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FINAL REPORT
TO THE DEPARTMENT
OF EXTERNAL AFFAIRS

PURSUANT TO THE
CONTRIBUTION AGREEMENT
DATED JULY 21, 1992

BETWEEN
THE DEPARTMENT AND PERLEY & HURLEY LTD.

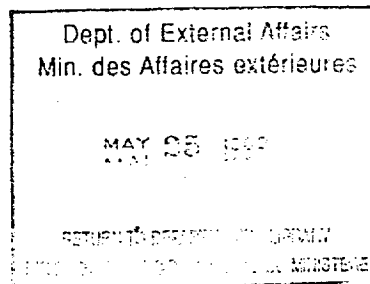
PREPARED BY:
PERLEY & HURLEY LTD.
APRIL 7, 1993

P E R L E Y  H U R L E Y

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REPORT



Prepared by Perley & Hurley Ltd.

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EXECUTIVE SUMMARY

- The Final Report summarizes project activities completed to March 31, 1993, by Perley & Hurley Ltd. (PHL) under the Contribution Agreement signed between PHL and the Department of External Affairs (DEA) on July 21, 1992, including a trip to Finland and Russia by both PHL principals from September 29 to October 15, 1992, and a trip to Russia by one PHL principal from February 20 to March 5, 1993.
- The original project objectives (identification of priority environmental projects in Russia, of Canadian companies potentially interested in participating in such projects, and of sources of project funding), are described. The additional objective of providing information to the Canadian Embassy in Moscow concerning the Russian environmental approvals process, and concerning influential officials and NGOs within this process, is also described.
- The Russian environmental approvals process at the federal, state and municipal levels of government is discussed. The increase in the authority of municipal governments for project approvals, and the decline in similar authority at the federal level, is noted. The importance of carrying out environmental assessments to Western standards, and the emergence of liability for site contamination as an issue of concern to the Russian government, are noted.

- The roles, responsibilities and influence of selected officials at the Ministry of Environmental Protection and Natural Resources and other Ministries, are discussed. Notes are provided on each official, including position and the reasons for inclusion in this section. A separate subsection discusses Russian officials who are expected to play important roles in the implementation of the **World Bank Environment Sector Project**. Maintenance of contact with these officials by the Moscow Embassy is recommended, as is the distribution of information to them concerning the capabilities of Canadian environmental technology and service companies.
- Information is provided about selected Russian environmental NGOs. The structure and activities of the Socio-Ecological Union (SEU), the largest Russian environmental NGO, are described in detail. Recommendations are made concerning cooperation between the Moscow Embassy and the SEU with respect to the design of environmental training projects, and the identification of Russian industrial enterprises as potential clients of Canadian environmental technology and service companies.
- Several issues pertaining to the financing of environmental projects are discussed. Information is provided concerning the importance of the National Pollution Abatement Fund to be set up under the **World Bank Project**. The refusal of the European Bank for Reconstruction and Development to provide project loans to Russia in the absence of sovereign repayment guarantees from the Russian government, is noted. The potential importance of barter trade as an alternative project financing mechanism is discussed, and recommendations are made concerning the development of a manual on barter trade as a means of informing Canadian companies about this project funding alternative.

- The current activities of Finnish companies and the Finnish Ministry of the Environment in Russian environmental projects, are briefly reviewed, and observations by the companies about current business conditions in Russia are provided.
- Alternative means of entering the Russian environmental market are discussed. Canadian and Russian companies, enterprises and business associations which can serve as points of entry to this market, are described. Commissioning of a study of the market potential for Canadian companies in the Russian municipal and industrial wastewater treatment sector, is recommended. The potential role of the Moscow Embassy in identifying business opportunities for Canadian environmental companies is discussed, and relevant recommendations are made.
- Items of note concerning the Russian oil and gas sector are provided, including information on the activities of Canadian companies active in this sector in Russia, on the formation of a western oil and gas lobby group in Moscow, and on ownership and taxation of oil company projects.
- A report on the status of projects initially identified in PHL's Interim Report is provided. The visit to Canada by representatives of a former Russian military-industrial enterprise identified by PHL, for discussions with Canadian environmental technology and service companies, is noted.
- Results of a survey by PHL of selected environmental technology and service companies concerning their attitude toward participation in the Russian market, are provided. In particular, the companies' concerns about lack of project funding and payment guarantees, and the difficulties associated with

finding an appropriate Russian business partner, are noted. Distribution of information by EEE/DEA to the companies concerning barter trade as a means of project financing, and on environmental project opportunities in Russia, by EEE/DEA, is recommended.

**ALL RECOMMENDATIONS MADE IN THE FINAL REPORT ARE PRESENTED
IMMEDIATELY FOLLOWING THE EXECUTIVE SUMMARY**

SUMMARY OF RECOMMENDATIONS

Contact Between Moscow Embassy and Russian Officials

- PHL recommends that Embassy officials endeavour to develop and maintain contacts with the officials identified throughout this section. In addition to this general recommendation, PHL also makes periodic recommendations throughout the section concerning specific issues which should be pursued with individual officials.

Development of Policy Re: Environmental Liability

- PHL has previously referred the Minister-Councillor of the Canadian Embassy in Moscow to John Fitzgibbons, one of the group of American advisors to Vice-Prime Minister Chubais. Mr. Fitzgibbons' responsibilities include consideration of environmental liability legislation.

PHL recommends that EEE/DEA consider whether Canadian legal experts could assist the Russian government in preparing a policy on environmental liability. Specific questions mentioned by Mr. Fitzgibbons to be addressed in such a policy involve how privatization contracts should include the assignment of liability between present and previous owners, and the sharing of responsibility for such liability between federal, state and local authorities.

Identification of Wastewater Projects by Russian Officials

- Since municipal water treatment is an area of expertise of many Canadian consulting engineering and environmental technology companies, PHL recommends that Embassy officials meet with Deputy Environment Minister Poriadin, as soon as possible to obtain his views concerning specific waste water treatment projects which could benefit from the participation of Canadian companies. He should also be asked for technical information on specific projects. If this information is provided, it should then be forwarded by the Embassy to the Deputy Director of EEE/DEA. The Deputy Director should then request the assistance of appropriate officials at ISTC and Investment Canada in determining which Canadian companies should be informed about the projects.

- PHL recommends that Embassy officials also meet with Roskomvod Chairman Mikheev, in order to determine whether he or other officials at Roskomvod can provide specific information on wastewater treatment projects, or whether it would be more appropriate for he and Mr. Poriadin jointly to provide such information.

Forwarding of Information Re: Canadian Environmental Expertise to Russian Officials

- PHL recommends that the Deputy Director of EEE/DEA request that Investment Canada and ISTC prepare summaries of the capabilities of Canadian environmental technology and service companies, and that these summaries be forwarded to Mr. Konygin and Mr. Trifonov of the Ministry of Environmental Protection and Natural Resources' International Division, in order to acquaint them with the range of qualified Canadian companies, particularly respecting water quality treatment.

Contact Between Moscow Embassy and Russian NGOs

- PHL recommends that the Embassy provide regular updates to the President's Advisor on Environment, Alexander Yablokov, and to his senior advisor, Sviatislav Zabelin, concerning the Canadian government's plans to participate in the Project.
- PHL recommends that a brief information piece on the Canadian government's intended participation in the World Bank Project be prepared and forwarded to groups on the list together with a request for information about their activities and priorities. Establishing such links with even a few of the groups will provide the Embassy with useful intelligence on local environmental problems, as well as on possible suggestions for local projects.
- PHL recommends that the Embassy's Minister-Councillor establish contact with Mr. Zabelin, in order to review both the SEU's priorities and Canadian intentions respecting participation in the World Bank Project. The feasibility of convening a small meeting of senior environmental NGOs in Moscow at the Embassy, to brief the Minister-Councillor on their environmental priorities, and to provide suggestions concerning priority areas for training programs and other forms of technical assistance between Canada and Russia, should also be discussed with Mr. Zabelin.
- PHL further recommends that Mr. Zabelin be asked to make his list of Russian enterprises available to the Canadian Embassy. If the list is

sufficiently detailed, it should be forwarded to appropriate officials at Investment Canada and ISTC, for comparison with existing profiles on Canadian environmental technology and service companies which are seeking overseas partners. If matches can be found, information about the Russian enterprises should be forwarded to the Canadian companies.

- Mr. Zabelin has indicated that he can prepare a list of appropriate local experts in the Volga River Basin for training in monitoring and remediation of local water quality problems. The list would include local administration officials, representatives of local committees of the Ministry of Environmental Protection and Natural Resources, and representatives of local parliaments who are affiliated with the SEU and who possess appropriate scientific backgrounds. If Mr. Zabelin can provide the list in a form which includes the specific water quality problems to be addressed by the individuals in question, their professional qualifications and their specific training requirements, PHL further recommends that the list be forwarded to ISTC's Canadian Office for Training in the Environment, and a training mission of experts from the region to Canada could then be prepared.

Results of International Funders' Conference, Gdansk, Poland

- If the department has not already done so, PHL recommends that DEA contact the Helsinki Commission to obtain a report on the results of this conference. The contact at the Commission is:

Mrs. Terttu Melvasalo, Program Implementation Coordinator
 Baltic Marine Environment Protection Commission
 Helsinki Commission
 Mannerheimintie 12A
 SF-00100 Helsinki, Finland
 Telephone: (358-0) 602366
 Telex: 125105hlcom
 FAX: (358-0)644577

Possible Establishment of Western Banks in St. Petersburg

- PHL recommends that the Canadian Embassy monitor Mayor Sobchek's efforts to grant the five banks operating licenses, and provide reports to EEE/DEA on progress.

Preparation of Manual on Barter Trade

- PHL recommends that a manual describing the steps to be followed in the barter trade process, and the responsibilities of the Western and Russian

partners in barter trade arrangements, be commissioned by DEA. Since a number of Finnish companies interviewed by PHL have experience with barter trade, PHL further recommends that DEA ask the former Finnish Consul-General in Toronto, Mr. Erkki Sirkkola, to participate in the preparation of the manual. Mr. Sirkkola is now vice-president of a Finnish environmental technology company in Helsinki. Although his former position may be a cause of some sensitivity to DEA, Mr. Sirkkola knows the Finnish environmental technology and service sector well, and was very helpful to PHL in organizing meetings with senior representatives of that industry during our visit to Helsinki in September.

Mr. Sirkkola's address is:

Mr. Erkki Sirkkola
 Vice President, Marketing
 AUMEC Systems Oy
 Fiskarsinkatu 7 D
 Sf 20750 Turku, Finland
 Telephone: (mobile) 011-358-49828 409
 (residence) 011-358-0298-9356
 FAX: 011-358-0-298-5940

- If the selection of Mr. Sirkkola to complete this work is not possible, PHL recommends as an alternative that EEE/DEA contact the Canadian Wheat Board concerning its recent experience in bartering wheat for timber and cotton with Russia, using the services of a third party that handles the commodities and pays cash to the Board.

In a March 20 report in the Globe and Mail, Board spokesperson Brian Stacey noted that barter deals had already been signed with Russia and Uzbekistan, and that grain shipments would be made as a result this spring. In the same article, another Board spokesperson, Bob Roehle, was quoted as saying that "There were deals done on the basis of barter, and they involved third parties who took the goods and then traded them into cash." Although the barter trade agent's identity is not disclosed in the article, the Board may be prepared to disclose the agent's identity to EEE/DEA, and to recommend that the agent be retained to prepare the manual.

- PHL further recommends that once completed, the manual be provided to the Canadian Embassy in Moscow and (through EEE/DEA, ISTC and Investment Canada), to Canadian environmental technology and service companies who wish to keep informed about the Russian market. Some of these companies are identified in Appendix G to this report.

Briefing of Canadian Officials by the President of the Jacques Whitford Group

- PHL recommends that the Deputy Director of EEE/DEA contact Hector Jacques, President and CEO of the Jacques Whitford Group, and invite him to address a group of senior officials from DEA, RGZ, and ISTC on his company's experience in entering the Russian market.
- PHL further recommends that Mr. Jacques be asked for his recommendations concerning the most effective role Canadian government agencies can play in assisting Canadian companies to enter the Russian market.

Study of Potential for Participation by Canadian Companies in Russian Wastewater Treatment Market

- PHL recommends that the Canadian government, through either RGZ, ISTC or Investment Canada, consider commissioning ENBAS to carry out a study of the Russian market potential for Canadian companies active in the industrial and municipal wastewater treatment sector.

ENBAS's president is:

Igor Norko
 President
 Environmental Business Association
 123231 Moscow
 Sadovaya Kudrinskaya, 11-13
 Telephone: 252-7563/7564
 FAX: 252-0446

For references concerning ENBAS, contact:

Hector Jacques
 President and CEO
 The Jacques Whitford Group
 Jacques Whitford Building
 3 Spectacle Lake Drive
 Dartmouth, NS B3B 1W8
 Telephone: 902-468-7777
 FAX: 902-468-9009

and

Jack Robinson
 Legal Council-Resident in Moscow
 Gowling, Strathy and Henderson
 8 Chapaevsky Pereulok
 1250507 Moscow, Russia
 Telephone: 157-7619
 FAX: 157-5161

Toronto Address
 2 First Canadian Place
 Toronto, Ontario
 M5X 1A4
 Telephone: 777-6381
 FAX: 861-0148

Contact Between Moscow Embassy and Russian Industrial Enterprises

- PHL recommends that the Moscow Embassy renew contact with Mr. Chernukhin and request that he provide Embassy officials with the list of projects mentioned in discussions with PHL. If the list is provided, it should be vetted by appropriate officials at ISTC and Environment Canada. Depending on the quality and type of projects on the list, appropriate Canadian companies should then be informed. Mr. Chernukhin's address is:

Andrei V. Chernukhin
 General Director
 ECOPROM Consortium
 Kuznetskiy Most 6/3
 Moscow 103775, Russia
 Telephone: 927-8246
 FAX: 927-8352/2543

- PHL recommends that the summaries of Canadian companies' capabilities be forwarded to the President of the Russian Industrial Investment Fund, and that the President be asked to submit detailed proposals which summarize the environmental requirements of 2-3 Russian industrial enterprises, which match the capabilities of the Canadian companies.

If this information is received, appropriate Canadian government officials should arrange meetings between representatives of the RIIF and appropriate Canadian companies. The President of the RIIF is:

Serguey N. Tolmachev
 President
 Russian Industrial Investment Fund
 3, Tverskaya-Yamskaya Str.,
 103819, GSP Moscow, A-47, Russia
 Telephone: 209-8200/2515750
 FAX: 200-5284

NOTE: The material on the RIIF contained in Appendix D contains bank references for RIIF bank accounts in Moscow, Frankfurt, and New York. If the government proceeds with this recommendation, these bank references can be checked, and officials at the Moscow Embassy can meet with Mr. Tolmachev and his colleagues to obtain further information about the Fund.

Role of Moscow Embassy in Identifying Business Opportunities for Canadian Companies

- **PHL recommends** that one of the technical assistance personnel to be hired by the Embassy, be given the responsibility for identifying business opportunities for Canadian environmental technology and service companies on a full time basis. The individual occupying such a position should carry out the following tasks:
 - provide assistance to the Minister-Councillor in maintaining contact with officials referred to earlier in this report;
 - identify Russian industrial enterprises which require pollution control and pollution prevention technology, collect relevant technical information from these enterprises, and forward the information to appropriate officials at ISTC and Investment Canada.
 - forward the above information to officials at ISTC, EEE/DEA and Investment Canada and officials at provincial ministries where appropriate, for dissemination to Canadian companies;
 - monitor the implementation of the World Bank Environment Sector Project.

Distribution of Information to Canadian Companies Re: Russian Market

- **PHL recommends** that EEE/DEA prepare a newsletter for distribution to the companies which participated in the PHL survey, and to other environmental technology and service companies as identified by Investment Canada and ISTC. The contents of the newsletter should include information on :
 - barter trade as an alternative means of project financing, and other project financing information as it becomes available from Canadian participants in the World Bank Environment Sector Project;

- **information on project opportunities on the wastewater treatment sector obtained from time to time from the Moscow Embassy, or through the ENBAS market study of the sector recommended by PHL;**
- **other information on the market for environmental technologies and services which may from time to time be made available from the Moscow Embassy.**

*I.**Introduction*

1. Background to the PHL/DEA Contribution Agreement

In June 1992, Canada and Russia signed a Memorandum of Understanding (MOU) which committed Canada to assist the Russian Government in identifying environmental priorities in the Russian Federation, and in determining whether Canadian environmental technology and service companies could help address these priorities.

PHL proposed to:

- identify appropriate environmental projects in Russia, in which Canadian environmental technology and service companies could participate, with support from Russian government officials, NGOs and other individuals and organizations;
- identify environmental NGOs, joint venture participants, government officials, funding sources and other individuals and organizations who might assist Canadian involvement in environmental cleanup projects in the Russian Federation.

A Contribution Agreement was signed by PHL and DEA for the period July 21, 1992-March 31, 1993.

2. The Russian Federation, March, 1993

This report and the recommendations contained therein must be read in the context of the political and economic climate described below. There are environmental business opportunities in Russia for companies which are prepared to operate with a view to the long term, to involve local experts, and to understand the complexities of the various levels of the Russian government. Since PHL's Interim Report in October, one major Canadian environmental science and engineering company has established a new joint venture with a Russian partner, and several other similar Canadian firms continue to operate in Russia, mostly in the oil and gas sector.

The urgency of the country's environmental problems has become better understood following publication on October 7, 1992 by the Russian Government of the first detailed report of the damages to health and the environment which have accumulated during the last seventy years in Russia. On October 8 the Financial Times reported that among their major findings, Russian officials have concluded that:

- half of Russia's drinking water is contaminated by chemical and organic toxins;
- ten percent of Russia's food is unhealthy;
- diseases in pregnant women are predicted to rise from 83 in 1,000 to 110 in 1,000, in coming years;

VVR nuclear reactors, which make up the majority of Russia's nuclear capacity, and which are thought to be safer than the RBMK-type at Chernobyl, are actually the most dangerous type.

The current political crisis which engulfs the Russian Federal government continues the process of weakening the authority of President Yeltsin, and has led various Russian officials to raise the possibility of civil unrest and the disintegration of the Russian Federation.

Mr. Yeltsin's imposition (and subsequent retraction) of "special rule", under which the President would govern by decree until a referendum on the form of the Russian government can be held on April 25, has resulted in the President's opponents in the People's Congress of Deputies moving to impeach him. Although Mr. Yeltsin appears to have survived this crisis, the form the resulting government will take remains unclear at this time. If Mr. Yeltsin is ousted and more conservative forces take power in Russia, economic reforms will continue to slow, and the existing climate of uncertainty with respect to business conditions will intensify.

3. Project Design and Activities, 21 July, 1992 - 30 October, 1992

Identification of Priority Russian Environmental Program Needs

PHL's first tasks were to establish an initial list of high-priority environmental needs in Russia, and to identify internationally-competitive sectors of the Canadian environmental technology and service industry which matched these priority areas. To this end, PHL held discussions with representatives of government and private-sector agencies in both Canada and the United States, who have been involved in the identification of Russian environmental priorities, and with representatives of the Canadian environmental technology industry.

Individuals who briefed or provided information to PHL during this research included:

- Officials of the Ontario Ministry of the Environment, the Ontario Ministry of Industry, Trade and Technology, and the Ontario International Corporation;
- Officials of the regional and federal offices of the Department of Industry, Science and Technology (ISTC), including the Director of Environmental Programs;
- Officials in the Environment Division and the Eastern European and Russian Divisions of DEA, and in the Task Force on Central and Eastern Europe;

- Representatives of the Institute for Soviet-American Relations (ISAR) in Washington, D.C., the U.S. Natural Resources Defence Council; the World Wildlife Fund, the Canada-Russia Business Council; and other Canadian and American organizations involved in environmental project work in Russia;
- The former Finnish Consul-General in Toronto;
- The Canadian Embassy in Moscow.

PHL also reviewed a variety of studies and documents, including federal government publications of ISTC, Investment Canada, and the Department of External Affairs, as well as documents from the Ontario Ministry of the Environment and the Ontario Ministry of Industry, Trade and Technology, concerning the areas of expertise of the Canadian environmental technology and services sector.

Based on the above interviews and research, PHL concluded that projects in Russia which would both address Russian environmental priorities and permit involvement by internationally competitive Canadian environmental technology and service companies, should concentrate on:

1. Improvements in municipal drinking water treatment facilities;
2. Improvements in the treatment of wastewater discharges from Russian industrial enterprises;
3. Upgrading of Russian oil and gas pipeline facilities, and reductions in the environmental impact of oil exploration and drilling activities.

Project Support, Project Financing and Regulatory Requirements

PHL's preparatory research also considered:

- Individuals and organizations in Russia whose support and influence could enhance the effectiveness of Canadian environmental projects in that country;
- Potential sources of international funding, given current financial conditions in Russia;
- The likelihood of successful project implementation in Russia by Canadian companies as a result of partnerships with Finnish environmental technology and service companies, which have operated in Russia for many years;
- The regulatory and approvals processes which Canadian companies would have to undergo in order to implement their projects.

Organization of Initial Trip to Finland and Russia, 29 September - 15 October, 1992

As a result of initiatives begun by Canadian government agencies and Finnish trade officials, some Finnish and Canadian environmental technology and service companies were considering the establishment of strategic alliances in 1992. Because of Finland's serious concern about pollution of the Baltic Sea from point and non-point sources in Russia, many Finnish companies are already active in the completion of environmental feasibility studies in Russia, particularly in the St. Petersburg area. In designing its initial trip to Russia, PHL, therefore, decided to interview a number of these companies headquartered in Helsinki, in order to obtain their views on the feasibility of carrying out joint projects under current conditions. PHL also decided to visit St. Petersburg to determine whether a water quality improvement project

could be undertaken there using Canadian environmental technology or services, either alone or in partnership with a Finnish company.

Given the importance of identifying sources of international funding for environmental projects in Russia, PHL also decided to visit the offices of the Baltic Marine Environment Protection Commission in Helsinki. The Commission was in the midst of preparing a list of appropriate environmental projects in the Baltic region for consideration by international funders at a conference to be held in Gdansk, Poland in March, 1993.

In addition to these visits to Helsinki and St. Petersburg, PHL was invited to attend the October annual meeting of Russian Socio-Ecological Union (SEU), the largest umbrella organization of environmental NGOs in the Russian Federation. PHL's invitation came from the Coordinator of the SEU, who is a senior advisor to President Yeltsin's principal advisor on ecological issues. Attendance at this meeting enabled PHL to learn about the influence and abilities of Russian NGOs, and to determine if the priority projects identified by the SEU could benefit from the involvement of Canadian companies.

Finally, PHL decided that meetings should be held with environmental officials of the Russian Federal government, in order to obtain current intelligence respecting how environmental projects are evaluated and approved, and how operating permits are issued, given the current political instability of the Federation.

The final itinerary of the first trip included:

- In Helsinki, meetings with: nine Finnish companies, the Finnish Ministry of the Environment, the Baltic Marine Environment Protection Commission, and the Canadian Embassy;
- In Ryazan, Russia, attendance at the annual meeting of the Socio-Ecological Union, including meetings with senior SEU representatives;
- In Moscow, meetings with: various federal environmental officials; representatives of companies active in the oil and gas sector; President Yeltsin's principal advisor on ecological issues; representatives of the Russian Environmental Business Association; representatives of Canadian legal firms whose clients are active in the Russian oil and gas sector;
- In St. Petersburg, meetings with: representatives of joint venture and independent industrial enterprises; representatives of regional and municipal governmental environmental agencies in the St. Petersburg area; the co-founder of EcoBaltica, a group of environmental experts and industrial associations which was preparing a list of environmental priority projects in the Baltic region of Russia, for approval by the Supreme Soviet later this year. Projects approved were to be submitted for funding consideration at the Gdansk conference in March, 1993.

