens' association fell into dispute, as in Bergkamen. Arguing that the existing interested party association "is letting itself be bought," a group of members formed the new "Environmental Protection Citizens' Initiative," with 100 people from Brunskappel and 300 from the surrounding area. In this place in the Negertal the issue is the construction of a dam. The new citizens' initiative accuses the Ruhr Dam Society of subverting the ordered halt to the planning procedure with the purchase of lots at high prices as bait. For example DM215,000 were paid for a house demonstrably worth DM115,000. There has been talk of similar purchase agreements about the village. "We are furious about how the Ruhr Dam Society is working here," complains the citizens' initiative. But other members of the old interest association evidently want to find at least one pleasant aspect in the planned dam.

"We are not Berkameners," says citizens' initiative chairman Mertens in the industrial town of Koeln-Worringen of himself and a citizens' initiative. A chemical plant wanted to move still closer to the former village there. The resistance on the borderline between dwellings and the plant arose at the end of the 60's. At that time he was offered money by the "petrochemical company," says Mertens. He could have left and built a house somewhere else. Five further offers were made to members of the "Interest Association Against Industrial Pollution," but they held together and demanded that everyone who wanted to leave Worringen be compensated.

Two years ago an area between the settlement and the petrochemical plant was designated as a protective zone, for which a ban on alteration applies until a new town building plan is available. The administrative court determined that the planning was defective. The citizens' initiative received the written pledge from the Land government that some DM50 million would be placed at the disposal of the city of Koeln by the Land for reorganization; that means money for everyone who wants to move.

Nevertheless: as long as the legally binding building plan is delayed, compensation claims for moving cannot be validated. Years will therefore pass before new houses or apartments can be secured in a friendlier environment. The interest association in past years had indeed prevented the expansion of the petrochemical plant with protests and complaints, but suffered the wrath of the employees of the plant for it. A dentist could no longer endure the threats and abandoned the interest association; a physician remained on the board, but lost private patients from the plant, says Mertens. He himself received threats of death.

The industrial city of Huerth can report an almost completed relocation. Mainly overgrown gardens, ruined houses, remains of a plant settlement and

a few other houses remain of the Knapsack section of the town. Otherwise only installations of the chemical industry stand there. A man in front of one of the last rows of houses says that the dry phosphorus on one side and the wet phosphorus on the other had become too dangerous for the people. Nevertheless a house here rents for only DM120, whereas an apartment in a new building in the city goes for DM400.

In 1950 Knapsack still had about 4,000 inhabitants, says the municipal administration's record on the relocation. The population was "hemmed in on three sides by heavy industry." "Dust falls, steam, exhaust gases, smells, and other emissions damaged the residential quality of this section to an ever increasing degree..." At that time there was no legal basis to move the citizens. And who was talking about environmental protection in those years? The application for a relocation was made in 1964 in the local council; the decision--after opinion polls among the population--came 5 years later. Today 662 people still live in Knapsack. A small remnant wants to remain. Since April 1975, 2,204 inhabitants of Knapsack have received new dwellings. The Land of Nordrhein-Westfalen had paid DM22.5 million in compensation, the community 5.5 million.

Difficulties are being caused in Huerth mainly by differences between the cost of new construction and the amount of compensation for old construction. Public funds can of course be approved if the income of a family lies within the limits of the guidelines for public housing construction: "But in almost all cases these funds were insufficient for a building project with reasonable costs," says the town hall.

Relocations on the basis of the law are therefore not the result of the highest wisdom, but at the most compromises. It is being bruited about, moreover, that the new dwellings elsewhere which have been wrung by the citizens' initiatives mean a mountain of debt for those who have left their old home. It would be better to take care of adequate environmental protection beforehand.

6108
CSO: 5000

COURT DECIDES AGAINST LOCAL CONSERVATION INITIATIVE

Munich SUEDEUTSCHE ZEITUNG in German 27 May 77 p 10

[Article by Theo Wurm: "Environmental Protection in the Courts: Nature Under Wheels; Citizens' Initiative Wins and Still Loses"]

[Text] Altensteig, 26 May--Two resounding slaps on the face were necessary to bring the autocratic authorities to their senses. Now, when in addition to the administrative court of Karlsruhe the administrative court of Mannheim also acknowledged how much they had violated the law, they will have to straighten out the case after all because of the pressure from the Stuttgart Ministry for the Interior. Otherwise, it would have become a remarkable monument, testifying that a landscape such as the Black Forest cannot be protected from harm by private hands when they get help from the authorities too. If some day they should all agree to disregard the specific regulations concerning the preservation of the landscape, there will be no legal way to prevent them from doing that.