As a result of these contacts, PHL was able to:

- identify potential projects in Russia;
- obtain information on the experience (both past and current) of Finnish companies in Russia;

- survey current business conditions in Russia;
- hear a variety of views from industry experts, environmentalists and government officials on the status of the oil and gas industry in Russia;
- identify financing options for Russian environmental improvement projects.

PHL's Interim Report to the DEA dated October 30, 1992 discussed these subjects in sections concerning:

- The extent of involvement of Finnish companies and the Finnish Ministry of the Environment in Russian environmental projects;
- Observations on doing business in Russian in the present circumstances;
- Notes concerning the financing of Russian environmental improvement projects;
- Observations concerning the oil and gas industry in Russia;
- Environmental projects identified in Russia with potential for involvement of Canadian environmental technology and service companies, and
- A summary of recommendations, including suggested further project activities designed to analyze the process by which environmental projects in Russia involving potential Canadian partners would be evaluated and funded by the World Bank.

4. Project Design and Activities, 31 October, 1992 - 31 March, 1993

Following submission of the Interim Report, PHL began to plan further project activities designed to:

- follow up the recommendations contained in the Interim Report respecting arrangements for a visit by representatives of Signal Enterprise to Canada, and respecting projects identified during meetings with members of the Socio-Ecological Union, with the Leningrad Regional Administration, and with the Director of EcoBaltica;
- obtain and analyze information respecting the financing of environmental projects in Russia by the World Bank, and how Canadian companies could participate in such financing.

Concerning the visit by representatives of Signal Enterprise, PHL met with representatives of EEE/DEA and the Canadian Office for Training on the Environment (COTE) to discuss arrangements for the visit. It was decided that COTE would organize the visit. PHL subsequently prepared a list of potentially interested Canadian companies and an outline of tasks to be completed for the visit, and forwarded it to COTE. The list, outline and visit itinerary are included as Appendix E to this report. PHL also maintained contact with Signal's managing director concerning the visit, and assisted the Wastewater Technology Centre in Burlington, Ontario, in obtaining Signal's project specifications and in applying to the Program for Export Market Development for a grant towards transportation expenses for the visit.

At the same time, PHL planned to further investigate the future potential for World Bank funding of participation by Canadian environmental companies in environmental projects in Russia. These plans were discussed in some detail with the Deputy Director of EEE/DEA at a meeting on January 20, 1993.

During this meeting, participation by Canadian officials in the World Bank Environment Sector Project (the World Bank Project) for Russia was discussed, and it was agreed that, while information concerning implementation of the World Bank Project should be obtained if possible, PHL's next trip to Russia should focus primarily on the project approval process, and on the role and influence of Russian officials and NGOs in this process. It was further agreed with DEA that, although the major focus of this second trip would be the approvals process and the role of influential officials, PHL would nevertheless identify, where possible, opportunities for cooperation between Russian enterprises and Canadian companies.

PHL also recommended that selected Canadian environmental technology and service companies be surveyed in order to determine their attitude toward entering the Russian market. Companies were selected for participation in the survey from federal government profiles of companies known to be interested in international markets, and from PHL's in-house files. The survey was carried out prior to PHL's second visit to Russia which began on February 20. The list of companies contacted for the survey is included as Appendix G to this report.

In preparing for the second trip to Russia, PHL also worked with representatives of the Institute for Soviet American Relations and the Natural Resources Defense Council in Washington, in order to prepare a detailed list of NGOs currently active in the Russian Federation on a variety of environmental issues. This list is contained in this report as Appendix C.

Organization of second trip to Russia, 20 February, 1993-5 March, 1993

In preparing the second trip to Russia, PHL decided that an initial series of meetings should be held with selected officials at the Ministry of Environmental Protection and Natural Resources (MEPNR) in order to review the current status of the approvals process. PHL also organized meetings with the Russian Environmental Specialist at the World Bank's Moscow office and with the Deputy Resident Representative at the European Bank for Reconstruction and Development's Moscow office, in order to obtain their views about how environmental projects are approved in Russia, and to identify officials who play influential roles in this process.

Once in Moscow, PHL supplemented these meetings with additional meetings at:

- The MEPNR;
- The Environment Committees of the City of Moscow and the Supreme Soviet;
- The offices of Canadian businesses and law firms presently headquartered in Moscow;
- The offices of Russian environmental business enterprises.

A meeting, and telephone discussions, were also held with the Coordinator of the Socio-Ecological Union in order to review the results of these meetings and to obtain opinions about the relative influence and importance of various officials identified.

As a result of these meetings, PHL was able to:

- obtain information about the relative importance of a number of officials within the MEPNR in the approval of environmental projects in Russia;
- obtain information about Russian officials who are expected to play important roles during the implementation of the World Bank Environment Sector Project;
- obtain additional information about project financing and current activities of western oil and gas companies in Russia;
- meet with representatives of two Russian environmental business associations which wish to establish relationships with foreign environmental technology and service companies;

5. Final Report

In order to include relevant information from the Interim Report in a revised form, and to provide new information obtained during the second phase of PHL's work, the remainder of the Final Report is divided into two volumes. Volume One contains the text of the report as described below. Volume Two contains the Appendices to the report.

Volume One

Section I

- Introduction

Section II

- Review of the Russian Environmental Approvals Process and Notes on Influential Officials and NGOs

Section III

- Notes on Environmental Project Financing

Section IV

- Notes on Entering and on Doing Environmental Business in the Russian Market

Section V

- Items of Note concerning the Russian Oil and Gas Sector

Section VI

- Report on Projects identified in the Interim Report

Section VII

- Survey of Selected Canadian Environmental Technology and Service Companies Concerning Participation in the Russian Market

Volume Two

Appendices

II *Review of the Russian Environmental Approvals Process and Notes on Influential Officials and NGOs*

1. Introduction

Information in this section of the report is designed to assist senior officials at the Canadian Embassy in Moscow in developing and maintaining contacts with Russian officials and NGO representatives who influence the process by which environmental projects are approved and implemented. The approvals process itself depends on variables such as the level of government at which a project is being considered, the officials involved, availability or lack of project financing, the political climate and the involvement of western partner companies. As well, whatever structure now exists at the MEPNR, at other federal ministries and at other levels of government respecting project approvals, will change significantly if the **The World Bank Project** is implemented as intended. Because of the **World Bank Project's** importance, officials who are likely to play a key role in its implementation are discussed under a separate heading in this section.

It should also be noted that, in general, the importance of the officials discussed in the section lies not necessarily in their formal authority to approve or deny environmental project proposals, but in their ability to provide advice and guidance concerning potential projects, identify officials

who must be contacted at the local and regional levels of government, and to keep informed concerning the constant changes in personnel and procedures which are one of the main obstacles to project implementation in Russia.

Information in this section is grouped under the following headings:

- Notes on the current environmental approvals process, including the federal, regional and municipal processes, as well as notes on officials who play roles in this process but who are not now involved in the **World Bank Project**;
- Notes on the **World Bank Project**, in particular on officials who will play a key role in developing and implementing this project.

APPENDIX A LISTS OFFICIALS MENTIONED IN THIS SECTION, IN THE ORDER THEY APPEAR IN THE SECTION, TOGETHER WITH ADDRESSES AND TELEPHONE NUMBERS, FOR REFERENCE BY THE MOSCOW EMBASSY.

Recommendation:

PHL recommends that Embassy officials endeavour to develop and maintain contacts with the officials identified throughout this section. In addition to this general recommendation, PHL also makes periodic recommendations throughout the section concerning specific issues which should be pursued with individual officials.

2. The Current Environmental Approvals Process

As stated in PHL's Interim Report, approvals for environmental projects in Russia must be obtained from federal, regional (Oblast) and local (municipal) authorities in Russia. Responsibilities of each of these levels of government are described in the Russian Law on Environmental Protection, which is included as Appendix B to this report in order to illustrate the division of responsibilities between the various levels of government. During meetings with federal and regional environmental officials, NGOs and representatives of international financing institutions throughout this project, it was made clear to PHL that the level of government from which project approvals must be obtained and the process by which such approvals are completed, varies with each project. It would be misleading therefore, to suggest that a clearly-defined approvals process exists which must be followed by each project proponent.

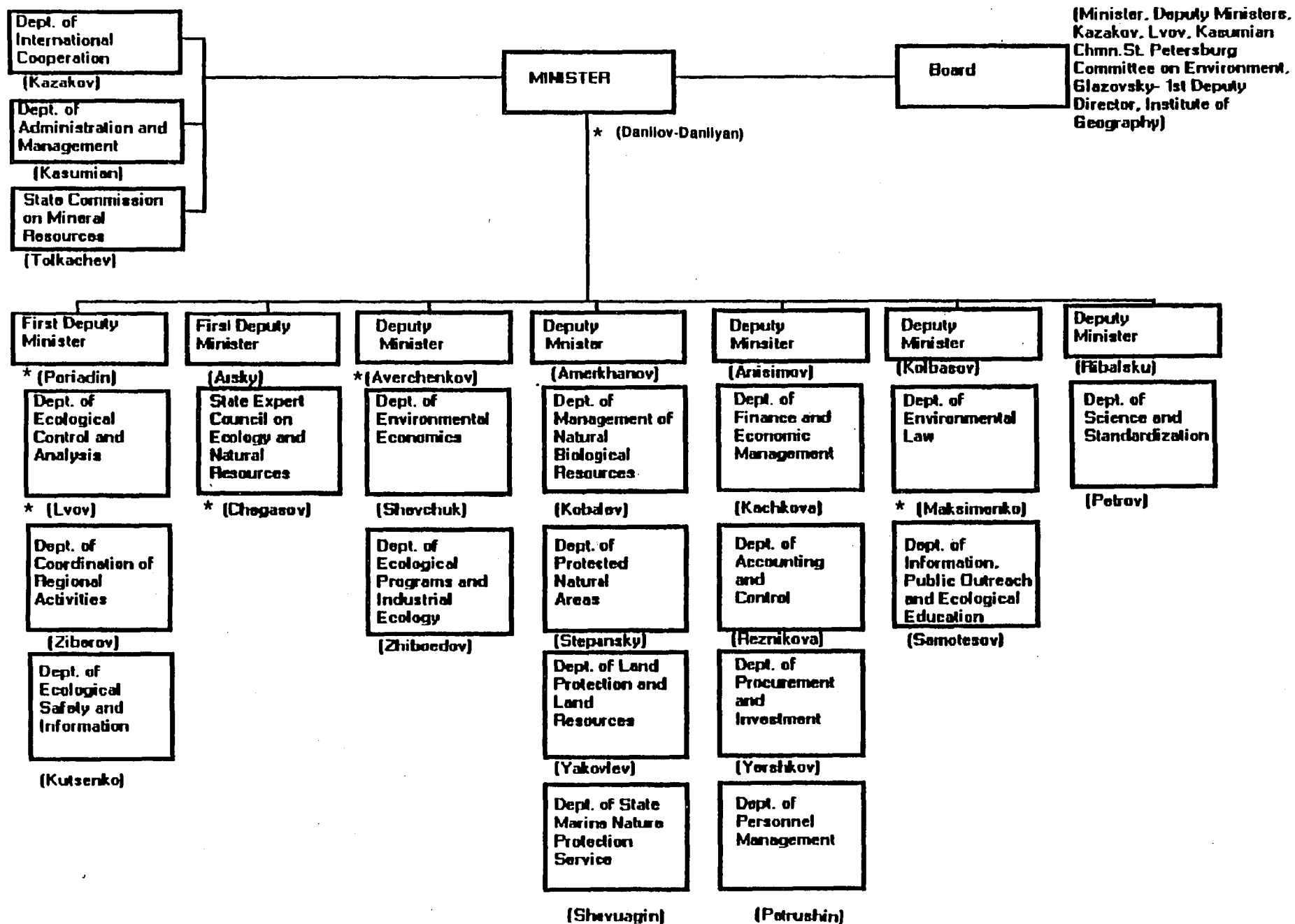
Three Avenues to Project Approval

Generally speaking, there are three avenues which can be followed by project proponents in order to inform appropriate officials about a project and to obtain approval for it:

- a. Contact with the Federal Ministry of Environmental Protection and Natural Resources (MEPNR), or with officials of the regional committees of the MEPNR.

The MEPNR has undergone a major reorganization during the past four months. A chart of the MEPNR as it is now organized, follows this page. Further changes, both in structure and in personnel, can be

Structure of the Ministry of the Environment and Natural Resources



expected as the World Bank Project is implemented, since this project is designed in part to assist the Russian government in developing an environmental management framework and a reorganization plan for the MEPNR. The present roles and influence of some key MEPNR officials will be discussed in more detail below. Officials marked with an asterisk on the chart are included in this section.

The MEPNR's areas of responsibility include the oversight of environmental impact assessments of new projects with national significance, provision of permits for the operation of facilities, the monitoring of facilities, and evaluation of the impact of facilities' operations on the environment. It should be noted, however, that while the Russian Law on Environmental Protection provides reasonably strong support for the MEPNR's activities, the human and financial resources available to carry out its functions are both limited and subject to frequent revisions.

The particular importance of the MEPNR authorities in Moscow lies in their ability to provide advice and guidance on the design, assessment and implementation of projects. Officials at the Ministry of Finance can also play a role in approving or withholding project financing, licenses for barter trade, and tax reductions, as can other members of President Yeltsin's cabinet.

- b. Contact with the committees on environmental protection of the individual republics of the Russian Federation. According to some federal environmental officials, any enterprise wishing to obtain approval for its operations must go through these committees first. However, other officials noted that it would be in the interest of a project proponent to contact the federal ministry first in order to obtain

introductions to appropriate regional environment committee officials, and to learn about legal requirements for state-level environmental impact assessments and project design before proceeding to contact regional officials directly.

- c. Contact with Municipal Authorities. The importance of local municipal authorities in exercising control over the start up and operation of projects with environmental impact was referred to frequently. As noted in PHL's Interim Report, these authorities can sometimes give approval to a project in advance of, or against the wishes of, the Moscow authorities. An article in the March 29, 1993 New York Times, ("In Russia, It's Business as Usual) points out that "(S)ince the breakup of the Soviet Union (American) companies doing business there have come to see developments at the municipal level as having more immediate relevance to their operations than power struggles in the central government. "Many companies have made their deals with regional authorities, so what happens in Moscow has little effect on them," said Robert Hormats, vice-chairman of Goldman Sachs International."

An example of the functioning of a local environmental authorities is the **Moscow City Committee on Environment**. If a sewage treatment plant were to be built in Moscow, it would first be proposed by the Moscow Water Authority to the Mayor's Office, from which funds would have to be obtained for the plant. Once the Mayor's Office agreed in principle that the plant should be built, the **Moscow City Committee on the Environment** would begin feasibility studies in cooperation with the Water Authority. Once these studies were completed, the State government for the Moscow Region and other municipal agencies such as the Sanitation Supervision Committee

would also have to give their approvals. While discussing this process with PHL, the Chairman of the Committee stated that he would not be able to provide a complete list of all the municipal and regional authorities whose approval would be required for the building of such a plant, because the process was too complicated and no one in the city government could identify all of the approvals required.

The same difficulty in determining which group of authorities exercises final control over environmental projects can be found in St. Petersburg. There, the Mayor's office has its own Environmental Department, while the St. Petersburg Town Council also has an Environmental Department, thus ensuring that both the legislative and executive branches in the town exercise project control. Depending on the relative authority of the Mayor, or of the City Council, the centre of authority may shift back and forth between the two branches.

The St. Petersburg City Council demonstrated its ability to block environmental projects proposed by Western firms in the fall of 1992. A French company, Générale des Eaux, had been negotiating with the city administration to take over operation of the St. Petersburg municipal water treatment facilities. Under the proposed agreement, the French company would have rented the city's water and sewage treatment system, upgraded it and operated it. In return, the agreement would have required a \$40 million payment from the French, but would also have provided them with large areas of real estate in the city. Because the French would have acquired an operating monopoly on the water and sewage treatment system, and because the local water and sewage treatment authorities did not in fact own all the real estate they had promised to the French company, the city council objected to the deal, and it is suspended at the present time.

The Role of Environmental Assessment

To a Western project proponent, perhaps the most significant step in obtaining approval for an environmental project is the environmental assessment process. Canadian companies engaged in environmental projects in Russia should be prepared to carry out environmental assessments to the standard they would have to meet in Canada, and to consult local authorities before carrying out assessments. Representatives of Canadian oil and gas companies pointed out to PHL that they had brought their own environmental assessment staff with them in order to ensure that environmental assessments were carried out to Canadian standards. Petro-Canada's project experience is an example of how this approach can make project implementation easier.

Petro-Canada is now operating a project in the Tyumin Region of Siberia. The company had to first visit officials in the Tyumin region, in order to receive approval from the local oil and gas association. The company then brought representatives from the region to Moscow to support their project application to the Ministry of Fuel and Energy.

Petro-Canada's project was designed to reduce the environmental impacts of drilling operations. Company representatives consulted local citizens prior to setting up and operating the project. The project's operating license requires that the environmental impacts of drilling practices be minimized and that industrial materials be used in a manner which reduces negative environmental impacts of the use of such materials. Petro Canada's representative noted that "inspectors descend very quickly if the operating conditions are not observed".

In general, Russian government officials lack training in Western techniques of evaluating environmental assessments carried out by project proponents. It is

expected that the technical assistance component of the **World Bank Project**, which is discussed in more detail below, will help remedy this situation.

In summarizing the uncertain effect of environmental assessments during implementation of projects, President Yeltsin's senior advisor on ecological issues, Alexander Yablokov, noted that local authorities often complete the technical work on assessments, but that this work is often of poor quality. By the time federal officials have had an opportunity to review and evaluate a locally-completed assessment, local authorities may have proceeded unilaterally with the project. Mr. Yablokov felt it would, therefore, be of little use to train federal officials in environmental assessment techniques, and that regional and local officials should instead receive such training.

Environmental Liability

Another important issue for Western proponents of environmental projects is the possibility of liability for contamination of project sites caused by enterprises previously located at such sites. The concern which this issue has caused many senior officials, was described to PHL by one of the American experts advising Vice-Prime Minister Chubais' State Committee on State Assets, which oversees the privatization of industrial enterprises. At present, there are no regulations or laws in this area of concern in Russia.

Recommendation:

PHL has previously referred the Minister-Councillor of the Canadian Embassy in Moscow to John Fitzgibbons, one of the group of American advisors to Vice-Prime Minister Chubais mentioned above. Mr. Fitzgibbons' responsibilities include consideration of environmental liability legislation.

PHL recommends that EEE/DEA consider whether Canadian legal experts could assist the Russian government in preparing a policy on environmental liability. Specific questions mentioned by Mr. Fitzgibbons to be addressed in such a policy involve how privatization contracts should include the assignment of liability between present and previous owners, and the sharing of responsibility for such liability between federal, state and local authorities.

3. Roles and Responsibilities of MEPNR Officials Outside the World Bank Project

This subsection describes several senior officials at the MEPNR who are not now directly involved in the **World Bank Project**, but who were recommended to PHL as useful contacts for the Embassy and for Western companies seeking advice and guidance concerning project approvals. The reader is reminded that the importance of these officials is often due not to their authority under statute, but rather to their knowledge of the functions of state and local environment committees, and to their relationships with colleagues in the MEPNR, in other ministries, and at the state and local levels.

- Contact: Gennady Chegasov
- Position: Director of State Expert Council on Ecology and Natural Resources, under First Deputy Environment Minister Arsky (see chart following page 31)
- Remarks: Mr. Chegasov and his Expert Council are responsible for reviewing the environmental impacts of oil and gas projects, including pipelines, terminals and offshore projects. As an indication of his importance, he was one of the first officials visited by Hector Jacques, President and CEO of the Jacques Whitford Group, a Canadian environmental consulting and engineering company which will participate in oil and gas projects in Russia. During a meeting with PHL, Mr. Chegasov noted that he and his officials review project plans submitted to local authorities. The project proponent then designs and presents project

plans, which are subsequently approved by Mr. Chegasov's Expert Council.

Concerning his involvement in approval of energy projects, it should be noted that Mr. Chegasov has expressed support for nuclear power and is sceptical of Russia's ability to undertake large-scale conversions to gas turbine generating facilities.

- Contact: Alexy Poriadin
- Position: First Deputy Minister, MEPNR
(see chart following page 31)
- Remarks: Mr. Poriadin was recommended to PHL as a useful contact on water treatment projects by the Coordinator of the Socio-Ecological Union, Russia's largest umbrella environmental organization. Mr. Poriadin has a strong background in municipal water treatment issues through his previous experience as Minister of Communal Industry. This ministry was previously in charge of municipal water and heating infrastructure, as well as transportation, for all of Russia.

Recommendation:

Since municipal water treatment is an area of expertise of many Canadian consulting engineering and environmental technology companies, PHL recommends that Embassy officials meet with Mr. Poriadin as soon as possible to obtain his views concerning specific

wastewater treatment projects which could benefit from the participation of Canadian companies. He should also be asked for technical information on specific projects. If this information is provided, it should then be forwarded by the Embassy to the Deputy Director of EEE/DEA. The Deputy Director should then request the assistance of appropriate officials at ISTC and Investment Canada in determining which Canadian companies should be informed about the projects.

- Contact: Nikoly Mikheev
Position: Chairman, State Committee on Water Resources
(Roskomvod)
Remarks: Until March, 1993, Roskomvod was located within the administrative structure of the MEPNR. The committee is now being organized into a separate agency which will be responsible for collecting and analysing data respecting water treatment facilities required at Russian industrial and municipal sources. Roskomvod will also administer water quality legislation which is expected to be approved by the Supreme Soviet by the early summer of 1993. Mr. Mikheev was referred to by other MEPNR officials and by the coordinator of the Socio-Ecological Union as an able, "results-oriented" expert who is likely to become the government's most senior regulator on water quality issues, and who may eventually play a role in implementation of the World Bank Project. Whether Mr. Mikheev or Mr. Poriadin will ultimately be of more assistance concerning the identification of water treatment

projects in which Canadian companies could participate, is not clear at this time.

Recommendation:

- **PHL recommends** that Embassy officials also meet with Mr. Mikheev in order to determine whether he or other officials at Roskomvod can provide specific information on wastewater treatment projects, or whether it would be more appropriate for he and Mr. Poriadin jointly to provide such information.

- **Contact:** Anatoli P. Lvov
Position: Chief, Department of Ecological Control and Analysis
MEPNR (see chart following page 31)
Remarks: Mr. Lvov is the senior official under the authority of First Deputy Environment Minister Poriadin, responsible for environmental assessment and project monitoring. Mr. Lvov's department provides permits for the start-up of environmental projects, and monitors the environmental impact of the activities of industrial enterprises on the environment. During discussions with PHL, Mr. Lvov recommended that project proponents should initially contact officials in the State Committee on Environment for the region where their project is located to discuss their plans, and that these officials would subsequently consult with he and his colleagues before approving a project.

- Contact: Yuri L. Maksimenko
Position: Director, Department of Environmental Law, MEPNR
(see chart following page 31)
Remarks: Mr. Maksimenko was recommended as a contact to PHL by the Environmental Specialist at the Moscow office of the World Bank, both as the MEPNR's leading expert in environmental impact assessment procedures and as the individual who will shortly be given responsibility for the review of specific development projects in the oil and gas sector. Mr. Maksimenko is a former member of the Moscow Regional Environment Committee and has had extensive experience in environmental law through previous work with the European Economic Commission.