As an alarming example of this administrative judges in Karlsruhe and Mannheim have isolated an incident near the boundary of the Black Forest community of Altensteig (Calw district). There the "DeKra" (German Motor Vehicle Control Association) wants to set up a training center where truck drivers can continue their theoretical and practical training and acquire the qualifications of specialists. For this purpose the enterprise received permission to lay out a driving range of 2 hectares for training purposes, including a hall for trucks and a personnel building south of the health resort of Wart. In order to soften the intrusion into nature, the contract partners selected for their training area a hollow which is also supposed to be shielded through newly planted trees. Originally it was even planned to establish a settlement, together with a two-story building complex, in the high-lying fields near a recreation center.

Neighbors Without Legal Recourse

The community of Altensteig has an interest in accomodating the facilities of the DeKra. For the enterprise is contributing financially and also through the placing of convention delegates, in the hotel complex "Sonnenbuehl," which was supposed to be a lucrative center for a vacation park,

but instead was in danger of becoming a victim of too bold speculations. It was a matter of making the best of whatever remained from a bankrupt construction firm. The DeKra came at the right moment.

Meanwhile, a citizens' initiative has raised objections to the building permit, referring to the fact that according to Paragraph 35 of the Federal Construction Code the construction in open fields is only permitted "when it is not against the public interest" or when it is a facility or residential premises for agricultural purposes. The government presidium in Karlsruhe dismissed the objection. It specified that this project was not violating these measures and that citizens could not refer to them anyway, because they were not enacted for the protection of neighbors but for the public in general. Consequently, that means that the neighbors have no legal right to voice complaints or grievances. "We expect to receive your understanding in that all aspects were evaluated factually with particular considerations for the public interest, of which the preservation of nature is an essential factor, and that it led to the present result"; in this manner President Trudpert Mueller had personally appealed to Irma Fauser, the moving force behind the citizens' initiative. Not even the conservation agency made a noise after the facility had received the blessing of Stuttgart's Minister of Economics Eberle.

Rebuke for Authorities

The administrative court in Karlsruhe contradicted the opinion that here was a legal basis for an exception to the building prohibition in open spaces. "Under no circumstances" should the community "have permitted" the training center and particularly not the driving range with the buildings on it. It is "utterly incomprehensible" how one could have ignored the public interest in this matter, particularly when the type and the size of the facility is considered, when in other instances even modest endeavors like weekend houses and tool sheds fail to get permission. Until now, the government presidium accorded "a constant utmost importance" to the preservation of the landscape in the northern Black Forest. Therefore, it appears even more peculiar that the government presidium is now "deviating from its practice of many years and agreeing to a clearly illegal project."

But: even "the numerous legal offenses" could not bring success for the suit. For the regulations of the Building Code, Paragraph 35, served "merely the interest of the general public and not the individual," the court explained. An individual, however, can only bring suit for violations of his own rights and not those of the general public, even not as a deputy. "The suit had to be dismissed after all," was the verdict expressed by the court with visible resignation (file number: V93/76).

The appeals procedure before the higher district court has not changed anything: the project presents an "inadmissible foreign object" in a landscape worthy of protection, but, Paragraph 35 has "no qualities to protect neighbors." Not even in exceptional cases "can public legal protection be

granted for neighbors to preserve the rights of the general public because of its legal character." Again, the plaintiffs are told that they are right in this matter, and at the same time the success of the process is kept from them. (V 2069/76) Anyway, the leader of the Department of Building Regulations in the Stuttgart Ministry of the Interior declared that one should not stick to the present location for the driving range because of the verdict by the administrative court.

The affair would not have ended in this manner, if the courts had not added considerations and opinions to the reasons for their decisions, which they were not obligated to do. If they had dismissed the complaint without much ado, for technical reasons as is often customary, there would soon be trucks practicing in the vicinity of a mountain health resort.

8991
CSO: 5000

IMPROVED AIR POLLUTION MEASUREMENT SYSTEMS DISCUSSED

Frankfurt/Main FRANKFURTER ALLGEMEINE in German 28 May 77 p 8

[Article: "Automatic Measuring Net for Air Pollution"]

[Text] Mainz, 27 May--Beginning with October, the quality of the air in the two congested urban areas of Mainz and Ludwigshafen is to be monitored day and night by a centrally controlled automatic measuring net; according to the Ministry for Social Affairs in Rheinland-Pfalz, it will be possible to measure the amount of air pollution in these areas from the central office in Mainz. In the beginning, three automatically operating stations will be set up in Mainz and also in Ludwigshafen, where the content of dust, the content of sulphur dioxide, of nitric oxide, and hydrocarbons, as well as carbon monoxide, are measured constantly. A minicomputer in the station will store the data, which will automatically be fed into the central office every 8 hours. If the upper limit is passed, it will be reported to the central office immediately. If stagnant air systems persist for a long time, this could lead to an accumulation of pollutants in the air. In this case the measuring net of Rheinland-Pfalz will commence an exchange of data with the neighboring nets of the Laender of Hessen and Baden-Wuerttemberg. Consequently, measures to reduce air pollution from industry and automobile traffic can be introduced within a short period in the congested areas of Mainz/Wiesbaden and Ludwigshafen/Mannheim.