A colleague of Mr. Maksimenko's, Sergey Burtsev, will work under Maksimenko's direction as the Environmental Impact Specialist on oil and gas projects.

4. Roles of Officials in the World Bank Environment Sector Project

Since September, 1992, the World Bank and the Russian government have been negotiating a Bank lending operation to deal with priority environmental problems in the Russian Federation. Participants in these negotiations have included officials from Environment Canada and the U.S. EPA. The **World Bank Project** involves a natural gas recovery and processing component, initial capitalization of a National Pollution Abatement Fund as a means of directing priority pollution control investments in Russia, a nature protection component, and a technical assistance component, for a total estimated cost of \$600 million U.S.

In light of Canadian government participation in **the Project**, discussion in this subsection is limited to the roles certain officials in the MEPNR and the Ministry of Fuel and Energy appear likely to play in **the Project**, in order that the Canadian Embassy can develop and maintain contacts with these officials between **Project** missions.

In particular, Russian officials are identified to whom information about the expertise of Canadian environmental technology and service companies can be provided now, in anticipation of the companies' potential involvement in later stages of **the Project**.

The main World Bank Moscow contact concerning **the Project** is:

- Contact: Vadim Voronin
Position: Environmental Specialist, World Bank, Moscow Office
Remarks: Mr. Voronin briefed PHL on the likely future development of **the Project** and on Canada's participation in it.

He noted that only American participants in the February World Bank mission expressed specific interest in water quality issues and projects.

He pointed out that the National Pollution Abatement Fund (NPAF) could eventually be the repository for all bilateral funds concerning tendering, procurement, and management for environmental projects, and that preference would be given to Canadian firms for such projects if Canada contributes funds to the NPAF.

He noted that the World Bank is planning a seminar on Environmental Impact Assessment in Moscow to be held at the end of May or early June, concerning oil and gas sector issues such as recovery of associated gas, pollution prevention from world development projects, protection of indigenous peoples, and health and safety issues, especially in the Tyumin Region.

Concerning the project component dealing with the Lake Baikal Region, in which the government of Canada has a particular interest, he noted that the statute establishing the Lake Baikal Commission has not yet been finalized, but that Alexander Yablokov, President Yeltsin's senior advisor on ecology, may become the head of the commission. Mr. Yablokov has not yet accepted the appointment, and according to his senior advisor, he may not be the final candidate.

Mr. Voronin also identified several officials who are expected to play important roles in the Project, as follows:

- Contact: Yuri Shafrannyk
Position: Minister, Fuel and Energy
Remarks: One of the World Bank Project's components of most interest to the Canadian government is the proposed Environmental Management Petroleum Institute (EMPI). The EMPI is being designed to strengthen the Russian oil industry's capacity to deal with oil losses and their impact on eco-systems and local populations in Western Siberia, and to strengthen the Russian government's capacity to more effectively monitor and enforce environmental regulations across the petroleum sector. The EMPI is expected to be designed using a similar institute located in Alberta as a model.

Mr. Shafrannyk is originally from the Western Siberian oil-producing region of Tyumin and will play an important role in determining how the EMPI will be structured, and what its functions will be.

- Contact: Victor Danilov-Danilyan (see chart following page 31)

Position: Minister of Environment Protection and Natural Resources

Remarks: A World Bank Project Steering Committee is being set up within the Russian government, to be chaired by Mr. Danilov-Danilyan. Other members of the Steering Committee are likely to include the Deputy Ministers or senior officials of other agencies such as the Minister of Fuel and Energy, the Russian Agency for International Cooperation and Development, and the State Committee on Water Resources. The exact responsibilities and final membership of this Committee have not yet been decided.

Embassy officials have already met with Mr. Danilov-Danilyan and will remain in contact with him.

- Contact: Alexander Averchenkov

Position: Deputy Minister, MEPNR (see chart following page 31)

Remarks: Mr. Averchenkov was repeatedly referred to by Russian officials and NGOs as the key decision-maker within the MEPNR. He heads the department responsible for economic analysis and industrial programs.

Officials at both the World Bank, and the MEPNR, believe that Mr. Averchenkov will become the head of the proposed National Pollution Abatement Fund to be set up under the Project. The NPAF will be designed to fund priority pollution abatement projects for credit-worthy

operations that can repay loans with incremental foreign exchange earnings or savings. A group of such projects is to be designated under the Technical Assistance component of the Project. Therefore, if appointed, Mr. Averchenkov will play an important role in project selection and implementation.

Mr. Voronin noted that the Bank would like to see Mr. Averchenko appointed to this position, or to another senior position under the Project.

- Contact: Evgenii A. Konygin
Position: Deputy Director, Department of International Cooperation, MEPNR
Remarks: Mr. Voronin expects Mr. Konygin to head the Central Project Implementation Unit (PIU) for the entire Project. The Central Moscow PIU, and regional PIUs in Western Siberia, Volgograd, the Moscow-Oka River Basis, St. Petersburg and Lake Baikal, will act as independently functioning project implementation agencies outside ministerial or regional structures, and will be granted special powers to maintain foreign exchange accounts free of government taxes. The Moscow PIU will be the lead Russian governmental agency responsible for overall implementation of the project and will be modeled on World Bank experience with a similar PIU in Poland.

Mr. Konygin expects that the Moscow PIU will eventually become the clearing-house for information on Western companies which wish to participate in the Project (and probably in other MEPNR-sanctioned projects), and that the PIU will also collect information on the credibility, reliability, and activities of potential Russian partner enterprises for western companies. He noted that he and his colleague Vladimir Trifonov (see below) are now beginning to collect such information about foreign and Russian companies, and he repeatedly stressed the need for he and Mr. Trifonov to receive abstracts on Canadian environmental technology and service capabilities, because material is already being received from some Western European countries.

When asked whether the PIU and the NPAF would work with Roskomvod or other MEPNR officials to designate and implement water quality improvement projects, Mr. Konygin stated that such arrangements have not yet been completed.

- Contact: Vladimir Trifonov
Position: Chief Expert, Department of International Cooperation, MEPNR

Remarks: Mr. Trifonov confirmed Mr. Konygin's comments that, once creation of the PIU begins (possibly following the next World Bank mission scheduled in April of this year), the PIU will eventually become the central repository of information concerning priority water and waste treatment projects, and concerning foreign countries interested in participating in such projects. He also emphasised the need for the Canadian government to forward information on the expertise of Canadian companies, particularly in the wastewater treatment area, to himself or to Mr. Konygin.

Recommendation:

PHL recommends that the Deputy Director of EEE/DEA request that Investment Canada and ISTC prepare summaries of the capabilities of Canadian environment technology and service companies and that these summaries be forwarded to Mr. Konygin and Mr. Trifonov, in order to acquaint them with the range of qualified Canadian companies, particularly respecting water quality treatment.

Mr. Konygin also recommended two senior Russian officials who are likely to influence the process by which technical assistance programs and oil and gas project tendering and procurement, would be organized by the Russian government to include Canadian and other Western participation under the Project. These two officials are:

- Contact: Mr. Kyril Ivanov
Position: First Deputy Chairman, Russian Agency for International Cooperation and Development (RAICD)

Remarks: The RAICD was formed in December, 1992 to include the former Russian Commission on International Humanitarian and Technical Assistance, the former State Commission on Foreign Investment, and the former Russian Union of Friendship Societies. The agency chairman is Vice Prime Minister Shohin.

Mr. Ivanov is responsible for relations with foreign governments concerning conversions of former military-industrial facilities, and the foreign investment required to make these conversions successful. Mr. Ivanov's previous responsibilities included the supervision of international tenders on oil and gas projects for the State Commission on Foreign Investment. In August, his responsibilities were transferred with him to Mr. Shohin's office. Since the World Bank Project involves bi-lateral cooperation between Russia, the United States and Canada, the RAICD will work with the MEPNR in preparing bi-lateral agreements under the Project between Russia, Canada and the United States. Mr. Ivanov is likely to play a key role in this process, and can inform senior Embassy officials about conditions for participation of foreign businesses in environmental, and in oil and gas projects in Russia.

The second official recommended by Mr. Konygin is:

- Contact: **Sergey A. Vibornov**
Position: Chief, Department of International Finance and
Investment Cooperation
Office of Vice Prime Minister Shohin
Remarks: Mr. Konygin recommended that senior Canadian officials
from the Embassy discuss the scope of technical assistance
cooperation which Canada is prepared to offer Russia
under the Project with Mr. Vibornov, since he will be
responsible for briefing the Vice-Prime Minister concerning
the implementation of the Project.

5. The Supreme Soviet

While the Supreme Soviet does not exercise direct control over the process of environmental project approvals, its Committee on the Environment is responsible for drafting new environmental protection legislation. The Committee plans to submit new legislation for consideration by the People's Congress of Deputies in 2-3 months concerning drinking water standards, water consumption, and on the maintenance of environmental quality at Lake Baikal.

In addition to the Committee, President Yeltsin's principal advisor on environmental issues, Alexander Yablokov, is a member of the Supreme Soviet, and was identified by most officials and NGOs interviewed by PHL during this project, as the primary spokesperson on environmental issues in the Supreme Soviet. As noted earlier in this report, Mr. Yablokov may become head of the Lake Baikal Commission and would therefore play a role in any program of assistance from the government of Canada to the Russian Federation respecting a management program for the Lake Baikal Region under the Project.

Recommendation:

PHL recommends that the Embassy provide regular updates to Mr. Yablokov and to his senior advisor, Sviatislav Zabelin, concerning the Canadian government's plans to participate in the Project.

In addition to his position as Advisor to Mr. Yablokov, Mr. Zabelin is also coordinator of Russia's largest umbrella environment organization, the Socio-Ecological Union (SEU), which is discussed in more detail in the next subsection.

6. Non-Governmental Organizations

A. Environmental Groups

While environmental groups have been established in many cities and towns in the Russian Federation, they are usually composed of a few individuals who work almost exclusively on local issues. With the assistance of the Institute for Soviet-American Relations and the Natural Resources Defense Council in Washington, PHL has assembled a list of environmental groups which have been active since the late 1980's and which have participated in U.S.-Russian joint conferences and exchange programs in order to establish links with the West's environmental movement. This list is included as Appendix C to this report, and contains telephone numbers and addresses in both English and Cyrillic script, and brief notes where possible on the group's activities.

The difficulty of establishing and maintaining contact with these groups under the current circumstances should not be underestimated.

Recommendation:

PHL recommends that a brief information piece on the Canadian government's intended participation in the World Bank Project be prepared and forwarded to groups on the list together with a request for information about their activities and priorities. Establishing such links with even a few of the groups will provide the Embassy with useful intelligence on local environmental problems, as well as on possible suggestions for local projects.

B. The Socio-Ecological Union (SEU)

The SEU is an umbrella organization of environmental groups founded in 1988, which coordinates over 150 groups from 13 of the 15 republics of the former Soviet Union. Its membership is largely concentrated in Russia (115 groups). The SEU network is linked by electronic mail through the Centre for Information and Coordination in Moscow. The Centre keeps members informed about the environmental situation throughout the former Soviet Union, helps members maintain contact with each other, and with environmental experts in various fields, and assists in the coordination of joint programs.

The coordinator of the SEU is Sviatislav Zabelin, who operates the SEU's Centre for Coordination and Information in Moscow and is senior advisor to Alexander Yablokov, President Yeltsin's Advisor on Environment and Health.

The SEU now concentrates on working directly with local and republican legislative bodies, parliaments and councils of peoples' deputies, with state and local Committees on Environmental Protection, and with the executive branches of government and republics where SEU members have been appointed to public office.

SEU members are people's deputies in the parliaments of Russia and Moldova, and in the local councils of many cities including Odessa, Lipetsk, Izhevsk, Dubna, Syrgut, and Vladivostok. SEU members are the heads of State Nature Protection Bodies in such cities as Ulyanvosk, Ryazan and Orenburg.

Under a charter from the Soviet Minister of Justice, the SEU gained unusual watchdog status in April, 1991, becoming the first NGO with the right to exercise public control over the observance of legislation regarding the use of natural resources and the preservation of natural and cultural values. The charter grants the SEU the same legal rights as a political party. In January, 1992, the SEU of Russia received a similar charter from the Russian Minister of Justice.

The SEU's program areas include:

- clean-up of radioactive industrial sites;
- forestry protection programs, particularly in Siberia;
- opposition to the Katun River hydro electric dam (Hydro Quebec has been involved in this project);
- preservation of the nature reserve system throughout the former Soviet Union;
- monitoring of the efforts of foreign firms to exploit oil and gas from the fishery and forestry resources throughout the former Soviet Union.

In 1992, the SEU was asked by the former Russian Ministry of Ecology and the Ministry of Fuel and Energy to conduct an environmental assessment of the proposed World Bank Oil and Gas Project in Western Siberia.

The assessment contains general information about the ecological status and sensitivity of the Western Siberian environment as a whole. Site-specific data and analyses concerning the potential environmental impacts of future operations of the three Western Siberian petroleum production associations, are not concluded. Once approved, the assessment is expected to be forwarded to the World Bank this month (March, 1993).

SEU Coordinator Zabelin is perhaps the single best-informed individual in Russia about the activities of the Russian non-governmental environmental movement and about the status of environmental programs at various levels of government in Russia.

During a visit by Mr. Zabelin to Washington last fall, PHL made arrangements for him to meet ISTC's Director of Environment Affairs, in order to discuss possible cooperation between the SEU and ISTC on environmental training programs. Unfortunately, Mr. Zabelin had to cut his visit short and was unable to travel to Canada.

During PHL's trip to Moscow in February-March, the issue of training programs and other potential areas of cooperation between the SEU and Canadian government agencies was again discussed with Mr. Zabelin. The SEU's activities were also described by PHL to the Embassy's Minister-Councillor.

Mr. Zabelin described a current SEU program through which the organization is preparing a list of Russian industrial enterprises which are interested in establishing joint partnerships with Western environmental technology and service firms. The list is expected to include information on the history and reliability of the enterprises, the

types of technology or other environmental program assistance required, and appropriate contacts at the enterprises.

Mr. Zabelin also inquired whether the government of Canada has a continuing interest in organizing training programs. He pointed to the Volga River Basin as an area requiring major improvements in water quality, where local experts would greatly benefit from training in monitoring and remediation techniques.

Recommendations:

PHL recommends that the Embassy's Minister-Councillor establish contact with Mr. Zabelin, in order to review both the SEU's priorities and Canadian intentions respecting participation in the World Bank Project. The feasibility of convening a small meeting of senior environmental NGOs in Moscow at the Embassy, to brief the Minister-Councillor on their environmental priorities, and to provide suggestions concerning priority areas for training programs and other forms of technical assistance between Canada and Russia, should also be discussed with Mr. Zabelin.

PHL further recommends that Mr. Zabelin be asked to make his list of Russian enterprises available to the Canadian Embassy. If the list is sufficiently detailed, it should be forwarded to appropriate officials at Investment Canada and ISTC, for comparison with existing profiles on Canadian environmental technology and service companies which are seeking overseas partners. If matches can be found, information about the Russian enterprises should be forwarded to the Canadian companies.

Mr. Zabelin has indicated that he can prepare a list of appropriate local experts in the Volga River Basin for training in monitoring and remediation of local water quality problems. The list would include local administration officials, representatives of local committees of the Ministry of the Environment, and representatives of local parliaments who are affiliated with the SEU and who possess appropriate scientific backgrounds. If Mr. Zabelin can provide the list in a form which includes the specific water quality problems to be addressed by the individuals in question, their professional qualifications and their specific training requirements, PHL further recommends that the list be forwarded to ISTC's Canadian Office for Training in the Environment, and a training mission of experts from the region to Canada could then be prepared.

III. *Notes on Environmental Project Financing*

1. Introduction

As a result of severe constraints on the Russian government's reserves of hard currency and the higher priority of basic economic reforms in Russia, environmental project financing has largely been limited to:

- pre-feasibility or feasibility studies of potential projects (such as those financed through the Finnish Ministry of the Environment);
- technical assistance financing from international agencies such as the European Bank for Reconstruction and Development and the World Bank;
- projects in which pollution control or clean-up is incidental to the main purpose of the project (such as repairs to oil and gas pipelines and increases in oil production).

The MEPNR has forwarded proposals to President Yeltsin's office under which government financing (including exemptions from various taxes) would be provided to enterprises which implement environmental remediation or pollution prevention projects. As yet, none have been approved.

Large-scale projects, such as those in the industrial and municipal wastewater treatment sector, are particularly difficult to finance.

For example, while the Southwest Water Treatment Plant planned for Moscow will cost one billion Finmarks, the World Bank may only contribute 10-15%, leaving the majority of project financing to the Russian government and its limited hard currency reserves.

Despite the above, some western companies have made alternative arrangements with Russian partner enterprises to finance projects through the use of barter trade.

Before discussing barter trade in more detail, and before recommending a related project to EEE/DEA, PHL wishes to briefly review current environmental project financing plans of international financing agencies.

2. The World Bank Project National Pollution Abatement Fund

The National Pollution Abatement Fund (NPAF) proposed under the World Bank Project would provide foreign exchange for the purchase of efficient foreign pollution abatement technologies in order to facilitate technology transfer, and for the financing of demonstration projects for testing these technologies under Russian conditions.

The World Bank expects that the set-up of a NPAF would provide opportunities for the opening of special accounts such as the GEF, and would attract financing from other sources such as the EBRD and bi-lateral donors.

As noted in the previous section, officials of the Russian MEPNR have indicated that they are prepared to receive information about the capabilities of Canadian environmental technology and service companies. PHL has

previously recommended that such information be forwarded by the Government of Canada to appropriate officials at the MEPNR.

3. **The European Bank for Reconstruction and Development (EBRD)**

On January 28, 1992 the EBRD issued a series of directives which form the basis of an environmental policy designed to guide the Bank in assessing and investing in projects with environmental impacts as follows:

- The EBRD will provide technical assistance to national and local authorities to assist them in establishing legal, regulatory and economic instruments, as well as in introducing technical standards and establishing institutions to implement and monitor them;
- The EBRD will promote direct investment and joint ventures which are aimed at commercially viable environmental enterprises. It will also finance environmental infrastructure projects in an attempt to stimulate an environmental goods and services industry;
- The EBRD will concentrate resources on regional programs which tackle problems of environmental pollution in wide-ranging geographical areas such as the Baltic Sea;
- A final component includes environmental education and public consultation.

While this policy seems to respond to many of Russia's requirements, the Bank will not make any project loans in Russia until the Russian government's unwillingness to provide sovereign guarantees for loan repayments is

addressed. The formula for such a guarantee is under discussion between the Russian government and the EBRD, but has not been finalized.

An example of the difficulties created by the absence of such loan guarantees, is a pre-investment technical assistance grant provided by the EBRD to the municipality of St. Petersburg in 1992, using European Economic Community funds, to prepare a plan to rehabilitate the city's water and heating infrastructure. The grant was intended as a precursor to an actual EBRD loan to the municipality, but such a loan will now not be made in the absence of repayment guarantees from the Russian Federation.

Documents containing the full text of the EBRD's environmental policy ("Environmental Policy"), and the procedures used by the Bank in selecting, designing and implementing ("Environmental Procedures") have been provided separately to the Deputy Director of EEE/DEA for future reference.

4. Conference of International Funders, Gdansk, Poland, March, 1993

As previously noted in PHL's Interim Report, a conference was held in Gdansk, Poland in March, at which officials of the Nordic Investment Bank, the World Bank, the EBRD and other international financing agencies considered status reports prepared by the Helsinki Commission concerning priority environmental projects in the Baltic Region and required project financing.

Recommendation:

If the department has not already done so, PHL recommends that DEA contact the Helsinki Commission to obtain a report on the results of this conference. The contact at the Commission is:

Mrs. Terttu Melvasalo, Program Implementation
Coordinator
Baltic Marine Environment Protection Commission
Helsinki Commission
Mannerheimintie 12A
SF-00100 Helsinki, Finland
Telephone: (358-0) 602366
Telex: 125105hlcom
FAX: (358-0)644577

5. **Establishment of Western Banks in St. Petersburg**

As noted in PHL's Interim Report, five Western banks have requested that St. Petersburg Mayor Anatoly Sobchek permit them to open branches in the city. The proposal has provoked criticism from officials in the St. Petersburg municipal administration. In the interest of business development, Mayor Sobchek is nevertheless trying to grant the five banks operating licenses by the end of 1993. His ability to do so is expected to play a critical role in the success or failure of a number of environmental initiatives in the St. Petersburg area which require Western participation.

Recommendation:

PHL recommends that the Canadian Embassy monitor Mayor Sobchek's efforts to grant the five banks operating licenses, and provide reports to EEE/DEA on progress.

6. Barter Trade as a Means of Project Financing

Barter trade as a means of project financing was briefly considered in PHL's Interim Report, in light of the lack of hard currency available to finance environmental projects within the Russian Federation, and the concern of Russian enterprises about their ability to repay loans from international financing organizations.

Under a barter trade arrangement, a Russian project client must supply its Western partner company with raw or partially-processed materials such as metal-bearing ore, graphite, pulp or similar materials, as payment for services rendered. Licenses for such barter trade agreements must be obtained through the federal government in Moscow.

During PHL's first trip to Finland and Russia, barter trade was frequently recommended as a means of project financing until the Russian banking system has stabilized, and until western banks are allowed to locate within the Federation. Several Finnish companies described projects during which they received payment through barter trade arrangements.

While in Moscow in February-March, PHL discussed barter trade arrangements in more detail with the Russian Environmental Business

Association (ENBAS) and with the president of a Canadian trading firm, TROC International of Montreal. Both companies have completed barter trade arrangements for Western and Russian clients.

PHL believes that barter trade can be used as an interim financing mechanism by Canadian companies wishing to enter the Russian market. Most Canadian companies interviewed by PHL during this project have not previously used barter trade arrangements, and the mechanism is not as simple as it might appear. For example:

- Some commodities, such as oil, are easier to sell than others, but there can be a lengthy period of time required to dispose of a quantity of oil under a barter trade arrangement. Under one contract, five months were required for a Russian enterprise to sell 400,000 tons of oil, due to the time required to obtain the necessary legal documents from the Russian government;
- Some metals such as titanium may be offered for barter trade which are classified as "strategic materials" under Russian law and which can only be sold overseas by special exporters. The Russian partner in the arrangement must be familiar with such restrictions;
- Many commodities can be offered under barter trade arrangements and the seller must be familiar with the speciality market for each commodity offered;
- Transportation arrangements for barterable commodities must be carefully arranged and supervised by the Western partner because Russian enterprises often do not follow Western production schedules;

- If more than one shipment of a barterable commodity is to be made, careful quality control must be exercised between each shipment. For oil, for example, a first shipment can be high quality while the second can be contaminated. For commodity goods, the packaging may vary between shipments.

Recommendation:

PHL recommends that a manual describing the steps to be followed in the barter trade process, and the responsibilities of the Western and Russian partners in barter trade arrangements, be commissioned by DEA. Since a number of Finnish companies interviewed by PHL have experience with barter trade, PHL further recommends that DEA ask the former Finnish Consul-General in Toronto, Mr. Erkki Sirkkola, to participate in the preparation of the manual. Mr. Sirkkola is now vice-president of a Finnish environmental technology company in Helsinki. Although his former position may be a cause of some sensitivity to DEA, Mr. Sirkkola knows the Finnish environmental technology and service sector well, and was very helpful to PHL in organizing meetings with senior representatives of that industry during our visit to Helsinki in September.

Mr. Sirkkola's address is:

Mr. Erkki Sirkkola
Vice President, Marketing
AUMEC Systems Oy
Fiskarsinkatu 7 D
Sf 20750 Turku, Finland
Telephone: (mobile) 011-358-49828 409
(residence) 011-358-0298-9356
FAX: 011-358-0-298-5940

If the selection of Mr. Sirkkola to complete this work is not possible, PHL recommends as an alternative that EEE/DEA contact the Canadian Wheat Board concerning its recent experience in bartering wheat for timber and cotton with Russia, using the services of a third party that handles the commodities and pays cash to the Board.

In a March 20 report in the Globe and Mail, Board spokesperson Brian Stacey noted that barter deals had already been signed with Russia and Uzbekistan, and that grain shipments would be made as a result this spring. In the same article, another Board spokesperson, Bob Roehle, was quoted as saying that "There were deals done on the basis of barter, and they involved third parties who took the goods and then traded them into cash." Although the barter trade agent's identity is not disclosed in the article, the Board may be prepared to disclose the agent's identity to EEE/DEA, and to recommend that the agent be retained to prepare the manual.

PHL further recommends that once completed, the manual be provided to the Canadian Embassy in Moscow and (through EEE/DEA, ISTC and Investment Canada), to Canadian environmental technology and service companies who wish to keep informed about the Russian market. Some of these companies are identified in Appendix G to this report.

IV. *Notes on Entering and on Doing Environmental Business
in the Russian Market*

1. Introduction

Part of the discussion during each meeting PHL held in Finland, and during both trips to Russia, focused on the process of entering the Russian market and on doing environmental business in that country. Despite the uncertainties and instabilities of the current period, the availability of business opportunities to companies with persistence and good Russian contacts, particularly at the local level, were frequently mentioned, as was the challenge of identifying a credible and well-established Russian business partner.

The remainder of this section will:

- provide notes on the experience of Finnish environmental technology and service companies in Russia;
- review alternative approaches to entering the Russian market for environmental technologies and services, and will identify Canadian and Russian firms which can provide introductions to the market;
- provide notes on the role of the Moscow Embassy in assisting companies planning to do environmental business in Russia.

2. Current Activities of Finnish Companies and the Finnish Ministry of the Environment in Russian Environmental Projects

While in Helsinki, PHL met with senior representatives of 9 of the largest Finnish consulting engineering and environmental technology companies. Several, such as Ahlstrom and Outokumpu, have done business in the former Soviet Union and Russia for many years. All of the companies visited are participating to some degree in the Finnish Ministry of the Environment's East Europe Project, which is currently confined to a series of 16 feasibility studies designed to evaluate environmental problems, and potential remedies, in the Baltic region of Russia (particularly St. Petersburg), the Karelian region of Russia, and Estonia. Several companies have formed joint ventures with Russian partners. One company, Outokumpu EcoEnergy, has organized a joint venture in St. Petersburg with Russian and German partners, called EEE, which manufactures power generation boilers, flue gas control systems, and hazardous and municipal waste treatment systems. We later visited EEE in St. Petersburg, and met with its Russian president and German vice-president. Details of this visit are provided in this section.

Many of the Finnish companies we spoke to, are also involved in other environmental projects, particularly in the pulp and paper sector in the three Baltic Republics.

Observations of the Finnish companies on their current business activities in Russia can be summarized as follows:

Lack of funds and uncertainty concerning the political climate in Russia often limit companies to feasibility studies

- The lack of hard currency in Russia to pay for environmental projects, the unwillingness (to date) of international funders to support such projects, together with frequent media reports of political instability, prevent companies from doing more than feasibility studies.

There is a preference for projects in the Baltic Republics

- Projects in the Baltic Republics, where there is less political instability, are easier to finance. Also, there is general agreement among Finnish companies that problems associated with delivery of equipment and supplies are less serious in this area, than in Russia.

Joint ventures are difficult but can succeed

- An example of the difficulties that face joint venture companies is found in the operations of Outokumpu's joint venture, EEE, located in St. Petersburg. When it began its activities several years ago, EEE opened a bank account in a Russian bank in St. Petersburg. The bank recently went bankrupt and the company now has to keep overseas accounts. The bankruptcy cost EEE the loss of approximately \$1 million U.S. Although this amount was lost to the company through the bankruptcy, Russian taxation authorities nevertheless assessed taxes on the funds. To make matters worse, the Russian authorities also levied a late penalty because EEE could not pay taxes on the money it no longer had.

To help overcome its financial difficulties, EEE arranges payment through barter trade when possible. EEE's president also noted that authorities in St. Petersburg are also prepared to consider turning over real estate to international investors in lieu of hard currency payments.

- In contrast to EEE's difficulties, another large Finnish consulting company, Jaakko Pöyry, has operated a joint venture with Russian partners in St. Petersburg since the early 1980's. This company provides consulting services to the Russian pulp and paper industry. The joint venture is now working on an EBRD project to review environmental management in this sector. Pulp and paper mills which can be preserved and upgraded will be identified as investment possibilities.

Hire local experts

- A key point mentioned by Finnish executives is the need to hire local experts or assistants, in order to be able to obtain necessary federal, regional and local government approvals, and to generally understand the differences between Western and Russian social customs and business practices. One of the Finnish companies PHL interviewed specializes in the identification and location of appropriate Russian partners for western joint venture companies.

3. Approaches to Entering the Russian Market for Environmental Technologies and Services

A company wishing to enter the Russian market for environmental technologies and services is faced simultaneously with significant business opportunities, unstable economic and political conditions, and a wide variety of points of entry to the market. During PHL's discussions with various Canadian companies throughout this project, the following were among the more frequently cited methods by which companies had gained access to the Russian market:

- through a trade mission sponsored by the federal or a provincial government;
- through contacts made at international conferences and seminars;
- through training programs for Russian personnel already established at Canadian universities;
- through a Russian representative in Moscow or another Russian city hired by the Canadian company to investigate the marketplace;
- through project information obtained from international financing agencies such as the World Bank and the EBRD;
- through friends and relatives living in eastern Europe or Russia;
- through the Canadian Embassy in Moscow;

- through contacts in Russian scientific and academic institutes.

At the present time, several large Canadian companies such as HBT Agra Industries Ltd., SNC Lavalin, Hatch and Associates and the Jacques Whitford Group, are actively working on projects with major environmental components in Russia.

In the remainder of this subsection, PHL will review several Canadian and Russian firms which have either successfully entered the Russian marketplace, assisted other companies in doing so, or (in the case of two Russian environmental business enterprises) have established partnerships with Western companies and are seeking additional partners.

A. The Jacques Whitford Group

The Jacques Whitford Group's experience is illustrative of how a combination of approaches can provide effective entry to the market:

- the Group initiated initial contacts with the Russian marketplace through the working groups established under the Canada-Russia Memorandum of Understanding;
- the Group then made contact with Canadian universities which were already providing training in management techniques to Russian personnel, as a means of making further contacts;
- the Group then began its own in-house management training programs for Russian experts, and assisted in the organization of visits for Russian industrialists to Canada to meet Canadian industrial manufacturers;

- the Group will be sponsoring a visit by Russian oil and gas industry executives to Alberta this summer and has just concluded a joint venture with a Russian industrial business enterprise (The Environmental Business Association, to be discussed below) to provide consulting engineering and environmental services to the oil and gas sector in Russia.

Recommendation:

PHL recommends that the Deputy Director of EEE/DEA contact Hector Jacques, President and CEO of the Jacques Whitford Group, and invite him to address a group of senior officials from DEA, RGZ, and ISTC on his company's experience in entering the Russian market.

PHL further recommends that Mr. Jacques be asked for his recommendations concerning the most effective role Canadian government agencies can play in assisting Canadian companies to enter the Russian market.

B. The Canada-Russia Business Council (CUBC)

The CUBC was founded in 1989 as the Canada-USSR Business Council. In January 1992 the CUBC became the umbrella organization for four divisions, of which the largest is the Canada-Russian Business Council. The CUBC has established a Canadian-Russian consortium in the field of agriculture and food processing, an oil and gas section headquartered in Calgary, and a defence industry conversion project. Canadian member companies are introduced to Russian enterprises in these sectors with a view to establish business partnerships and joint ventures.

The CUBC is a non-profit organization, whose membership dues are based on a member company's sales or gross revenues.

Although the CUBC does not have a specific environmental sector project underway at the present time, the Director of its Moscow Office has been approached by Russian enterprises for contacts in the Canadian environmental technology and services sector.

The CUBC's Russian and Canadian addresses are:

CUBC MOSCOW OFFICE

Sergei A. Avrouschenko
Director
Canada-Russia Business Council
21, Noviy Arbat, #714
103025 Moscow, Russia
Telephone: 291-33-02/32-93
FAX: 290-38-98

CUBC TORONTO OFFICE

Susan Santiago
Director, Public Affairs
Canada-Russia Business Council
2 First Canadian Place
Suite 2125
P.O. 11
Toronto, Ontario
M5X 1A9
Telephone: 416-862-2821
FAX: 416-862-2820

C. Canadian Law Firms

At least three Canadian law firms have opened offices in Moscow. Names and addresses of the firms, and of their senior representatives, are:

Jack Robinson
 Legal Council-Resident in Moscow
 Gowling, Strathy and Henderson
 8 Chapaevsky Pereulok
 1250507 Moscow, Russia
 Telephone: 157-7619
 FAX: 157-5161

Toronto Address:
 2 First Canadian Place
 Toronto, Ontario
 M5X 1A4
 Telephone: 777-6381
 FAX: 861-0148

Linda Sjoman
 Vinson & Elkins L.L.P.
 Ul. Vorovskogo, 21
 121069 Moscow, Russia
 Telephone: 2028416/7493
 FAX: 2024216/6874

Glenn Faass
 Chief Representative,
 Russian Federation
 and

Mark N. Sills
 Senior Associate, Moscow Office
 Macleod Dixon
 Pomerantsev Pereulok 3
 Suite 2
 119034 Moscow, Russia
 Telephone/FAX (international line): 011-7-501-8824058
 Telephone (local line): 246-5391

Calgary Address:
 3700, 400 Third Ave. S. W.
 Calgary, Alberta T2P 4H2
 Telephone: (403)267-8222

FAX: (403)264-5973

All three firms have clients active in the oil and gas sector.

In 1990, Macleod Dixon was the first Canadian firm to become accredited in the former Soviet Union, and was recently awarded a

contract to provide advice to the Russian government on international trade law.

Clients of all three firms have projects which include varying degrees of environmental science or engineering.

D. The Environmental Business Association (ENBAS)

ENBAS was set up in 1989 by a group of Russian industrial enterprises and scientific research institutes, the former - USSR State Committee for Environmental Protection (the predecessor of the Ministry of Environmental Protection and Natural Resources), and the USSR Chamber of Industry and Commerce. Business objectives of ENBAS include the establishment of joint ventures with foreign environmental technology and service firms, completion of projects, and the design and implementation of environmental training programs. Russian member enterprises of ENBAS produce water purification equipment, emission control systems and waste processing technology (see Appendix D to this report).

A proposal to train Russian environmental personnel in Canada has been submitted to ISTC by ENBAS, and is now being considered by Work Group 4 set up under the Canada-Russia Memorandum of Understanding.

In February, ENBAS entered into a joint venture with the Jacques Whitford Group of Nova Scotia in order to identify projects with environmental science components in the oil and gas sector on Jacques Whitford's behalf. ENBAS was recommended both by the President of the Jacques Whitford Group, and by the Moscow representative of the

Canadian law firm Gowling, Strathy and Henderson, as a professional, well-connected business association, which represents many Russian enterprises which have environmental project requirements but which do not have sufficient contact with Western companies.

ENBAS has also completed a study of Russian enterprises in the mining and metallurgical sectors which produce metal-bearing waste, and is seeking a foreign partner to assist either in exporting and selling this waste, or in processing it through use of foreign technology. ENBAS has provided PHL with a copy of a summary of the study, from which some of the technical data identifying the enterprises and the waste produced has been removed. A copy of the study summary has been provided separately to the Deputy Director of EEE/DEA.

Based on this study, ENBAS appears to have the capability to carry out a similar study of Russian needs of wastewater treatment, which would serve as a useful guide to Canadian companies in entering this sector of the Russian market.

Recommendation:

PHL recommends that the Canadian government, through either RGZ, ISTC or Investment Canada, consider commissioning ENBAS to carry out a study of the Russian market potential for Canadian companies active in the industrial and municipal wastewater treatment sector.

ENBAS's president is:

Igor Norko
President
Environmental Business Association
123231 Moscow
Sadovaya Kudrinskaya, 11-13
Telephone: 252-7563/7564
FAX: 252-0446

For references concerning ENBAS, contact:

Hector Jacques
President and CEO
The Jacques Whitford Group
Jacques Whitford Building
3 Spectacle Lake Drive
Dartmouth, NS B3B 1W8
Telephone: 902-468-7777
FAX: 902-468-9009

and

Jack Robinson
Legal Council-Resident in Moscow
Gowling, Strathy and Henderson
8 Chapaevsky Pereulok
1250507 Moscow, Russia
Telephone: 157-7619
FAX: 157-5161

Toronto Address
2 First Canadian Place
Toronto, Ontario
M5X 1A4
Telephone: 777-6381
FAX: 861-0148

E. ECOPROM

ECOPROM is a Russian consortium of manufacturing, engineering and industrial design enterprises whose members manufacture industrial and domestic waste treatment technology. It also conducts various scientific research and educational activities (See Appendix D to this report).

ECOPROM was cited by the Coordinator of the Socio-Ecological Union as a well-established enterprise whose member companies have completed several solid waste and wastewater treatment projects. ECOPROM and the Danish environmental technology company Kruger Engineering are now completing a feasibility study concerning the rehabilitation of a water treatment plant in a suburb of St. Petersburg.

ECOPROM's General Director **Andrei Chernukhin** met with the Canadian Ambassador and other Canadian officials in January, but no further contact has occurred to date.

Mr. Chernukhin told PHL he would prepare and forward to PHL, a short list of industrial and municipal wastewater treatment projects including details as to which type of technology required, and financing arrangements and forward them to PHL.

Recommendation:

PHL recommends that the Moscow Embassy renew contact with **Mr. Chernukhin** and request that he provide Embassy officials with the list

of projects mentioned above. If the list is provided, it should be vetted by appropriate officials at ISTC and Environment Canada. Depending on the quality and type of projects on the lists, appropriate Canadian companies should then be informed. Mr. Chernukhin's address is:

Andrei V. Chernukhin
General Director
ECOPROM Consortium
Kuznetskiy Most 6/3
Moscow 103775, Russia
Telephone: 927-8246
FAX: 927-8352/2543

F. Russian Industrial Investment Fund (RIIF)

The Russian Industrial Investment Fund was established by Presidential decree on June 6, 1992 as an enterprise designed to promote both domestic and foreign investments in Russian industry. Institutions which helped found the RIIF include the Russian Ministry of Industry, The Supreme Soviet's Supreme Economic Council, several Russian commercial banks, and several Russian industrial enterprises (see Appendix D to this report). The RIIF was recommended to PHL by the Deputy Director of International Scientific and Technical Cooperation for the Russian Ministry of Foreign Affairs.

PHL met with the RIIF President, **Serguey Tolmachev**, and his Director of Technical Projects, **Nicolas Krivoshein**. Both officials were interested in the possibility of cooperation between the Canadian Federal Government and the RIIF in developing a pilot demonstration facility for Canadian environmental technologies in Russia. Both clearly recognized that the choice of such a facility must be based on the ability to pay, and that there is little likelihood the Russian federal government would supply funding for such a facility. They noted that such a

facility would have to obtain approvals from the appropriate regional and local government authorities, and pointed out that the RIIF could assist in this process.

Mr. Tolmachev concluded the discussion with a request to receive information about the capabilities and areas of expertise of Canadian environmental technology and service companies. Following receipt of this information, he said that RIIF officials could then select two or three Russian enterprises whose technical needs matched the abilities of some Canadian companies. A feasibility study could then be commissioned (possibly through Canadian government funding), with appropriate Canadian companies submitting competitive bids to complete the feasibility study.

On March 31, PHL received a FAX from **Mr. Krivoshein** in which he states that the RIIF has started to collect data from Russian industrial enterprises concerning "ecological" projects which may be of interest to Canadian companies.

Use the feasibility study, the RIIF would then approach the Russian government for support for a larger project, possibly financed through barter trade. It should be noted that the RIIF has been granted a tax exemption on profits generated through the completion of projects by the Fund, and that this exemptions can be extended to foreign partners.

PHL has earlier recommended that the Deputy Director of EEE/DEA request that Investment Canada and ISTC forward summaries of the capabilities of the Canadian environmental technology and service companies to officials at the MEPNR who are expected to play a role in the implementation of the World Bank Sector Project.

Recommendation:

PHL recommends that the same summaries be forwarded to the President of the Russian Industrial Investment Fund, and that the President be asked to submit detailed proposals which summarize the environmental requirements of 2-3 Russian industrial enterprises, which match the capabilities of the Canadian companies.

If this information is received, appropriate Canadian government officials should arrange meetings between representatives of the RIIF and appropriate Canadian companies. Mr. Tolmachev's address is:

Serguey N. Tolmachev
President
Russian Industrial Investment Fund
3, Tverskaya-Yamskaya Str.,
103819, GSP Moscow, A-47, Russia
Telephone: 209-8200/2515750
FAX: 200-5284

NOTE: The material on the RIIF contained in Appendix D contains bank references for RIIF bank accounts in Moscow, Frankfurt, and New York. If the government proceeds with this recommendation, these bank references can be verified, and officials at the Moscow Embassy can meet with Mr. Tolmachev and his colleagues to obtain further information about the Fund.

G. **Russian Academies and Institutes**

The role of the many Russian scientific academies and institutes in environmental project design and implementation is likely to be confusing to Westerners. Under the former USSR, these academies planned and designed many types of industrial projects and then

forwarded the plans to central authorities in Moscow, who implemented the projects. Since the breakup of the USSR, the experts in these academies have lost much of their authority, but often continue to act as if they have responsibility for the planning and design of projects, including those with environmental impacts. The value of representatives of scientific academies lies more often in their scientific expertise and knowledge of industrial enterprises requiring various types of environmental technology and services, than in their authority over project implementation. Caution should be exercised when evaluating the claims of academy representatives concerning such authority.

4. Note on the Role of the Canadian Embassy, Moscow

Most companies, trade missions and government delegations working in Moscow use the Canadian Embassy as a source of advice and intelligence concerning business and political conditions in Russia. Concerning the environmental dossier, the First Secretary (Commercial) who specializes in the trade and economic aspects of environmental issues, and the First Secretary who specializes in environmental policy, will both be leaving the Embassy by June, 1993. During the same period, new Canadian and Russian personnel will be hired in part to identify opportunities for various Canadian business and government agencies to provide technical assistance to the Russian government and Russian enterprises.

These changes can provide an opportunity for the federal government to strengthen the Embassy's capacity to identify business opportunities for Canadian environmental technology and service companies in Russia, while at

the same time meeting the objectives of the Canada-Russia Memorandum of Understanding.

Recommendation:

PHL recommends that one of the technical assistance personnel to be hired by the Embassy, be given the responsibility for identifying business opportunities for Canadian environmental technology and service companies on a full time basis. The individual occupying such a position should carry out the following tasks:

- provide assistance to the Minister-Councillor in maintaining contact with officials referred to earlier in this report;
- identify Russian industrial enterprises which require pollution control and pollution prevention technology, collect relevant technical information from these enterprises; and forward the information to appropriate officials at ISTC and Investment Canada.
- forward the above information to officials at ISTC, EEE/DEA and Investment Canada and officials at provincial ministries where appropriate, for dissemination to Canadian companies;
- monitor the implementation of the World Bank Environment Sector Project.

V. *Items of Note Concerning the Russian Oil and Gas Sector*

1. World Bank Environmental Assessment of the Oil and Gas Sector

As part of its decision to invest approximately \$750 million US in oil and gas development in Western Siberia, the World Bank commissioned an environmental assessment of the impact of such an investment in 1992.

The Socio-Ecological Union was chosen to conduct an environmental evaluation of the project for the World Bank. PHL interviewed the SEU's assessment project director, who described how in this case the SEU, although an NGO, worked under contract with the Bank to assemble internal baseline data about potential environmental impacts of the Bank's proposed investment. The SEU's project director noted that he and his colleagues had little time (approximately 6 months) to prepare a final version of the document, and that it was not of high quality. One of the document's central recommendations is that the World Bank has allowed too little money in its development program for ecological purposes (only \$3.5 million US). The SEU assessment recommends that approximately \$26 million US be spent on environmental protection during the project.

In a meeting with PHL in late February, E.V. Minaev, Chief of the Russian Ministry of Fuel and Power's environmental protection division, noted that the credit line for the World Bank investment had not yet been opened owing to the past quality of the SEU's assessment, and the assessment had not yet been approved either by his ministry nor by the Ministry of the Environment. Mr.

Minaev pointed out that a group of eight officials, half from each ministry, are to provide a final opinion of the SEU assessment by mid-March, which will then be sent to the World Bank, which in turn will then assist the two ministries in preparing tendering documents for the work under the loan. The loan will go directly to the Pur, Kogolin, and Varjojan Oil Production and Distribution Associations in Western Siberia.

2. Formation of Western Oil and Gas Industry Lobby in Russia

Representatives of major oil companies met in Moscow in late February to inaugurate the Petroleum Advisory Forum, a group which will represent the views of western oil and gas companies to the Russian government. The Forum has established an environmental and safety committee, the current focus of which is to arrange a workshop on environmental, health and safety issues, in order to allow industry and government representatives to discuss the development of a predictable environmental and health and safety regulatory environment. The dates of the workshop are May 18-20 in an as-yet undecided location.

Should the Embassy wish to obtain more information about the Forum, John Gillan, Petro-Canada's General Manager for Russia, can be contacted at his Moscow office (252-4464).

3. Notes on the Presence of Canadian Oil and Gas Companies

In addition to HBT Agra Industries Limited, which has completed a \$700,000 environmental study on the impact of oil field development in the Komi Peninsula, and has worked on reactivation of several other oil fields, the Nova Scotia-based consulting engineering firm of Jacques Whitford has recently set up a joint venture with a Russian partner, in order to provide environmental science and consulting services to the Russian oil and gas industry. Jacques Whitford is also involved in the training of Russian oil executives, and will be bringing a group of 30-50 such Russian executives to Calgary this summer as part of a training program on oil and gas industry practices.

4. Ownership and taxation of oil and gas projects

Restrictions on ownership of oil projects, together with a barrage of tax changes which affect such projects, are the major impediment to operation of profitable oil and gas projects by western firms in Russia. Officials at the MEPNR and the Ministry of Foreign Economic Relations noted that the government will soon limit the number of export licenses granted to western oil companies, and it will therefore become more difficult for such companies to participate in local projects. The story of one American oil company, Phibro Energy Production, as described in the New York Times Magazine of March 7, 1993, demonstrates the risks to western investments:

- "... Phibro's \$116 million investment was caught up and very nearly written off, in the chaos that has engulfed Russia since the collapse of the Soviet Union. Tax codes, to cite one prominent example, change monthly. Last May, at the depth of (the company's) despair, the tax bill included local taxes of 10-20% of revenues, mandatory conversion of half its dollars to rubles at the market rate, a tax on profits from which wages cannot be deducted, a 28% value-added tax that was supposed to be waived for exports but was often imposed anyway by confused local officials, a 60% individual income tax and an export tax of \$5.85 a barrel - more than a 1/4 of the world price.

Since then Russia has trimmed the personal income tax to 40% and the export tax to \$5.50 a barrel. But it has added a mineral use tax, a mineral rehabilitation tax, an excise tax, tariffs on imported goods, port fees and - assuming anybody has made any money - a profit repatriation tax."