8991
CSO: 5000

CONSERVATIONISTS OPPOSE PLANNED HIGH-TENSION LINE

Munich SUEDDEUTSCHE ZEITUNG in German 2 Jun 77 p 18

[Article by Ralf Husemann: "Energy Politicians Want To Plug Into International Electric Power Net: A Path From Oberland to Tirol/Conservationists Protest Against Planned Construction of High-Voltage Line"]

[Text] Munich--Since, in the opinion of the Bavarian Ministry of Economics, there are "in spite of all efforts," limits to a long-term conservation of energy an "international grid" of high-voltage lines is to be set up as soon as possible. Disregarding all protests by environmentalists, during the next few years forests, moors and lake shores will be spanned with aluminum-steel ropes and marked by steel pylons more than 50 meters in height. According to the goals of ambitious energy politicians, the reason for this increase of "wiring" in the landscape is an "interaction" of the high-voltage networks of all Alpine countries. The central junction will be a "West Tirol transformer station," east of Imst, from where some day 380,000-volt-lines will run to Germany, to Italy (Dugale on Lake Garda), and into Switzerland (Bradella).

In this connection, Minister Anton Jaumann emphasizes that "one of the most urgent and important building projects" for the Bavarian power supply is the planned 84-km long line of 220,000 volts, the voltage of which is supposed to be increased to 380 kilovolts. It will extend from Oberbrunn in the rural district of Starnberg via Antdorf (Weilheim-Schongau district) to the Austrian border at Scharnitz and then continue to the future pump-storage power station Sellrain-Silz of the Tirol Waterpower Hydroelectric Power Plants AG (TIWAG).

Jaumann warns that without the realization of this project the "assurance of supplies of electric energy for Bavaria," both short-term and long-term, would suffer considerable damage. Only through the connection with the Austrian high-voltage network could power outages like the "black-out" on 13 April last year be avoided in the future, was the answer of the minister to written inquiries by Xaver Wolf (SPD) and Sepp Prentl (CSU), delegates to the Landtag.

The planned international power exchange provides that the Tirol TIWAG will deliver up to 350 million watts of so-called peak energy (in times of extraordinary need), and in exchange it will receive from the Bayernwerk AG 130 megawatts of "basic load energy" (normal use). In this manner, "even if a

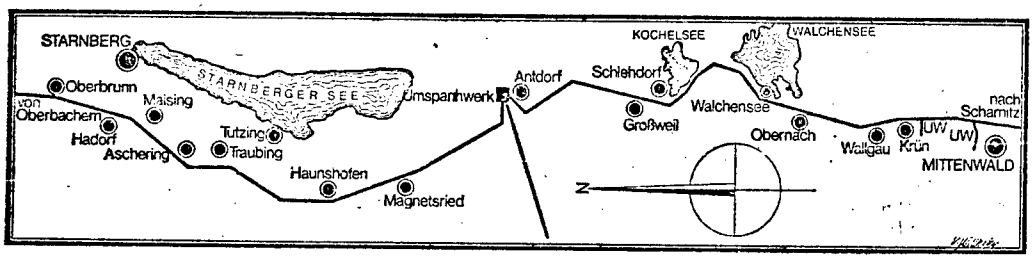
disorder should cause a separation from the rest of the German power grid," the lights will not go out in Bavaria, the Ministry for Economics says enthusiastically.

As expected, the conservationists cannot join in this song of praise about the "(380)220 KV capability" from Oberbrunn to Tirol. During their last meeting, the nine-member conservation committee in the government of Bavaria voiced "very strong" objections to the project. It is feared that this line will spoil some of the most beautiful resort areas in Upper Bavaria.

Before discussing details of construction, as for instance the height of the pylons, it is "absolutely necessary," so the committee pointed out, that the necessity of the project be thoroughly researched and substantiated. Only after the need could be "proven absolutely necessary" by the experts and the energy companies, should the "principle" of the planned line "be approached." At a later session of the group, representatives of the above-mentioned groups are to express their opinions about the problems of an expansion of the existing cross-country line network in general and about the line under debate in particular.

In the meantime, the conservation association is attacking the whole Bavarian energy policy. Goals for the expansion of power distribution facilities are "hopelessly overestimated" and could be "canceled without replacement" in the development program of the state. Nature conservationists "do not consider it any longer responsible to establish prognoses for maximal future demands of power and to direct the construction of facilities for power production and distribution accordingly. Since this will lead to ecologically irresponsible damages to the balance of nature and to the climate." Already during construction, rare biotopes which are worthy of being preserved would be destroyed through the lines and the 11 x 11 m pylon bases. Because of bare logging, the paths have caused the danger of drought and erosion.

Even if it could be proven that the energy industry has a real need for this high-voltage line, a cable system should be demanded. Technically, this would be entirely feasible. However, the conservation association hopes that a thorough investigation of the energy industry will show that the building of the line will not be necessary, at least not for the next few years, and that until then the project will be postponed or shelved.



A high-tension wire system will extend over 80 km, from Oberbrunn to the border

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