VI *Report on Projects Identified in the Interim Report*

1. SIGNAL SCIENTIFIC AND INDUSTRIAL ENTERPRISE - ST. PETERSBURG, RUSSIA

During the first phase of PHL work under the Contribution Agreement, PHL identified **Signal Scientific and Industrial Enterprise** of St. Petersburg as a Russian enterprise whose Managing Director had implemented progressive industrial wastewater treatment practices at the company's electroplating facility. PHL felt the enterprise's program could form the basis for a model wastewater treatment centre in partnership with an appropriate Canadian company. In our Interim Report, PHL recommended that Signal's project specifications be evaluated by the Wastewater Technology Centre in Burlington, Ontario and if the evaluation proved positive, that contact be arranged between Signal and appropriate Canadian environmental technology companies. The remainder of this section summarizes the Signal project and the visit by Signal representatives to Canada in February.

Follow-up to other projects suggested by representatives of the Socio-Ecological Union, by the Director of EcoBaltica, and by the Deputy Director of the St. Petersburg Regional Administration, is also provided.

a. Signal's Operations

Signal Scientific and Industrial Enterprise (Signal) is an industrial group of four manufacturing facilities which previously belonged to the USSR's

military-industrial complex. Prior to becoming an independent industrial enterprise, Signal's manufacturing facilities produced 37 different types of electroplating, printed circuit components, and other electronic equipment for the Soviet military.

Signal was originally recommended to PHL by an environmental business specialist in St. Petersburg, as the only major industrial enterprise in the region which had initiated process changes to reduce or eliminate discharges of contaminated industrial wastewater. Signal and its managing director, Mr. Valentin Zanin, were also highly recommended by the Director of the St. Petersburg Limnological Institute, and by the environmental department manager of the St. Petersburg Mayor's Office. Mr. Zanin accompanied President Yeltsin on his visit to Canada in 1992.

PHL subsequently met with Signal's Deputy Chief Technologist and with Mr. Zanin, to tour Signal's electroplating manufacturing facility and to review the enterprise's needs.

Signal has developed electroplating technology which, according to its representatives, has eliminated the use of cyanide and cadmium, and has reduced the use of chromium, nickel, water and energy.

A detailed English language summary of Signal's operations and requirements, as well as specification sheets on several of its manufacturing facilities, were provided to DEA as Appendix A to the Interim Report.

b. Signal's Needs:

Concerning technology now required, Signal identified the need for demineralization technology to be installed in its wastewater treatment system.

Concerning Signal's longer-term corporate objectives, Mr. Zanin would like to enter into agreements with foreign wastewater technology firms to design and produce industrial wastewater treatment technology in the electroplating sector. He also indicated that Signal would be able to participate in the financing of such an enterprise.

Under such an arrangement, Signal would be responsible for setting up a technology development centre on its property. It would operate the centre, provide equipment, and identify potential clients within the Russian Federation and the Confederation of Independent States.

c. Type of Foreign Participation Requested:

A foreign partner in Signal's enterprise would be asked to identify wastewater technology experts who could provide updated information on western wastewater treatment systems, which could then be incorporated into units manufactured by Signal for sale in the Russian Federation, the CIS, and in western markets.

The foreign partner would also be asked to help identify customers which could assist in developing and financing such systems, as well as market the technology.

In this regard, PHL has referred Hector Jacques, President and CEO of the Jacques Whitford Group, to Mr. Zanin.

d. **Signals' Discussions with Potential Foreign Partners:**

Signal had preliminary discussions in 1992 with one Finnish company concerning a joint venture to manufacture technology to reduce electroplating wastes, and is aware of the Finnish government's plans to assist in reducing industrial waste-water discharges from the nearly 600 electroplating facilities in the St. Petersburg area.

During our discussions, Mr. Zanin indicated scepticism about the potential role of Finnish companies in this area. His view is that Finnish companies have been selling the Russians outdated technology which is no longer acceptable in Finland. He noted that the traditional practice in this area has involved the Russian government paying for outdated Finnish technology, which does not encourage Russian enterprises to update their technology to current western standards.

Signal has also been visited by representatives of an American waste-water technology firm, although no agreements have been reached.

e. **The Role of Signal Enterprise in Pollution Enforcement Lawsuits**

In October, 1992, the Russian Centre for Environmental Law (RCEL) in St. Petersburg filed the first of two public interest pollution enforcement lawsuits against the St. Petersburg city government and the St. Petersburg Regional Water and Sewage Treatment Authority (Vodocanal). These lawsuits are the first of their kind in the former Soviet Union, and allege that Vodocanal and the city government have violated Russian federal environmental protection

laws and the Helsinki Convention on the Protection of the Baltic Sea by allowing discharges of industrial waste from the St. Petersburg sewage system and operation of an illegal sludge dump located north of St. Petersburg.

The RCEL, the first non-governmental environmental law group in Russia was founded in 1990 during the environmental law exchange program between the U.S. Natural Resources Defense Council, and students and professors at the St. Petersburg State University Law School. RCEL now has two full-time and several volunteer staff.

As part of its case against Vodocanal and the city, RCEL has investigated electroplating facilities in St. Petersburg to determine which facility would be the most appropriate location for a demonstration wastewater treatment centre for the electroplating industry, and has concluded that Signal's factory would be one of the four best facilities at which such a demonstration centre could be located in St. Petersburg.

f. Visit by Representatives of Signal Enterprise to Canada

Following discussions between PHL and EEE/DEA in November, and a meeting between PHL and officials of ISTC and the Director of the Canadian Office for Training on the Environment, it was agreed that the Managing Director and the Chief Technologist of Signal would be invited to Canada. During the visit, Signal would meet with representatives of the Wastewater Technology Centre (whose senior scientist had reviewed the Signal project specifications), and representatives of other interested Canadian environmental companies.

The Canadian Office for Training on the Environment assumed responsibility for all arrangements of the visit. PHL provided a list of suggested companies

to COTE which was supplemented by names of companies from ISTC's Toronto office files. PHL also forwarded a detailed summary of the tasks to be completed by COTE and by PHL in preparation of the visit.

The visit took place on February 5 - 12. An itinerary of the visit was provided to PHL by Odette Corbu of ISTC's Toronto office. The list of companies supplied by PHL to COTE, and the visit itinerary, are included as Appendix E.

During PHL's meeting with the Signal representatives on February 11, Managing Director Zanin indicated that he had received sufficient information about technologies available through Canadian companies relevant to his operations, and that he would be able to recontact certain companies directly and also to arrange further contacts through Odette Corbu. In a subsequent letter to Lucien Bradet following a dinner meeting on February 11, Mr. Zanin indicated that he would forward descriptive material on Signal's technologies to Mr. Bradet through Ms Corbu, and complimented Mr. Bradet on the organization of the visit.

PHL had intended to provide a report from COTE/ISTC to EEE/DEA on the results of individual meetings held during the visit, but has been informed that no report of the visit will be prepared.

g. Referral of Signal Enterprise to the Jacques Whitford Group

PHL has also referred Mr. Zanin to Hector Jacques, President and CEO of the Jacques Whitford Group, a Canadian consulting engineering and environmental science firm. Mr. Jacques has informed PHL that he will contact Mr. Zanin during his next visit to Russia in June-July of this year.

2. Projects recommended by Representatives of the Socio-Ecological Union

Projects involving utilization of off-gas from oil field development, development of a membrane water filtration system, and training requirements in the energy efficiency, wastewater treatment and air and water pollution monitoring sectors, were brought to PHL's attention during the annual meeting of the Socio-Ecological Union in Ryazan, Russian on October 4-6, 1992. PHL recommended that these projects be further evaluated if further supporting technical information requested by PHL was received. To date, neither of the individuals who proposed technology development projects has forwarded such information.

Concerning training requirements, PHL arranged for Mr. Sviatislav Zabelin, Coordinator of the Socio-Ecological Union, to visit Ottawa during his trip to North America in November, 1992 in order to meet ISTC's Director of Environmental Affairs and pursue discussion of a possible cooperative training mission to be jointly organized by the SEU and ISTC.

During PHL's second visit to Moscow, the training requirements of Russian experts were again discussed with Mr. Zabelin and he was referred by PHL to the Minister-Councillor at the Canadian Embassy in order to follow up this discussion. A recommendation on the subject has been made elsewhere in this report.

3. EcoBaltica Priority Project List

EcoBaltica is a group of Russian organizations which has responsibility for the preparation of a list of specific environmental priority sites which require remediation or installation of cleanup technology in the Baltic region of Russia. Its founders are Prof. V.A. Rumyantsev, Director of the St. Petersburg Limnological Institute, the Russian MEPNR, the St. Petersburg regional government, the St. Petersburg mayor's office, and local industrial enterprises.

The list was to be finalized by December 1, 1992, and discussed and approved by the Supreme Soviet and the heads of Northwestern regional governments in the Russian Federation.

Once approved, the project list was to become the official Russian environmental program for the region, and was expected to be disseminated to international banks for consideration and discussion as Russia's official presentation to the Gdansk, Poland funders' conference in March, 1993.

PHL has followed up by letter and FAX with Professor Rumyantsev to obtain the list. In a letter dated February 4 to PHL, he indicated that the list of priority projects was scheduled to be approved by the MEPNR and the northwestern regional government in mid-February, and that he would forward the list as soon as possible thereafter. The list had not arrived as of this writing and a further FAX was sent during the week of March 29, in which PHL requested that the list be sent to the Deputy Director of EEE/DEA as well as to PHL.

4. List of Priority Water Treatment Projects, St. Petersburg Regional Administration

During PHL's visit to St. Petersburg, the Deputy Director, Y.V. Fokin of the Natural Resources Complex of the St. Petersburg Regional Administration agreed to prepare a summary of specific information concerning the environmental requirements of water treatment facilities in the St. Petersburg region by mid November, 1992. Mr. Y.V. Fokin promised to forward a copy of this list to PHL, and did so in December. A translation of the list is provided as Appendix F to this report. Pursuant to the recommendation contained in PHL's Interim Report, PHL had the list reviewed by Mr. Doug Vallery of the Ontario Ministry of the Environment's Research and Technology Branch, who stated that without details on the technical specification of each project, a meaningful review of the list could not be carried out.

PHL also recommended to EEE/DEA's Project Officer that the list be circulated to the Manager of Environmental Technologies at Investment Canada to determine if he thinks any of the projects could appropriately involve Canadian participation. If so, the list will be forwarded to the Moscow Embassy with a request to contact Mr. Fokin directly for more details concerning the status of, and technical requirements for, individual projects.

VII. *Survey of Selected Canadian Environmental
Technology and Service Companies
Concerning Participation in the Russian Market*

1. Introduction

As of March, 1993, there are two groups of Canadian companies actively pursuing projects in Russia with environmental components:

- Oil and gas production and service companies;
- a few large Canadian consulting engineering and environmental science firms such as HBT Agra Industries, S.N.C. Lavalin, The Jacques Whitford Group, Golder Associates and Hatch and Associates. The size of these companies, the prospect of payment in hard currency for oil and gas sector projects, and the fact that several of their projects are feasibility studies and do not involve large investments in equipment and personnel, help explain the involvement of these companies with Russian companies, despite currently unstable economic and political conditions there.

The difficulty of doing business in Russia under current conditions had been repeatedly pointed out to PHL in meetings with Finnish and Canadian company representatives during PHL's first visit to Russia and Finland in September-October, 1992. Since one objective of PHL's original proposal was to inform Canadian environmental technology

and service companies about project opportunities in Russia, PHL felt that, in light of the current instability in Russia, it would be prudent to first survey a cross-section of such companies to determine whether or not they were giving active consideration to entering the Russian market, and to canvas the issues that were affecting their decisions. PHL felt that the results of such a survey could assist EEE/DEA and other federal government departments in directly addressing concerns companies might have about entering the Russian market at this time.

2. The Survey

A cross-section of companies was selected using Investment Canada's profiles of:

- companies in the industrial wastewater management sector;
- companies which are engaged in efforts to locate business partners in eastern and western Europe;
- PHL's own in-house company files.

Each company was sent a letter inquiring if the company had considered expansion into the Russian market. A follow-up interview to discuss the subject was requested.

A list of the companies contacted is included as Appendix G to this report.

3. Survey Results

Of the 29 companies selected, 20 responded to the request for an interview. Of this group, 2 indicated that they were not interested in the Russian market at this time.

During discussion with senior representatives of the remaining 18 companies, the following issues were most frequently mentioned:

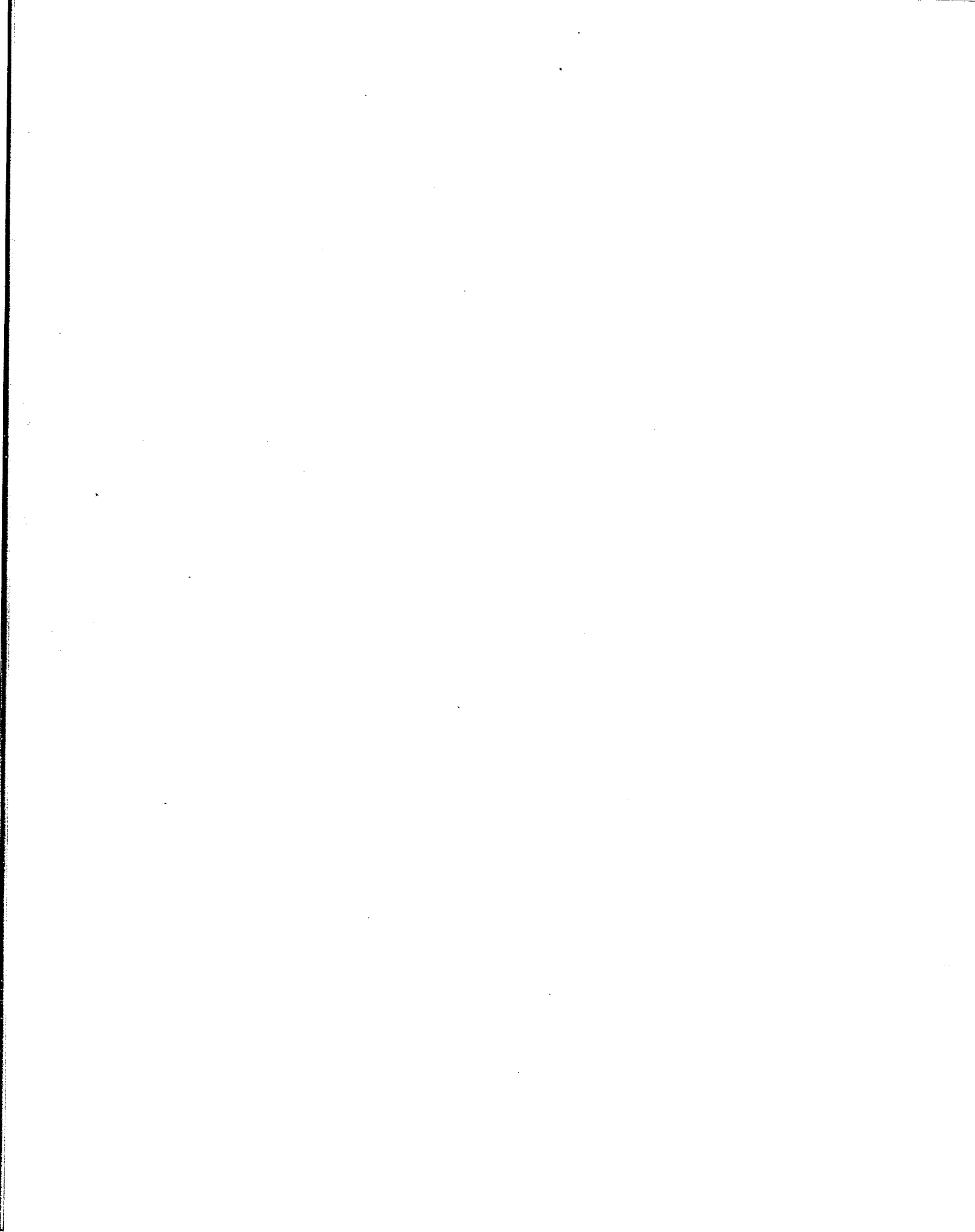
- Lack of project financing and payment guarantees were the major concern and were mentioned by 8 of 18 companies.
- The second major issue, mentioned by 4 companies, was the need to find a credible and reliable local partner (and the difficulty in knowing how to do this).
- 4 companies mentioned the importance of government assistance in facilitating access to the Russian and East European markets, either through the company profiles published by Investment Canada, or through the work of the Ontario International Corporation. Mention of government assistance included one complaint about lack of business resulting from participation in the Investment Canada Profiles, and a criticism of trade missions as a waste of time and money.
- 5 companies indicated that they are presently active in either Poland, Hungary or the former Czechoslovakian Republic, and are prepared to spend staff time and resources there rather than risk investment in the currently unstable market conditions in Russia.

- In addition to the above, a number of other issues were mentioned by individual companies as having an effect on their attitude toward the Russian market. These issues include:
 - the risk to smaller companies of uncertain payment schedules, inexact project approvals processes, and theft of and damage to equipment during shipping;
 - lack of interest from Russian enterprises in consulting engineering services;
 - the ability to ship technologies to Russia via a third party as the only reason a company would participate in the market;
 - difficulty in determining the proper government official to talk to;
 - lack of interest in projects financed by the World Bank due to too much competition;
 - the need for full-time government representatives in Russia to assist in identifying projects and clarifying approvals processes;
 - the risk to Canadian technologies from lack of recognition of Canadian patents in Russia.
- All 18 companies interviewed wished to be kept informed about Russian market conditions and project opportunities, despite various uncertainties expressed about the Russian market.

Recommendation:

PHL recommends that EEE/DEA prepare a newsletter for distribution to the companies which participated in the PHL survey, and to other environmental technology and service companies as identified by Investment Canada and ISTC. The contents of the newsletter should include information on :

- **barter trade as an alternative means of project financing, and other project financing information as it becomes available from Canadian participants in the World Bank Environment Sector Project;**
- **information on project opportunities on the wastewater treatment sector obtained from time to time from the Moscow Embassy, or through the ENBAS market study of the sector recommended by PHL;**
- **other information on the market for environmental technologies and services which may from time to time be made available from the Moscow Embassy.**



P E R L E Y  H U R L E Y

*FINAL REPORT
TO THE DEPARTMENT OF EXTERNAL AFFAIRS
PURSUANT TO
THE CONTRIBUTION AGREEMENT
DATED JULY 21, 1992*

*BETWEEN
THE DEPARTMENT AND PERLEY & HURLEY LTD.*

APPENDICES

Prepared by Perley & Hurley Ltd.

April 7, 1993

Appendices

- A. List of Key Contacts in the Russian Federal Government and at the Socio-Ecological Union
- B. The Russian Law on Environmental Protection, December, 1991
- C. List of Russian NGOs
- D. Background Materials on ENBAS, ECOPROM, and the RIIF
- E. List of Companies and Itinerary re: Signal Visit
- F. List of Water Treatment Projects,
St. Petersburg Regional Administration
- G. Canadian Environmental Technology and Service Companies
Contacted during the PHL Survey
- H. List of Individuals, Companies and NGOs with whom PHL held Meetings in
Helsinki, Tyazan, Moscow and St. Petersburg

Appendix A

List of Key Contacts

Appendix A
List of Key Contacts

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Appendix B

The Russian Law on Environmental Protection

invited Russian partners to the first joint forum on power engineering and environment, scheduled to take place in Oslo at a political level some time in 1992. The ministers focused on the forthcoming meeting at a political level between oil-producing and oil-consuming countries in Bergen in July.

On fishing, the sides stressed that they intend to promote further development of fishing cooperation on the basis of mutual commercial and scientific contacts between enterprises, organizations, and firms, including setting up scientific collectives and other cooperation bodies. The Russian side proposed setting up a single, independent, scientific-research center for monitoring and forecasting Barents Sea resources.

On the environment, the ministers agreed to hold a sitting of a mixed commission on cooperation before the end of April. Russian-North European cooperation on modernizing the metallurgical combine "Nechengani-kel," in the Kola Peninsula; on nuclear security, inter alia at the Kola nuclear power station; on storing and eliminating nuclear waste, including waste from nuclear reactors; and on the issue of radioactive waste burials in the Barents Sea will be considered.

The protocol speaks about developing border ties and cooperation in the north. Specifically, the sides agreed to promote contacts between regional authorities in northern Norway and northwestern Russia, to expand ties between indigenous peoples of the North in the two countries, and to facilitate border contacts by introducing a simplified entry and exit procedure.

The ministers agreed on the question of opening Russia's general consulate in Troms and Norway's general consulates in St. Petersburg and Murmansk soon and on considering the issue of founding honorary consulates, namely a Russian honorary consulate in Kirkenes and a Norwegian honorary consulate in Nikel.

RSFSR Law on Environmental Protection

92WN0327A Moscow ROSSIYSKAYA GAZETA
in Russian 3 Mar 92 pp 3-6

[RSFSR Law No. 2060-1, adopted 19 December 1991:
"On Protection of the Environment"]

[Text] Nature and its riches are a national treasure of the peoples of Russia and the natural basis for their continuing social and economic development and human prosperity.

The present law in combination with measures of an organizational, legal, economic and educational nature is intended to aid in the formation and strengthening of a system of environmental legislation and to ensure environmental safety within the territory of the Russian Federation and its constituent republics.

Section I: General Principles

Article 1: Purposes of Russian Federation Environmental Protection Legislation

The purposes of Russian Federation environmental protection legislation are to regulate relations in the area of interaction between society and nature with the objective of preserving natural riches and the natural human environment, preventing environmentally harmful effects from commercial and other activities, restoring and improving the quality of the environment and strengthening law and order for the sake of the present and future generations of human beings.

Article 2: The Russian Federation System of Environmental Protection Legislation

Environmental protection relations in the Russian Federation are regulated by the present law and legislative acts developed in accordance with it by the Russian Federation and its constituent republics.

Article 3: Basic Principles of Environmental Protection

When carrying out commercial, administrative and other activities which have a negative effect on the state of the environment soviets of people's deputies, other state organs, enterprises, institutions, organizations, private citizens of the Russian Federation and foreign corporate bodies, foreign citizens and stateless persons have an obligation to be guided by the following basic principles:

- the priority of protecting human life and health and ensuring favorable environmental conditions for the public's life, labor and recreation;
- a scientifically-based combination of society's ecological and economic interests which will provide real guarantees for the rights of human beings to a healthy and livable environment;
- rational use of natural resources, with consideration for the laws of nature, the environment's potential, and the need to renew natural resources and to prevent irreparable consequences for the environment and human health;
- compliance with the requirements of environmental protection legislation, and the inevitability of liability for violation of those requirements;
- openness about this work and close ties to public organizations and the general public in regard to environmental protection tasks;
- international cooperation on environmental protection matters.

Article 4: The Objects of Environmental Protection

1. The following are subject to protection from pollution, degradation, damage, depletion and destruction within the territory of the Russian Federation and its constituent republics:

- natural ecological systems and the ozone layer of the atmosphere;
- the land, underground resources, surface water and ground water, the atmosphere, forests and other vegetation, animal life, microorganisms, the genetic pool and natural landscapes.

2. State nature preserves, state reserves, national parks, natural monuments, rare or threatened plants and animals and their habitats are subject to special protection.

Article 5: Authority of the Russian Federation Supreme Soviet in the Area of Environmental Protection

The following fall under the exclusive authority of the Russian Federation Supreme Soviet with regard to regulation of environmental protection relations:

- definition of basic orientations for state policy in the area of environmental protection;
- approval of the state environmental program;
- definition of the legal basis for regulation of relations in the area of environmental protection;
- definition of the powers of soviets of people's deputies and procedures for the organization and operations of administrative organs in the area of environmental protection, use of natural resources and maintenance of environmental safety;
- establishment of a legal regime in environmental emergency zones and environmental disaster zones, the legal status of affected citizens, and maintenance of the regime within such zones within the territory of the Russian Federation and its constituent republics.

The Russian Federation Supreme Soviet may also consider other matters in the area of environmental protection, natural resource utilization and maintenance of environmental safety in accordance with the RSFSR Constitution and the present law.

Article 6: Authority of the Russian Federation Government in the Area of Environmental Protection

The Government of the Russian Federation may in the area of environmental protection:

- implement state environmental policy;
- draft and implement state environmental programs for the Russian Federation and its constituent republics, as well as interstate and regional environmental programs;

- coordinate the activities of ministries, agencies and other institutions and organizations within the territory of the Russian Federation in the area of environmental protection;

- establish procedures for the creation and use of a non-budgetary federal environmental fund;

- oversee preparation and distribution of an annual state report on the state of the environment;

- establish procedures for the development and approval of environmental standards for emissions and discharges of pollutants into the environment and limits on natural resource utilization and waste storage;

- establish procedures for setting fees and maximum fee amounts for use of natural resources, environmental pollution, waste storage and other types of harmful activity;

- make decisions in regard to the organization of specially protected natural areas and sites and their inclusion in the nature preserve system of the Russian Federation;

- set up a system for universal public continuing environmental training and education;

- make decisions regarding the termination of operations by enterprises, institutions and organizations regardless of their form of ownership or subordination in the event that they violate environmental protection legislation;

- provide the public with essential environmental information;

- conduct the Russian Federation's foreign relations in the area of environmental protection.

The Government of the Russian Federation may also exercise other powers in accordance with the present law.

Article 7: Authority of Duly Authorized State Organs of the Russian Federation in the Area of Environmental Protection

The following fall under the authority of duly authorized state organs of the Russian Federation in the area of environmental protection:

- comprehensive management in the area of environmental protection in the Russian Federation, conducting of a unified scientific and technical policy on matters of environmental protection and natural resource utilization, and coordination of activities by ministries, agencies, enterprises, institutions and organizations in that area;

- state monitoring of the use and preservation of land, underground resources, surface water and ground water, the atmosphere, forests and other vegetation,

- animal life, natural resources, the continental shelf and the Russian Federation's maritime economic zone, and monitoring of compliance with environmental safety standards;
- organization of environmental monitoring, and creation and maintenance of operations by a state service for environmental oversight;
- approval of standards and regulations, participation in the development of standards regulating natural resource utilization and protection of the environment from pollution and other harmful influences;
- conducting of state environmental assessments;
- receipt of environmental information free of charge from ministries, agencies, enterprises, institutions and organizations;
- provision of environmental information to the public;
- issuing of licenses for the burial (or storage) of industrial, municipal, household and other wastes, emissions and discharges of pollutants into the environment and use of natural resources in accordance with the laws of the Russian Federation;
- restriction or suspension of activities by enterprises and other facilities regardless of their form of ownership or subordination, if those operations are being conducted in violation of environmental protection legislation or licenses for the use of natural resources or in excess of limits on pollutant emissions and discharges;
- lawsuits demanding compensation for damages incurred as a result of violations of environmental protection legislation;
- development of state, interstate and regional environmental programs;
- preparation of reports and consideration of cases involving administrative legal violations in the area of environmental protection and natural resource utilization;
- recording and assessment of natural resources and maintenance of federal cadastral maps of natural resources;
- management of the Russian Federation's nature preserves, keeping of entries in the Russian Federation Red Book and sponsorship of efforts to establish nature preserves;
- participation in the organization of a system of universal continuing environmental training and education;
- coordination of efforts by other duly authorized state administrations in the area of environmental protection;

—realization of international cooperation in the area of environmental protection and the study, summarization and dissemination of international experience, and assurance that the Russian Federation's obligations under international agreements in the area of environmental protection will be performed.

Decisions by duly authorized Russian Federation organs in the area of environmental protection on matters under their jurisdiction are mandatory for all corporate bodies and citizens and may be appealed in court.

Article 8: Authority of the Russian Federation's Constituent Republics, Autonomous Oblast and Autonomous Okrugs With Regard to Environmental Protection

The following fall under the jurisdiction of the Russian Federation's constituent republics, autonomous oblast and autonomous okrugs in the area of environmental protection:

- definition of basic orientations for environmental protection, and approval of environmental programs;
- recording and assessment of the state of natural resources, record keeping on environmentally harmful sites and maintenance of cadastral maps of natural resources;
- planning of environmental protection and natural resource utilization, and financing and material-technical supply for environmental programs;
- coordination of environmental protection work by organs of state administration, enterprises, institutions and organizations, and assistance with voluntary cooperative funding for the implementation of environmental protection measures;
- issuing of licenses granting the right to use land, underground resources, water, forests and other vegetation or animal life, or to dispose of, process, bury (or store) industrial, municipal, household and other wastes;
- establishment of differentiated payment rates for use of natural resources and for pollutant emissions and discharges;
- guidance of the environmental service and conducting of state environmental assessments;
- state environmental monitoring and decision making in regard to restrictions on, suspension of or termination of operations by facilities adversely affecting the environment;
- establishment of nature preserves;
- environmental training, education and instruction;
- provision of essential environmental information to the public;

CENTRAL EURASIA

—consideration of other matters not under the jurisdiction of the Russian Federation.

Article 9: Authority of Krays and Oblasts in the Area of Environmental Protection

The following fall under the jurisdiction of krays and oblasts in the area of environmental protection:

- definition of basic directions for environmental protection and approval of regional environmental programs;
- recording and assessment of the volume of wastes produced during production and consumption of various products by enterprises, institutions and organizations located within their regions, regardless of their form of ownership or subordination;
- planning of environmental protection, and provision of financing and material-technical support for environmental protection measures;
- coordination of environmental protection activities by organs of state administration, enterprises, institutions and organizations, and assistance with volunteer cooperative efforts to carry out environmental protection measures;
- coordination of activities by the environmental services of enterprises, institutions and organizations regardless of their form of ownership or subordination; conducting of environmental assessments of projects;
- state environmental monitoring and decision making in regard to restriction, suspension or termination of operations by facilities which do not meet the stipulations of environmental protection legislation;
- bans on the construction of environmentally harmful facilities;
- issuing of permits granting the right to use the environment and its resources, to emit or discharge harmful substances, or to house, process, stockpile or bury wastes;
- organization of industrial and household waste collection and reuse;
- establishment of specially protected natural areas;
- organization of environmental training, education and instruction;
- provision of essential environmental information to the public.

Article 10: Authority of Local Self-Government Organs in the Area of Environmental Protection

The following fall under the jurisdiction of organs of local self-government in the area of environmental protection:

- definition of basic directions for environmental protection and development of environmental programs;

—recording and assessment of the state of the environment in the areas under their jurisdiction;

—recording and assessment of the volume of production wastes at facilities located within areas under their jurisdiction, regardless of form of ownership or subordination;

—planning, financing and material-technical supply for environmental protection measures;

—coordination of activities by the environmental services of enterprises, institutions and organizations regardless of their form of ownership or subordination;

—arrangement of environmental assessments of projects and state environmental monitoring of the state of the environment;

—issuing of licenses for certain types of natural resource use, for emission or discharge of harmful substances and for the burial of toxic wastes;

—decision making in regard to restriction, suspension or termination of environmentally harmful activities;

—resolution of disputes in the area of environmental protection;

—protection of natural landmarks and other specially protected natural areas;

—environmental training, education and instruction;

—provision of essential environmental information to the public; resolution of other environmental protection matters which fall under the jurisdiction of local soviets of people's deputies and the local administration in accordance with the RSFSR law "On Local Self-Government in the RSFSR."

Section II: The Right of Citizens to a Healthy and Livable Environment

Article 11: The Right of Citizens to Protection of Health From Adverse Environmental Effects

Every citizen has a right to the protection of his or her health from adverse environmental effects caused by commercial or other activities, accidents and manmade or natural disasters.

That right is ensured:

- by environmental protection planning and quality standards and measures to prevent environmentally harmful activities, to restore the environment and to prevent or eliminate the effects of accidents and manmade or natural disasters;

- social and state insurance of citizens, formation of state and public reserve funds and other assistance funds, and provision of medical services to the public;
- granting of real opportunities to each individual to live in a viable and healthy environment;
- compensation by court decision or an administrative basis for damages caused to citizens' health as a result of environmental pollution and other adverse effects on the environment, including the effects of accidents and manmade disasters;
- state monitoring of the state of the environment and compliance with environmental protection legislation, and prosecution of individuals guilty of violating public environmental safety standards.

Article 12: Citizens' Powers With Regard to Environmental Protection

Citizens are obligated:

- to participate in environmental protection, comply with the requirements of environmental protection legislation and environmental quality standards, protect and multiply natural riches through their personal efforts, constantly raise the level of their knowledge of nature and their environmental awareness, and aid in the environmental education of the next generation.

Citizens have a right:

- to establish public environmental protection associations, funds and other public groups connected with environmental protection, to join such associations and funds, and to contribute their earned income;
- to take part in meetings, rallies, picket lines, marches and demonstrations, petition drives or referendums on environmental protection, to express their opinion, and to write letters, complaints and statements on environmental protection matters and demand that they receive consideration;
- to demand that the appropriate organs provide prompt, full and reliable information about the state of the environment and measures to protect it;
- demand that decisions permitting the siting, planning, construction, rebuilding or operation of environmentally harmful facilities be rescinded either by administrative means or by court order, and to demand restriction, suspension or termination of the operations of enterprises and other facilities which have a negative effect on the environment and on human health;
- raise the issue of prosecution of guilty officials and private citizens and file suit seeking compensation for damages caused to citizens' health or property by environmental lawbreaking.

Article 13: The Power of Public Environmental Associations With Regard to Environmental Protection

Environmental associations and other public associations which perform environmental functions have a right:

- to develop, approve and promote their own environmental programs, protect the public's environmental rights and interests, develop the public's environmental awareness, and engage citizens in active environmental protection efforts on a voluntary basis;
- to use their own funds and volunteer labor to do work in connection with the protection and renewal of natural resources and improvement of the environment, to render all possible assistance to state organs in their struggle against those who violate environmental protection legislation, and to establish public environmental protection funds and spend those monies on implementation of environmental measures;
- to recommend their own representatives for participation in state environmental assessments in regard to the siting and planning of facilities, to carry out public environmental assessments, and to demand the repeal on an administrative basis or by court order of decisions to site, build or operate environmentally harmful facilities or to demand restriction, suspension, termination or reorientation of their activities;
- to demand that prompt, reliable and complete information be provided regarding environmental pollution and environmental protection measures;
- to organize meetings, rallies, picket lines, marches, demonstrations and petition drives and gather signatures, and to make proposals regarding discussion of projects and referendums;
- to demand that a state environmental assessment be ordered, and to outline an environmental platform via the mass media;
- to raise the question of prosecution of guilty officials and to file in court or with an arbitration tribunal lawsuits seeking compensation for damages to citizens' health and property stemming from violations of environmental legislation.

The environmental activities of public associations should be conducted in full accordance with their charters and the laws of the Russian Federation and its constituent republics.

Article 14: State Guarantees of the Environmental Rights of Citizens and Public Associations

The state guarantees environmental associations, other public associations which perform environmental functions and private citizens an opportunity to exercise the rights granted to them in the area of environmental

protection in accordance with the laws of the Russian Federation and its constituent republics.

Soviets of people's deputies, their executive and administrative organs, duly authorized state organs in the area of environmental protection and officials thereof are obligated to render all possible assistance to public associations and private citizens with the exercise of their environmental rights and duties, and to take necessary steps to carry out their suggestions and demands with regard to environmental protection activity.

Officials and private citizens who hinder the exercise of the environmental rights and duties stemming from the RSFSR Constitution and the present law by public associations and individual citizens may be prosecuted in accordance with the laws of the Russian Federation and its constituent republics.

Section III: The Economic Mechanism of Environmental Protection

Article 15: Purposes of the Economic Mechanism of Environmental Protection

The economic mechanism of environmental protection has as its purposes:

- the planning and financing of environmental protection measures;
- the establishment of limits on the use of natural resources, emission and discharge of pollutants into the environment and waste storage;
- establishment of standards for the payment and amount of payment for use of natural resources, emission and discharge of pollutants into the environment, waste storage and other types of adverse influences;
- granting of tax breaks, credits and other benefits to enterprises, institutions, organizations and private citizens who introduce into use low-waste and resource-conserving technologies and non-traditional energy sources and carry out other effective environmental protection measures;
- compensation according to established procedure for damages caused to the environment and human health.

Article 16: Recording and Socioeconomic Assessment of Natural Resources

1. State environmental protection organs of the Russian Federation in conjunction with state statistical and natural resource organs maintain quantitative and qualitative records of natural resources and secondary raw materials and provide a socioeconomic assessment thereof.
2. The tasks of state environmental protection organs include the keeping of state land, water and forest

cadastral maps and state cadastral maps of underground resources, animal life and specially protected areas and sites.

Article 17: Planning, Financing and Material-Technical Support for Environmental Programs and Environmental Protection Measures

1. Planning of environmental protection and natural resources utilization measures is to be carried out as part of programs and projections of socioeconomic development based on the state environmental program, with consideration given to the natural resource potential of individual regions.

2. Financing for environmental programs and environmental protection measures comes from:

- the Russian Federation's republic budget, the budgets of the Russian Federation's constituent republics, and the budgets of the autonomous oblast, autonomous okrugs, oblasts, krays and local soviets of people's deputies;
- funding from enterprises, institutions and organizations;
- federal, republic, kray, oblast and local environmental funds;
- environmental insurance funds;
- bank loans;
- voluntary contributions from the public, foreign corporate bodies, foreign citizens and other sources.

3. Financing of environmental programs and environmental protection measures is to be designated as a separate item in federal, republic and other budgets and backed up with adequate physical and technical resources.

Article 18: Contract and License for Comprehensive Natural Resource Utilization

1. A contract for comprehensive natural resource utilization is to be concluded between the natural resource user and the executive authority of a kray, oblast, autonomous oblast, autonomous okrug, rayon or city on the basis of an environmental assessment of the proposed commercial or other activity and a license (permit) permitting comprehensive natural resource utilization.

2. A contract for comprehensive natural resource utilization stipulates the terms and procedures for use of natural resources, the rights and obligations of the user, the amount of payment for use of natural resources, the contracting parties' responsibilities, the procedure for compensation for damages and the procedure for resolving disputes.

3. A license (permit) permitting comprehensive natural resource utilization is issued to the user by duly authorized state organs of the Russian Federation operating in the area of environmental protection, indicating the following:

- the types, volumes of and limits on commercial natural resource use;
- the environmental conditions under which use of the natural resources is permitted and the consequence of failure to abide by those conditions.

Article 19: Limits on Natural Resource Utilization

1. Limits on natural resource utilization are a system of regionally-based environmental restrictions and represent the volumes of maximum permissible use (or extraction) of natural resources, emissions and discharges of pollutants into the environment and storage of production wastes assigned to natural resource-utilizing enterprises.

2. Limits on natural resource utilization are established for natural resource-using enterprises by duly authorized organs of the Russian Federation operating in the area of environmental protection based on the necessity of gradually achieving standard volumes for use (or extraction) of natural resources, maximum permissible emission and discharge of pollutants into the atmosphere and standardized volumes of production waste storage, with consideration for the region's environmental situation.

3. The time limit for achieving standard volumes of natural resource utilization and annual limits are to be established in accordance with the approved indices contained in state and regional environmental programs.

Article 20: Payment for Use of Natural Resources

1. Payment for use of natural resources includes payment for natural resources, for environmental pollution and for other types of effects.

2. Payment for natural resources (land, underground resources, water, forests and other vegetation, animal life, recreational resources and other natural resources) is charged:

- for the right to use natural resources within the bounds of established limits;
- for above-limit and irrational use of natural resources;
- for renewal and preservation of natural resources.

3. Payment for environmental pollution and other types of effects are charged:

- for emission and discharge of pollutants, waste storage and other types of pollution within the bounds of established limits;
- for emission and discharge of pollutants, waste storage and other types of pollution beyond the bounds of established limits.

4.* Payment for standard and above-standard emission or discharge of harmful substances and waste storage is to be paid by enterprises, institutions and organizations strictly according to the following procedure: 90 percent to special non-budget state environmental funds, and 10 percent to the republic budget of the Russian Federation for the purpose of financing the operations of regional organs of the state environmental protection organ.

5. The procedure for listing and application of standard payments for natural resource use is to be determined by the Government of the Russian Federation.

6. Payment for the use of natural resources does not exempt the user from performance of environmental protection measures or from compensation for damages caused by violations of environmental protection legislation.

Article 21: Environmental Funds

1. For the purpose of performing urgent environmental protection tasks, restoring environmental losses, providing compensation for damages caused and other environmental protection tasks a unified system of non-budgetary state environmental funds may be established, combining the federal environmental fund with republic, kray, oblast and local funds.

2. These funds are formed using funds received from enterprises, institutions, organizations, private citizens and foreign corporate bodies and citizens, including:

- payments for the emission or discharge of pollutants into the environment, waste storage and other types of pollution;
- sums received on the basis of lawsuits seeking compensation for damages and fines for violations of environmental legislation;
- funds from the sale of confiscated hunting and fishing gear and the fish and game illegally obtained through use of it;
- money received in the form of dividends and interest on contributions, bank deposits and shareholder participation of the fund's own monies in the operations of enterprises and other corporate bodies;
- foreign currency receipts from foreign corporate bodies and citizens.

3. The monies of environmental funds are to be paid into special accounts with banking institutions and distributed in the following proportion:

- 60 percent to realization of environmental protection measures at the local (city and rayon) level;

- 30 percent to realization of environmental protection measures at the republic, kray or oblast level;
- 10 percent to realization of environmental protection measures at the federal level.

4. Environmental fund monies are to be spent for restoration of the environment and population, the conducting of environmental protection measures and programs, renewal of natural resources, scientific research, introduction of environmentally clean technologies, construction of air and water purification facilities, payment of compensation to citizens for damages caused to their health by pollution and other adverse effects on the environment, development of environmental training and education, and other purposes connected with environmental protection.

5. It is forbidden for environmental fund monies to be spent on goals which are not connected with environmental protection.

Article 22: Public Environmental Protection Funds

Public environmental protection funds are created using funds from the general public, voluntary contributions from public organizations, and other sources. These funds are established by public environmental associations and trade unions in the Russian Federation, and their monies may be spent exclusively for environmental protection. The procedure for accumulation and expenditure of these funds is to be determined by the public associations which founded them.

Article 23: Environmental Insurance

1. Within the Russian Federation there exists voluntary and mandatory state environmental insurance for enterprises, institutions and organizations as well as individual citizens, their property and their income against the possibility of environmental or natural disasters or accidents and manmade disasters.

2. Environmental insurance funds are used to project, prevent and eliminate the effects of environmental and natural disasters, accidents and manmade disasters.

3. The procedures for environmental insurance and use of funds are to be established by the Government of the Russian Federation.

Article 24: Economic Incentives for Environmental Protection

1. In the Russian Federation incentives for rational use of natural resources and environmental protection are provided by means of:

- establishment of tax breaks and other benefits for state-owned and other enterprises, institutions and organizations, including those engaged in environmental protection, which introduce into use low-waste and no-waste technologies and means of production,

use secondary resources, and engage in other activities which serve to protect the environment;

- tax exemptions for environmental funds;

—transfer of a portion of funds from environmental funds to interest-bearing loans to enterprises, institutions, organizations and individual citizens to finance measures guaranteed to reduce pollutant emission or discharge;

—establishment of higher amortization rates for fixed production capital belonging to environmental protection funds;

—setting of special reduced prices and bonuses for use of environmentally sound products;

—introduction of a special system of taxation on environmentally harmful products, as well as products produced using environmentally hazardous technologies;

—granting of advantageous loans to enterprises, institutions and organizations which are implementing effective environmental protection measures, regardless of their form of ownership.

2. The legislation of the Russian Federation and its constituent republics may also establish other types of economic incentives for environmental protection.

Section IV: Environmental Quality Standards

Article 25: Basic Requirements of Environmental Quality Standards

1. Establishment of environmental quality standards is done for the purpose of setting maximum permissible limits on effects on the environment which will guarantee the public's environmental safety and preserve the genetic pool and will ensure rational use and renewal of natural resources coupled with continuing development of commercial activity.

2. Standards for maximum permissible levels of harmful effects as well as the methods for determining those levels are to be approved by duly authorized state organs of the Russian Federation in the area of environmental protection and sanitation and epidemiological oversight and improved with a view toward international standards as science and technology advance.

3. Upon violation of the requirements of environmental quality standards the emission or discharge of harmful substances or other types of environmental effects may be restricted, suspended or terminated by order of duly authorized Russian Federation state organs in the area of environmental protection or sanitary and epidemiological oversight.

Article 26: Standards for Maximum Permissible Concentrations of Harmful Substances

1. Standards for maximum permissible concentrations of harmful substances or harmful microorganisms and other biological substances which pollute the atmosphere, water or soils are to be established for the purpose of assessing the state of the environment for the purposes of protecting human health, preserving the genetic pool and protecting plant and animal life.
2. Stricter standards for maximum permissible harmful effects on the environment may be established for certain areas (nature and game preserves, vacation areas and recreation areas) in view of their unique natural and climatic conditions and their greater social value.

Article 27: Standards for Maximum Permissible Emission and Discharge of Harmful Substances

1. Standards governing maximum permissible emission and discharge of harmful substances, along with harmful microorganism and other biological substances which pollute the atmosphere, water or soils, are to be established with consideration for the production capacity of a given facility and information regarding the existence of a mutagenic effect or other adverse effects for each source of pollution based on current standards for maximum permissible concentrations of harmful substances in the environment.
2. Standards for maximum permissible emission and discharge are to be approved by duly authorized state organs of the Russian Federation in the area of environmental protection (for chemical substances) and sanitary and epidemiological oversight agencies (for microorganisms and biological substances).

Article 28: Standards for Maximum Permissible Levels of Noise, Vibration, Magnetic Fields and Other Adverse Physical Effects

1. Standards for maximum permissible levels of noise, vibration, magnetic fields and other adverse physical effects are to be set at a level which will ensure protection for people's health and work ability, will protect plant and animal life and will contribute to the viability of the environment.
2. The aforementioned standards are to be confirmed by duly authorized state organs of the Russian Federation in the area of environmental protection or sanitary and epidemiological oversight.

Article 29: Standards for Maximum Permissible Radiation Levels

1. Standards for maximum permissible levels of safe concentrations of radioactive substances in the environment and in food products and the maximum permissible level of irradiation of the public are to be established within limits which do not represent a threat to human health or the human genetic pool. These standards should be approved by duly authorized Russian

Federation state organs in the area of environmental protection or sanitary and epidemiological oversight.

2. The public should be supplied with radiometric devices to ensure ongoing monitoring of the radiation level. Procedure for the supply thereof and a list of the devices in question are to be approved by the Government of the Russian Federation.

Article 30: Maximum Permissible Standards for the Use of Agricultural Chemicals in Agriculture

1. The maximum permissible standards for use of chemical fertilizers, pesticides, growth stimulators and other agricultural chemicals in agriculture are to be established at doses which will ensure compliance with standards for maximum permissible residual quantities of those chemical substances in food products and will protect human health and the human genetic pool and plant and animal life.
2. The aforementioned standards are to be approved by duly authorized Russian Federation state organs in the area of environmental protection or sanitary and epidemiological oversight upon recommendations from the agro-chemical service of the Russian Federation and with consideration given to international standards.

Article 31: Standards for Maximum Permissible Residual Quantities of Chemical Substances in Food Products

1. Standards for maximum permissible residual quantities of harmful chemical substances in food products are to be established by means of determining the minimum permissible dose which is harmless to human health for each chemical substance used and for their combined effect.
2. The aforementioned standards are to be approved by Russian Federation state organs for sanitary and epidemiological oversight in consultation with the state agro-chemical service of the Russian Federation.

Article 32: Environmental Requirements for Products

1. Standards for new equipment, technologies, materials, substances and other products which could have a harmful effect on the environment should include environmental requirements which will prevent harm to the environment, human health and the human genetic pool.
2. Environmental requirements for products for production and consumption purposes should ensure compliance with standards for maximum permissible effects on the environment in the process of production, storage, transportation and use of those products.
3. The aforementioned requirements and methods of arriving at them are to be approved by duly authorized Russian Federation state organs in the area of environmental protection or sanitary and epidemiological oversight.

Article 33: Maximum Permissible Environmental Burden Standards

When regional production complexes are being created and industry, agriculture, construction and rebuilding of cities and other population centers are being developed maximum permissible limits for environmental burden should be developed, taking into consideration the environment's potential capacity, the need for rational utilization of regional and natural resources in order to ensure more livable conditions, and the impermissibility of destroying natural ecological systems or causing irreversible changes in the environment.

Article 34: Standards for Sanitary and Protective Zones

Standards for sanitary and protective zones and sanitary protection zones are to be established to safeguard bodies of water and other water supply sources, resort areas, therapeutic resort zones, population centers and other areas from pollution and other harmful effects.

Section V: State Environmental Assessments**Article 35: The Goals and Principles of State Environmental Assessments**

1. State environmental assessments are to be conducted for the purpose of determining the appropriateness of commercial or other activities in terms of society's environmental safety.
2. State environmental assessments are to be conducted according to the principles that assessments be mandatory and scientifically based, produce legitimate findings, be independent and not be narrowly departmental in their organization and implementation, and should involved broad publicity and public input.

Article 36: The Mandatory Nature of State Environmental Assessments

1. State environmental assessments are a mandatory environmental protection measure preceding the making of a commercial decision, implementation of which could have an adverse effect on the environment.
2. The financing and realization of work on all projects and programs should be carried out only after a state environmental assessment has produced a positive finding.
3. The procedure for conducting state environmental assessments of facilities of federal, republic or local importance is regulated by the legislation of the Russian Federation and its constituent republics.

Article 37: Subjects of State Environmental Assessments

Subject to state environmental assessments are all pre-planning, pre-project and project materials pertaining to sites and measures planned for realization within the territory of the Russian Federation, regardless of their

estimated cost or ownership, as are the environmental grounds for the issuing of licenses and certificates.

Article 38: Liability for Failure to Comply With the Requirements of State Environmental Assessments and the Responsibility of Experts

1. The directors of enterprises, institutions or organizations, other officials and personnel and private citizens are liable for failure to comply with the requirements contained in the findings of state environmental assessments in accordance with current legislation.
2. The chairman and members of commissions of experts conducting the assessments bear responsible for the accuracy and validity of their findings in accordance with the laws of the Russian Federation. The conclusions of a commission of experts may be appealed in court or before an arbitration tribunal.

Article 39: Execution of Environmental Assessments

1. Public environmental assessments conducted by scientific collectives or public associations at their own initiative may become legally binding following confirmation of their findings by appropriate state environmental assessment organs.
2. The chairman and members of public collectives of experts bear responsible for the accuracy and validity of their expert assessments in accordance with the legislation of the Russian Federation.

Section VI: Environmental Requirements in Connection With the Siting, Planning, Construction, Rebuilding or Startup of Enterprises, Installation and Other Facilities**Article 40: General Environmental Requirements for the Siting, Planning, Construction, Rebuilding or Startup of Enterprises, Installations and Other Facilities**

1. In the process of the siting, technical and economic project justification, planning, construction, rebuilding or startup of enterprises and other facilities in industry, agriculture, transportation, energy production, maritime industry or municipal services or during the laying of electrical lines, communication lines or pipelines or construction of canals and other facilities which could have either a direct or indirect effect on the state of the environment, requirements ensuring protection of the environment and public health should be observed and steps taken to protect the environment, make rational use of and renew natural resources, and restore the environment.
2. Violation of the aforementioned requirements will result in suspension of operation; until such time as the shortcomings have been eliminated or complete termination of efforts to site, plan, build, rebuild or start up environmentally harmful facilities; this may be done by order of duly authorized Russian Federation state organs in the area of environmental protection or sanitary and epidemiological oversight.

Article 41: Environmental Requirements Pertaining to the Siting of Enterprises, Installations and Other Facilities

1. When enterprises, installations and other facilities are sited compliance with environmental protection requirements, rational use and renewal of natural resources, recording of the immediate and long-range ecological, economic, demographic and moral effects of the aforementioned facilities should be assured, with priority given to protection for human health and the public's welfare.

2. Selection of sites for the construction of enterprises, installations and other facilities should be carried out in accordance with Article 28 of the RSFSR Land Code and Article 11 of the RSFSR law: "On the Sanitary and Epidemiological Welfare of the Public," and subsequent to receiving a positive finding from duly authorized Russian Federation state organs in the area of environmental protection or sanitary and epidemiological oversight and a decision by local organs of self-government. If necessary, decisions as to the siting of facilities which affect the public's environmental interests will be based on the outcome of a discussion or referendum.

3. The decision to site major economic facilities should be made by the Russian Federation Supreme Soviet or the supreme soviets of the Russian Federation's constituent republics based on the findings of a state environmental assessment.

Article 42: Environmental Requirements for the Technical and Economic Justification of Projects and Planning for Enterprises, Installations and Other Facilities

1. During the technical and economic justification of projects and the planning of enterprises, installations and other facilities consideration should be given to the current level of scientific and technical progress and to the maximum permissible environmental burden and provision made for reliable and effective measures to prevent or eliminate environmental pollution by harmful substances, the neutralization and utilization thereof, introduction of resource-conserving, low-waste and no-waste technologies and types of production, rational use and renewal of natural resources and restoration of the environment.

2. The technical and economic justification for projects and plans for the construction of enterprises, installations and other facilities should undergo state environmental assessment, and if necessary public environmental assessment as well.

3. Projects which do not meet environmental requirements will not be approved, and work to carry them out will not be financed by the banking institutions involved.

Article 43: Environmental Requirements for the Building or Rebuilding of Enterprises, Installations and Other Facilities

1. The building or rebuilding of enterprises, installations and other facilities must be carried out on the basis of approved plans which have received a positive state environmental assessment and which are in strict compliance with current environmental protection, public sanitation and construction standards and regulations.

2. It is forbidden to build or rebuild facilities prior to approval of a plan and allotment of a specific parcel of land for the project. It is not permitted to make changes in an approved project or the cost of planned work to the detriment of environmental safety requirements.

3. When construction work is done measures must be taken to protect the environment, ensure rational use of natural resources, recultivate the land and other resources, landscape the area and restore the environment.

4. Violation of the requirements set forth in the present article of this law will result in suspension of the construction work until such time as the shortcomings have been eliminated; this may be done by duly authorized Russian Federation state organs in the area of environmental protection or sanitary and epidemiological oversight, with simultaneous suspension of financing for that work by the banking institutions involved.

Article 44: Environmental Requirements Upon Startup of Enterprises, Installations and Other Facilities

1. Startup of enterprises, installations and other facilities is to be carried out on the condition that all environmental requirements set forth in the plan have been complied with in full and on the basis of documents issued by acceptance commissions created in conjunction with representatives of duly authorized Russian Federation state organs in the area of environmental protection or sanitary and epidemiological oversight.

2. It is forbidden to put into operation facilities which are not equipped with modern technologies, installations and equipment for the treatment, neutralization and utilization of harmful wastes, emissions and discharges to the level of maximum permissible standards, as well as means of monitoring environmental pollution, or without completion of planned environmental protection work, recultivation of land or restoration of the environment.

3. The chairmen and members of acceptance commissions bear personal responsibility for violation of procedures governing the approval of completed facilities in accordance with the legislation of the Russian Federation.

Section VII: Environmental Requirements Pertaining to the Operation of Enterprises, Installations and Other Facilities or Performance of Other Activities

Article 45: General Environmental Requirements for the Operation of Enterprises, Installations and Other Facilities

1. Enterprises, institutions, organizations and individual citizens are obligated to take effective measures to comply with the technological regime of and to meet the requirements for environmental protection, rational use of natural resources and restoration of the environment.
2. Enterprises, institutions, organizations and individual citizens must comply with established environmental quality standards through application of approved technologies, introduction of environmentally safe technologies and types of production, reliable and efficient operation of anti-pollution installations and equipment and means of pollution monitoring, neutralization and utilization of wastes, and to take measures to protect the land, underground resources, water, forests and other vegetation and animal life and renew natural resources.
3. Emission or discharge of harmful substances and burial of wastes are permitted on the basis of permits issued by duly authorized Russian Federation state organs in the area of environmental protection. These permits establish standards for maximum permissible emission or discharge of harmful substances and other conditions which will ensure protection for the environment and human health.
4. For the purpose of transition to standards for maximum permissible emission or discharge of harmful substances, temporarily agreed-upon standards (limits) on the emission or discharge of harmful substances may be established, with simultaneous approval of a plan for reducing the volume of emission or discharge to specified maximum levels.
5. Violations of established standards for the emission, discharge or burial of harmful substances and other environmental protection conditions and requirements specified in a permit for the emission, discharge or burial of harmful substances or standards governing threats to human health will result in restriction, suspension or termination of the operations of enterprises, institutions or organizations and branches, departments, shops or installations thereof by order of duly authorized Russian Federation state organs in the area of environmental protection or sanitary and epidemiological oversight, as well as Russian Federation trade unions, with simultaneous suspension of financing from banking institutions for the activities in question.
6. Reorientation of activities by environmentally harmful facilities must be carried in consultation with duly authorized Russian Federation state organs in the area of environmental pollution or sanitary and epidemiological oversight.

Article 46: Environmental Requirements Pertaining to Agriculture

1. Enterprises, associations organizations and individual citizens engaged in agriculture are obligated to carry out a number of measures to protect soils, bodies of water, forests and other vegetation and animal life from the harmful effects of natural forces, side effects from the use of complex agricultural equipment, chemical substances, land improvement work and other factors which degrade the state of the environment and harm human health.
2. Livestock farms and complexes and enterprises which process agricultural produce must have adequate sanitary protection zones and treatment facilities to prevent pollution of soils, surface water, ground water and the atmosphere. Violation of these requirements causing harm to the environment and human health will result in restriction, suspension or termination of environmentally harmful activities by agricultural and other facilities by order of duly authorized Russian Federation state organs in the area of environmental protection or sanitary and epidemiological oversight.

Article 47: Environmental Requirements for the Planning, Design or Execution of Land Reclamation Work

1. Enterprises, institutions, organizations and individual citizens are obligated when planning, designing or executing land reclamation work and using reclamation systems to maintain the water balance and ensure rational utilization of the land, economical water usage, protection for the land, forests and other vegetation from depletion, flooding or ground water rise and to prevent other adverse environmental effects.
2. Violation of these requirements will result in suspension of the planning, construction or use of those systems until the shortcomings are eliminated or termination of such work by order of duly authorized Russian Federation state organs in the area of environmental protection, with simultaneous termination of financing of the work by banking institutions.

Article 48: Environmental Requirements for Energy Production Facilities

1. The siting, planning, construction and operation of energy production enterprises, installations and other facilities must be carried out in accordance with the requirements contained in articles 40-45 of the present law.
2. During the siting, planning and construction of hydroelectric power plants full consideration must be given to the actual electric power needs of the region in question, the local topography of the site, measures to ensure maximum preservation of the land and forests, population centers, and natural, historical and cultural landmarks, and to ensure effective protection of fish, timely utilization of timber and fertile soil layers during clearing and flooding of the reservoir, and to prevent negative environmental changes.

3. During the siting, planning, construction, startup and operation of nuclear power plants measures must be taken to ensure the complete radiation safety of the environment and the population in accordance with international regulations. It is forbidden to site, plan or build nuclear power plants in areas with a large concentration of population, resorts, recreational areas or therapeutic resort areas, in sanitary protection zones, in active seismic zones, in the vicinity of large bodies of water of republic importance, or near traditional sites of large-scale public recreation and treatment.

4. During the planning and construction of thermal electric power stations it is essential that provision be made to equip them with highly efficient filters and other means of removing harmful wastes, emissions and discharges and to utilize environmentally safe types of fuel.

5. Violation of these requirements will result in suspension of the planning, construction or operation of energy production facilities until such time as the shortcomings discovered have been eliminated, or termination of their operations by order of duly authorized Russian Federation state organs in the area of environmental protection or sanitary and epidemiological oversight.

Article 49: Environmental Requirements for the Planning, Building or Rebuilding of Cities and Other Population Centers

1. The planning, building or rebuilding of cities and other population centers must meet the requirements contained in Article 11 of the RSFSR law "On the Sanitary and Epidemiological Welfare of the Public" and the present law and provide the population with the most favorable environmental conditions for life, work and recreation. Industrial and transportation enterprises and installations, principal lines of transportation and other commercial facilities must be located in such a way as to preclude the negative effect of harmful factors on the public's health and sanitary conditions.

2. During the planning and building of cities and other population centers provision should be made for the sanitary purification, neutralization, utilization, storage, environmentally safe removal, processing or burial of municipal and household wastes.

3. In order to protect the environment around major cities and industrial centers and environmentally harmful facilities forest parks, green belts and protective zones are to be established and withdrawn from intensive commercial use, with restricted natural resource use allowed.

Article 50: Environmental Requirements Governing the Use of Radioactive Materials

1. Enterprises, institutions, organizations and individual citizens are obligated to comply with regulations governing the production, storage, transport, use, utilization, removal and burial of radioactive substances (sources of ionizing radiation and nuclear materials) and

not permit levels of radiation higher than permissible standards, or in the event that those standard levels are exceeded to immediately inform organs which oversee radiation safety of excessive radiation levels presenting a threat to human health and the environment, and take measures to eliminate the pollution sources.

2. Enterprises, institutions, organizations and individual citizens that do not comply with regulations governing the handling of radioactive materials may by order of duly authorized Russian Federation state organs in the area of environmental protection or sanitary and epidemiological oversight be denied the right to use those materials, or have their operations involving the use of such materials suspended until such time as the shortcomings have been eliminated.

3. Importation of radioactive wastes and materials from other states for the purposes of storage or burial, the disposal of radioactive materials under water or the sending of such materials into outer space for disposal is forbidden.

Article 51: Environmental Requirements Governing the Commercial Use of Chemical Substances

1. Enterprises, institutions, organizations, officials thereof and individual citizens are obligated to abide by regulations governing the production, storage, transport and use of chemical substances which are used in agriculture as pesticides, growth stimulators and chemical fertilizers or in other sectors of the economy, and to comply with established standards for the use thereof and take steps to prevent adverse effects from their use on human health and the environment.

2. The State Committee for Sanitary and Epidemiological Oversight under the President of the Russian Federation shall in conjunction with Russian Federation Ministry of Agriculture organs periodically approve a list of chemical compounds approved for use in agriculture, as well as maximum permissible standards for residual content of chemical substances in food products.

3. Use of new chemical substances capable of having a direct or indirect effect on human health is permitted only with permission from the State Committee for Sanitary and Epidemiological Oversight under the President of the Russian Federation. It is forbidden to use toxic chemical compounds which do not break down or have an active effect on the human organism or the environment. Regulations governing protection of the environment intended to protect human health from the harmful effects of chemical substances used in the economy are to be approved by duly authorized Russian Federation state organs in the area of environmental protection or sanitary and epidemiological oversight.

4. Violation of the aforementioned regulations which present a threat to human health from chemical pollution of the environment will result in a ban on the production, storage, transport or use of the chemical

compounds in question, if so resolved by the Russian Federation State Committee for Sanitary and Epidemiological Oversight.

Article 52: Protection of the Environment From Harmful Biological Effects

1. During the siting, planning, construction, startup and use of enterprises, installations and other facilities and technologies which have a harmful effect on the environment standards for maximum permissible concentrations of microbes, fungi, viruses and other types of microorganisms and biological substances in the environment must be complied with; those standards are to be approved by duly authorized Russian Federation state organs in the field of sanitary and epidemiological oversight.

2. Enterprises, institutions, organizations or private citizens capable of having a biological effect on the environment are obligated to ensure environmentally safe production, storage, transport, use and disposal of microorganisms and biological substances, and develop and carry out measures to prevent accidents and disasters, and to prevent adverse biological effects on the environment, human health and the human genetic pool and eliminate the consequences thereof.

3. It is forbidden to use or cultivate biologicals which are not native to a region or biologicals obtained by artificial means unless effective measures have been developed to prevent the uncontrolled spread thereof.

4. Observation of and recording of sources of biological effects on the environment and monitoring of the level thereof are to be conducted by duly authorized Russian Federation state organs in the field of sanitary and epidemiological oversight.

5. Levels in excess of established standards for maximum permissible levels of biological effect on the environment and violation of procedures for the production, storage and use of biological types of microorganisms and substances will result in suspension or termination of the operations of the enterprises or other facilities which are the sources of the pollution in question by orders of duly authorized Russian Federation state organs in the field of sanitary and epidemiological oversight.

Article 53: Protection of the Environment From Noise, Vibration, Magnetic Fields and Other Adverse Physical Effects

1. Local soviets of people's deputies, enterprises, institutions, organizations and individual citizens are obligated to take the measures necessary to prevent adverse effects from and eliminate intensive production-related noise and vibration, the harmful effects of magnetic fields and other adverse physical influences on the environment in production areas, public buildings and residential buildings, on streets, in courtyards, in the

squares of cities and other population centers, in suburban recreational zones, at mass gathering sites and at wildlife breeding grounds.

2. It is forbidden to exceed standards for maximum permissible levels of influence on human health and the environment by production-related and transportation-related noise, vibration, magnetic fields and other harmful physical effects. Measures to guarantee compliance with the aforementioned standards must be developed in the course of the planning and construction of cities and other population centers, planning for the building or rebuilding of enterprises, shops or production lines, creation and introduction into use of new equipment, and the rebuilding, planning and use of ground, water and air transportation.

3. Violation of the aforementioned standards will result in suspension of or termination of the operation of enterprises, shops, units of machinery and other equipment or operation of means of transportation and other sources of harmful effects from noise, vibration, magnetic fields and other harmful physical influences until such time as the shortcomings in question have been eliminated.

Article 54: Protection of the Environment From Production-Related and Household Wastes

1. Local soviets of people's deputies, enterprises, institutions, organizations and individual citizens are obligated to take effective measures to neutralize, process, utilize, store or bury production-related and household wastes, and to comply with current environmental, public-health and anti-epidemic standards and regulations.

2. The storage and burial of wastes must take place at sites specified by a decision of local government organs by agreement with duly authorized Russian Federation state organs in the area of environmental protection or sanitary and epidemiological oversight.

3. It is forbidden to discharge wastes and septic waste water into publicly used bodies of water or underground aquifers.

4. Burial of potentially dangerous and particularly toxic wastes must be carried out with permission from duly authorized Russian Federation state organs in the area of environmental protection in consultation with Russian Federation organs for sanitary and epidemiological oversight.

5. It is forbidden to store toxic wastes, including wastes from the nuclear industry, in areas near cities and other population centers, in forest preserves, in resort areas, in therapeutic and recreational zones and other places where they might present a threat to human health and the condition of the environment.

6. Permission for burial or other disposal of radioactive wastes must be issued by duly authorized Russian Federation state organs in the area of environmental protection in consultation with Russian Federation state organs for sanitary and epidemiological oversight.

7. Violation of the aforementioned regulations will result in restriction, suspension or termination of the operations of enterprises or other facilities by order of duly authorized Russian Federation state organs in the area of environmental protection or sanitary and epidemiological oversight.

Article 55: Environmental Requirements Governing Military and Defense Facilities and Military Operations

1. The environmental requirements set forth in the present law regarding the siting, construction, startup and use of enterprises, installations and other facilities are fully applicable to military and defense facilities and military operations carried out within the territory of the Russian Federation, and to the deployment of troops and military equipment (except in special situations).

2. Pursuant to the laws of the Russian Federation military organs are obligated to make compensation for damages caused to the environment or human health.

Article 56: Protection of the Earth's Ozone Layer

1. Protection of the environment from ecologically hazardous changes in the Earth's ozone layer is to be ensured by:

- observation, recording and monitoring of changes in climate and the ozone layer as a result of commercial activities and other processes;
- establishment of and compliance with standards for maximum permissible discharges of harmful substances which effect the condition of climate and the ozone layer;
- regulation of the production and household use of chemical substances which destroy the ozone layer;
- imposition of punitive measures in response to violation of these requirements.

2. In accordance with an international agreement ministries, agencies, enterprises, institutions and organizations are obligated to reduce and eventually completely cease the production and use of chemical substances which have an adverse effect on the ozone layer.

3. A list of chemical substances and production wastes which have an adverse effect on the condition of the Earth's ozone layer is to be approved by duly authorized Russian Federation state organs in the area of environmental protection and announced to all ministries, agencies, enterprises, institutions and organizations.

4. Monitoring of compliance with these requirements is to be carried out by duly authorized Russian Federation state organs in the field of environment protection.

5. Violation of established procedure for the production or use of chemical substances which adversely effect the condition of the ozone layer will result in suspension or termination of operations by enterprises, institutions, organizations, individuals citizens, units of machinery, production lines or equipment by order of duly authorized Russian Federation state organs in the area of environmental protection.

Article 57: Drafting and Realization of Projects With Significant Environmental Effect

It is forbidden to draft or realize economic projects which involve disruption or destruction of highly productive natural ecological systems and the natural balance, unfavorable changes in climate or the Earth's ozone layer, destruction of the genetic pool of plant and animal life, or other irreversible consequences for human health and the environment.

Section VIII: Environmental Emergencies

Article 58: Environmental Emergency Zones

1. Environmental emergency zones may be declared in sections of Russian Federation territory where as a result of commercial or other activities persistent negative changes have occurred in the environment which threaten public health, the state of ecological systems and the genetic stock of plants and animals.

2. Environmental emergency zones may be declared by decree of the Russian Federation Supreme Soviet or at the recommendation of duly authorized Russian Federation state organs in the area of environmental protection based on the findings of a state environmental assessment.

3. Within an environmental emergency zone the activity which has had a negative effect on the environment must be terminated and operations suspended at enterprises, institutions, organizations, shops, units of machinery and equipment which have an adverse effect on human health, the human genetic pool and the environment, restrictions must be placed on various types of natural resource use, and ongoing measures must be taken to restore and renew natural resources.

4. Financing of efforts to restore environmental emergency zones comes primarily from the funds of the ministries, agencies, enterprises, institutions and organizations directly responsible for environmental degradation, accidents or disasters, as well as from special purpose funds in the federal and republic budgets.

Article 59: Environmental Disaster Areas

1. Environmental disaster areas may be declared within sections of Russian Federation territory where as a result of commercial or other activities profound irreversible changes have occurred in the environment, resulting in a significant worsening of public health, disruption of the natural balance, destruction of natural ecological systems and degradation of flora and fauna.

2. Environmental disaster areas may be declared in the same manner as environmental emergency zones.

Within an environmental disaster zone the operations of commercial facilities are halted, except those which provide services to the population within the disaster zone; a ban must also be issued on all construction or rebuilding of commercial facilities, substantial restrictions placed on all types of natural resource use and ongoing measures taken to restore and renew natural resources and improve the condition of the environment.

3. Financing of measures to restore environmental disaster zones comes from the same sources outlined in the fourth part of Article 58 of the present law.

Section IX: Specially Protected Natural Areas and Sites

Article 60: The Russian Federation Nature Preserve System

1. State nature preserves, including biosphere preserves, state reserves, national parks, natural landmarks and rare or threatened plants and animals which have been registered in the Russian Federation Red Book and the red books of Russian Federation constituent republics together constitute the Russian Federation nature preserve system and are subject to special protection by the state for the sake of the present and future generations.

2. Removal of lands from the Russian Federation nature preserve system is forbidden.

3. The nature preserve system is under the jurisdiction and control of duly authorized state organs of the Russian Federation and its constituent republics in the area of environmental protection.

4. Regulations governing the nature preserve system and its component parts are set forth in the present law, legislation expanding upon it and other standardizing acts of the Russian Federation and its constituent republics.

Article 61: State Nature Preserves

1. State nature preserves are defined as natural complexes (land, underground resources, water, flora and fauna) which have been permanently removed from commercial use and which are not subject to expropriation by any means for any other purposes and are specially protected by law, which are of environmental protection-related, scientific or ecological educational significance as benchmarks for the natural environment, typical or rare landscapes, or places for the preservation of the genetic stock of plant and animal life.

2. State nature preserves are environmental protection research institutions which have as their purpose the preservation and study of typical and unique ecological systems, the genetic pool of living organisms and the natural course of processes and phenomena.

3. A separate component of state nature preserves are biosphere preserves officially recognized by UNESCO as

parts of an international network of observation stations for tracking changes in the state of the environment under the influence of human activities.

4. State nature preserves are established by the Government of the Russian Federation and the councils of ministers of the Russian Federation's constituent republics at the recommendation of duly authorized state organs of the Russian Federation and its constituent republics for the purpose of protecting natural complexes, preserving and renewing wild plant and animal life, studying the laws of nature and monitoring the state of the environment and changes therein.

5. Within the territory of state nature preserves it is forbidden to engage in commercial, recreational or other activities which run counter to the purposes of the preserve or which damage the environment. Research, restorative or fire protection work should not run counter to the goals of the preserve.

6. In order to maintain the preservation regime within a preserve, protective zones may be established around its territory, within the bounds of which zones it is forbidden to engage in activities which could have a negative effect on the preservation regime.

7. The preservation regime at state preserves is to be upheld by preserve patrol services.

Article 62: State Nature Reserves

1. State nature reserves are defined as natural complexes intended for the preservation or renewal of certain types of natural resources in combination with restricted and authorized use of other types of natural resources.

2. State nature reserves of federal-wide significance are to be established by the Government of the Russian Federation at the recommendation of duly authorized Russian Federation state organs in the area of environmental protection; those of republic significance are to be established by the councils of ministers of the Russian Federation's constituent republics; those of local significance are to be established by decision of a kray or oblast soviet of people's deputies in consultation with duly authorized Russian Federation state organs in the area of environmental protection, with the goal of preserving or renewing natural resources, protecting natural landscapes, recreational areas and natural landmarks, and maintaining the ecological balance.

3. Commercial, recreational and other activities are forbidden within the territory of a reserve if they run counter to the goals for which the reserve was founded or damage the environment.

4. Enterprises, institutions and organizations within whose territory reserves have been established are obligated to take steps to ensure compliance with the preservation regime established for those reserves.

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5. Internal reserves may be established by decision of the administration of agricultural, forestry, hunting and fishing enterprises, institutions and organizations on lands belonging to them for the purpose of ensuring rational land use and preservation of particularly valuable natural sites, as well as rational use of natural resources.

Article 63: National Parks

1. National parks are defined as specially protected natural complexes which have been removed from commercial use and which are of ecological, genetic, scientific, ecological educational or recreational significance as typical or rare landscapes, habitats for communities of wild plants and animals, and sites for recreation, tourism, excursions and public education.

2. National parks may be established by decrees of the Government of the Russian Federation at the recommendation of duly authorized Russian Federation state organs in the area of environmental protection or by the councils of ministers of the Russian Federation's constituent republics for the purpose of preserving the environment, including the traditional homes of the small peoples of the North, as well as conducting public environmental education and organizing public recreation and tourist development.

3. Within the territory of national parks it is forbidden to engage in commercial or other activities which run counter to the goals and purposes for which the parks were founded or which damage the environment.

4. National parks are environmental protection institutions, the territory of which is intended for use for environmental protection, recreational, educational, scientific and cultural purposes.

5. Special preserve, reserve and recreational zones may be established within the territory of national parks in order to protect and ensure rational use of natural resources. Special protective zones with a restricted natural use regime may be established around national parks.

6. Compliance with the national park regime will be ensured by the national park service.

Article 64: Natural Landmarks

1. Natural landmarks are defined as natural sites and natural complexes which are of relic, scientific, historical or ecological educational significance and which require special state protection.

2. Natural sites and complexes may be declared natural landmarks by decree of the Government of the Russian Federation, by decree of the Russian Federation's constituent republics or by decision of the autonomous oblast and autonomous okrugs, krais and oblasts at the recommendation of duly authorized state organs in the area of environmental protection.

3. Natural sites and complexes which have been declared natural landmarks are to be completely removed from commercial use. Any activities which damage the natural landmark or its surrounding environment or degrade its condition and state of preservation are forbidden.

4. Enterprises, institutions and organizations within the territory of which are located natural sites and complexes which have been declared natural landmarks bear full responsibility for the condition and preservation thereof.

Article 65: Protection of Rare and Threatened Plant and Animal Species

1. The Russian Federation Red Book and the red books of the Russian Federation's constituent republics were established in order to protect rare and threatened plant and animal species.

2. Plants and animals listed among the species entered in the red books are subject to withdrawal from commercial use in all places. Activities resulting in reduction in the number of those plants and animals or degradation of their habitats are forbidden.

3. Enterprises, institutions, organizations and other land users within the territory of which are located plants and animals listed among the species in the red books are obligated to take measures to protect and renew those types of plants and animals.

4. The procedures for protection of rare and threatened plants and animals and registry in the Russian Federation Red Book and the red books of the Russian Federation's constituent republics are to be established by the laws of the Russian Federation and its constituent republics.

Article 66: Environmental Protection in Health Resort and Treatment Facility Areas

1. Health resort and treatment facility areas are recognized as specially protected territories, along with bodies of water possessing natural therapeutic properties, mineral springs and climatic and other conditions favorable to the treatment and prevention of illness.

2. Sanitary protection districts may be established for the purpose of preserving the natural properties and therapeutic means of health resort and therapeutic zones, protecting them from degradation, pollution or premature depletion; within the bounds of those districts it is forbidden to perform work which pollutes the soil, springs or air or which harms forests and has a negative effect on the therapeutic properties and sanitary state of specially protected areas.

3. The procedure for declaring an area a natural zone or therapeutic zone and the regulations governing protection thereof are to be defined by a decree issued by the Government of the Russian Federation.

The procedure for use of land in the aforementioned zones is to be established by the laws of the Russian Federation and its constituent republics.

Article 67: Protection of Greenbelts

1. Special suburban greenbelts may be created around cities and industrial towns; these may include both protective forest park belts and areas which perform environmentally protective (environment-forming or ecological), sanitary and hygienic or recreational functions.

2. Within greenbelts it is forbidden to engage in commercial activity which has a negative effect on the performance of their ecological, sanitary and hygienic or recreational functions.

3. The borders of greenbelts are to be determined by the capital of Russian Federation constituent republics and kray and oblast centers by the councils of ministers of the corresponding republics and by kray or oblast soviets of people's deputies.

Section X: Environmental Monitoring

Article 68: Purposes of Environmental Monitoring

1. Environmental monitoring has as its purposes: observation of the state of the environment and changes therein under the influence of commercial or other activities; oversight of implementation of plans and measures pertaining to environmental protection, rational use of natural resources, restoration of the environment and compliance with the requirements of environmental protection legislation and environmental quality standards.

2. The environmental monitoring system is comprised of the state service for monitoring the state of the environment and other state, commercial and public monitoring systems.

Article 69: The State Service for Monitoring the State of the Environment

1. The state service for monitoring the state of the environment is to be established for the purpose of observing the physical, chemical and biological processes taking place in the environment, the level of environmental pollution in the air, soils and bodies of water, the effects of pollution on plants and animals, and providing interested organizations and the public with ongoing and emergency information regarding changes in the environment and warnings and projections regarding the state of the environment.

2. The state service for monitoring the state of the environment is to be carried out by duly authorized Russian Federation state organs in the area of environmental protection, with participation by ministries and agencies via an observation system in cities and industrial centers, at water facilities, in individual regions and in outer space.

3. The procedure for the establishment and functioning of the state system for monitoring the state of the environment is to be regulated by a decree approved by the Government of the Russian Federation.

Article 70: State Environmental Monitoring

1. State environmental monitoring in the Russian Federation is to be carried out by the Russian Federation Supreme Soviet, the supreme soviets of the Russian Federation's constituent republics, the Government of the Russian Federation, the councils of ministers of the Russian Federation's constituent republics, the soviets of people's deputies of the autonomous oblast, autonomous okrugs, krays and oblasts, and duly authorized state organs of the Russian Federation and its constituent republics in the area of environmental protection and sanitary and epidemiological oversight.

2. Officials in state environmental monitoring organs have a right, in accordance with their authority and according to established procedure, to:

- visit enterprises, institutions and organizations regardless of their form of ownership or subordination, including military units, special facilities and services under the Ministry of Defense, internal affairs organs and state security, and inspect documents, analyses and other materials required for the performance of their official duties;

- inspect the operations of anti-pollution equipment and other neutralizing devices, means for monitoring thereof, compliance with environmental quality standards and environmental protection legislation, and implementation of environmental protection plans and measures;

- issue permission to emit, discharge or store harmful substances;

- establish standards for the emission or discharge of harmful substances by point sources of environmental pollution in consultation with organs of sanitary and epidemiological oversight;

- appoint state environmental assessment groups and monitor compliance with their findings;

- require elimination of shortcomings uncovered and within the bounds of the authority granted to them give instructions or provide findings on the siting, planning, construction, rebuilding, startup or use of facilities;

- impose administrative penalties on guilty parties according to established procedure, submit materials regarding disciplinary, administrative or criminal action, and file suit in court or before an arbitration tribunal regarding compensation for damages caused to the environment or human health by violations of environmental legislation;

—make decisions regarding restriction, suspension or termination of the operations of enterprises, installations and other facilities and any activities which damage the environment and present a potential threat to human health.

These decisions are binding on all ministries and agencies, enterprises, institutions, organizations, officials and individual citizens. On the basis of such decisions the corresponding banking institutions will cease financing the banned activities until such time as the ban is repealed by a state environmental monitoring organ.

3. Decisions by state environmental monitoring organs and officials may be appealed in court or before an arbitration tribunal.

Article 71: Production-Related Environmental Monitoring

1. Production-related environmental monitoring is to be performed by the environmental services of enterprises, institutions and organizations and will have the goal of verifying compliance with plans and measures for environmental protection, restoration of the environment, rational use of natural resources and renewal of natural resources, compliance with environmental quality standards and compliance with the requirements of environmental protection legislation.

2. The procedure for organizing production-related environmental monitoring is regulated by statutes approved by enterprises, institutions and organizations on the basis of the present law.

Article 72: Public Environmental Monitoring

1. Public environmental monitoring is performed by Russian Federation trade unions and other public associations, labor collectives and citizens, and has as its goal verification of compliance with the present law by ministries and agencies, enterprises, institutions and organizations (regardless of their form of ownership or subordination), officials and private citizens.

2. The procedure for conducting public environmental monitoring is regulated by the present law and legislation on Russian Federation trade unions, labor collectives and public associations.

Section XI: Environmental Training, Education and Scientific Research

Article 73: The Universal, Comprehensive and Continuing Nature of Environmental Training and Education

In order to raise society's level of environmental awareness and improve the professional training of specialists a system of universal, comprehensive and continuing environmental training and education is to be established; this system will encompass the entire process of preschool and school-age training and education, the professional training of specialists at secondary and higher educational

institutions, and advanced training for those specialists, and will make use of the mass media.

Article 74: Required Nature of Environmental Instruction at Educational Institutions

1. Mastery of the minimum of environmental knowledge necessary for the formation of citizens' environmental awareness will be ensured at all preschool, secondary and higher educational institutions regardless of their overall orientation by the mandatory teaching of environmental fundamentals.

2. In accordance with their orientation specialized secondary and higher educational institutions may make provision to teach special courses on environmental protection and rational use of natural resources.

Article 75: Vocational Environmental Training for Administrators and Specialists

1. The heads of ministries and agencies, enterprises, institutions and organizations, other officials and specialists and private citizens connected with activities which have an adverse effect on the environment and human health within the territory of the Russian Federation are obligated to have essential environmental training, which will be taken into consideration when they are hired, certified or recertified.

2. Persons who do not have the necessary training are not permitted to perform jobs which require appropriate environmental knowledge.

Article 76: Dissemination of Environmental Knowledge

1. In order to teach a thoughtful attitude toward nature and rational use of its riches environmental knowledge and information on environmental legislation should be disseminated.

2. Dissemination of information about the environment and environmental legislation is to be carried out by organs and trade unions of the Russian Federation and by public associations and the mass media.

Article 77: Environmental Research

1. The Russian Academy of Sciences, sector-based academies of sciences, state organs for science and technology, environmental protection and education, ministries and agencies, scientific institutions and higher educational institutions develop and approved comprehensive programs and plans for scientific research in the area of environmental protection and restoration and rational use and renewal of natural resources and create the necessary conditions for effective environmental research and applications of the findings of that research.

2. Scientists and specialists at scientific institutions take part in the development and realization of comprehensive and targeted environmental programs (at the international, republic and regional levels) and planning work, and serve as members of scientific-technical and expert councils,

rendering assistance with the performance of practical tasks in connection with rational natural resource use and environmental protection, participate in the molding of society's environmental awareness and bear personal responsibility for the scientific results of their projects.

Section XII: Resolution of Disputes in the Area of Environmental Protection

Article 78: Resolution of Disputes Between Enterprises, Institutions, Organizations and Citizens in the Area of Environmental Protection

1. Disputes between enterprises, institutions and organizations in the area of environmental protection are to be resolved by soviets of people's deputies according to a procedure established by Russian Federation legislation.
2. Disputes over environmental protection involving citizens are subject to court hearings.
3. Property disputes stemming from compensation for damages caused to the environment or human health are to be resolved by a court or arbitration tribunal in accordance with the jurisdiction thereof.

Article 79: Resolution of Disputes in the Area of Environmental Protection Between Enterprises, Institutions and Organizations Located Within the Territory of the Constituent Republics of the Russian Federation, Krays, Oblasts, Autonomous Oblast and Autonomous Okrugs

1. Disputes in the area of environmental protection between enterprises, institutions and organizations located within the territory of the Russian Federation's constituent republics, krays, oblasts, autonomous oblast and autonomous okrugs are to be considered by commissions created on a parity basis from among representatives of the Russian Federation constituent republics involved, the autonomous oblast, autonomous okrugs, krays and oblasts. If the commission cannot agree upon a decision, then the disputes are to be resolved by a commission created by the Russian Federation Supreme Soviet, the decision of which is binding.
2. Property disputes in the area of environmental protection between enterprises, institutions and organizations located within the territory of various constituent republics of the Russian Federation, krays and oblasts, the autonomous oblast and autonomous okrugs are to be considered by the Russian Federation Supreme Arbitration Tribunal.

Article 80: Resolution of Disputes in the Area of Environmental Protection Between Enterprises, Institutions and Organizations Located Within the Territory of the Russian Federation and Other Sovereign States

Disputes in the area of environmental protection between enterprises, institutions and organizations located within the territory of the Russian Federation and other sovereign states are to be resolved according to a procedure established by agreements between the sovereign states.

Section XIII: Liability for Violations of Environmental Legislation

Article 81: Types of Liability for Violations of Environmental Legislation

Violators of environmental legislation, i.e. persons responsible for illegal actions which violate environmental protection legislation and cause harm to the environment and human health, officials and citizens bear disciplinary, administrative or criminal, civil legal or material liability, and enterprises, institutions and organizations bear administrative and civil legal liability in accordance with the present law and other legislative acts of the Russian Federation and its constituent republics.

Article 82: Disciplinary Liability for Environmental Misdemeanors

1. In accordance with statutes, charters and regulations governing internal procedures and other standardizing acts officials and other guilty parties and employees of enterprises, institutions and organizations bear disciplinary liability for failure to carry out plans and measures pertaining to environmental protection and rational use of natural resources, for violation of environmental quality standards and the requirements of environmental protection legislation, depending upon their job description or official position.
2. The heads of enterprises, institutions, organizations and other responsible officials may be fully or completely denied bonuses and other means of incentives for failure to carry out plans and measures in connection with environmental protection or violation of environmental quality standards and environmental protection legislation.

Article 83: Material Liability of Officials and Other Employees Guilty of Causing Damage as a Result of Violations of Environmental Legislation

Officials and other employees by whose fault an enterprise, institution or organization is forced to make compensation payments for damages caused by a violation of environmental legislation bear material liability toward enterprises, institutions and organizations in accordance with labor legislation.

Article 84: Administrative Liability for Violations of Environmental Legislation

1. Officials and private citizens, enterprises, institutions and organizations which are responsible for the following are guilty of violating environmental legislation:
 - failure to comply with norms, standards and other environmental quality requirements;
 - failure to perform obligations to conduct state environmental assessments or to comply with requirements contained in the findings of an environmental assessment, or willful submission of incorrect or unfounded assessment findings;

- violation of environmental requirements during the design, technical and economic justification, planning, siting, construction, rebuilding, startup or operation of enterprises, installations, production lines and other facilities;
- environmental pollution and resultant damage to human health, plant and animal life or the property of citizens and corporate bodies;
- degradation of, damages to or destruction of natural sites, including natural landmarks, or depletion and destruction of nature preserve complexes and natural ecological systems;
- violation of established procedure or regulations governing the extraction, collection, procurement, sale, purchase, acquisition, exchange, mailing, import or export of objects from the plant or animal world or products thereof, as well as botanical, zoological and mineralogical collections;
- failure to comply with mandatory measures aimed at restoring disrupted environments and renewing natural resources;
- failure to follow instructions from organs which carry out state environmental monitoring;
- violations of environmental requirements with regard to the neutralization, processing, utilization, storage or burial of production-related and household wastes;
- failure to comply with environmental requirements governing the commercial use of radioactive materials, chemical substances and other harmful substances or burial thereof;
- levels in excess of established standards for maximum permissible levels of radioactive effect;
- levels in excess of established standards for maximum permissible levels of biological effect on the environment, or violation of the procedure for the storage and use of microorganisms and biological substances;
- production and use of banned chemical substances and production of waste products which have a harmful effect on the Earth's ozone layer;
- illegal expenditure of monies from republic and local environmental funds for purposes not connected with environmental protection efforts;
- provision of untimely or distorted information, or refusal to provide timely, full and reliable information regarding the state of the environment and the radiation situation.

The following are subject to fines levied administratively:

- citizens—from one to 10 times the minimum monthly wage in the Russian Federation;

—officials—from three to 20 times the minimum monthly wage in the Russian Federation;

—enterprises, institutions and organizations—from R50,000 [rubles] to R500,000.

2. The specific amount of the fine imposed is to be determined by the organ which imposes the fine, depending on the nature and type of violation committed, the extent of the violator's guilt, and the amount of damage caused.

3. Fines for the aforementioned legal violations are to be imposed, within the bounds of their jurisdiction, by duly authorized Russian Federation state organs in the area of environmental protection or Russian Federation sanitary and epidemiological oversight, as well as technical labor inspection groups from trade unions. A resolution imposing a fine may be appealed in court or before an arbitration tribunal. The levying of a fine does not exempt the guilty parties from the obligation to compensate for any damages caused.

4. Collected fines are to be paid into special accounts belonging to state environmental funds.

Article 85: Criminal Liability for Environmental Crimes

Officials and citizens guilty of committing environmental crimes, i.e. socially dangerous actions which infringe upon the system of environmental law established in the Russian Federation and society's environmental safety and causing harm to the environment and human health, bear criminal liability as set forth in the RSFSR Criminal Code.

Section XIV: Compensation for Damages Caused by Violations of Environmental Legislation

Article 86: Obligation of Full Compensation for Damages Caused by Violations of Environmental Legislation

Enterprises, institutions, organizations and individual citizens that cause damage to the environment or to citizens' health and property or to the economy by polluting the environment, degrading, destroying, damaging or using natural resources irrationally, destroying natural ecological systems and committing other violations of environmental legislation are obligated to make full compensation in accordance with current legislation.

Article 87: Procedure for Compensation for Damages Caused by Violations of Environmental Legislation

1. Compensation for damages caused to the environment as a result of violations of environmental legislation is to be made either voluntarily or on the basis of a court order or by order of an arbitration tribunal in accordance with the established rates and methods of calculating the amount of damages, or in the absence of such rates and methods in accordance with the actual expense of restoring the disrupted state of the environment, also taking into account losses, including loss of use.

2. The amount of damages awarded by order of a court or an arbitration tribunal is to be compensated for to the victim (a citizen, enterprise, institution or organization) so that measures may be taken to restore losses to the environment or so that payments may be made into a state environmental fund, if the natural site which was damaged is a public place.

3. If several persons are responsible for causing the damages, compensation may be awarded based on the proportion of guilt borne by each for the damages, including guilt on the part of surveying, planning and construction organizations.

4. With the consent of the parties a court or arbitration tribunal may award compensation in kind, requiring the guilty party to restore the environment by his own effort and at his own expense.

Article 88: Compensation for Damages Caused by a Source of Heightened Environmental Risk

Enterprises, institutions and organizations whose activities involve heightened environmental risk are obligated to make compensation for any damages caused by them to the environment or to human health in accordance with Article 454 of the RSFSR Civil Code.

Article 89: Compensation for Damages Caused to Citizens' Health by Adverse Effects on the Environment

1. Damages caused to citizens' health as a result of adverse effects on the environment caused by the activities of enterprises, institutions, organizations or individual citizens are subject to compensation in full.

2. The following must be taken into account when determining the extent of damage to citizens' health: the degree of work ability lost by the injured party; necessary expenditures for treatment and restoration of health; expenditures for patient care and other expenses, including lost professional opportunities and the cost of relocation and adjustments in life style or profession, and losses due to moral trauma, the inability to bear children or the risk of bearing children with congenital pathologies.

3. Compensation for damages to citizens' health is to be made on the basis of a court decision in a suit filed by the injured party or members of his or her family, the procurator, a duly authorized state administration or a public organization (or association) on behalf of the injured party.

4. The sum of money to be paid for damages caused to citizens' health is to be recovered from the person who caused the damages or, if it is impossible to determine who caused the damages, compensation is to be paid out of appropriate state environmental funds.

Article 90: Compensation for Damages Caused to Citizens' Property

1. Damages caused to citizens' property as a result of adverse effects on the environment due to commercial or other activities are subject to compensation in full.

2. When determining the amount of damages caused to citizens' property as a result of adverse effects on the environment caused by the activities of enterprises, institutions, organizations and private citizens, the direct damage connected with the destruction should be taken into account, along with the reduced value of structures, housing, production-related buildings, equipment and other property and the lost benefit caused by lost harvests, reduced soil fertility and other adverse effects.

Article 91: Lawsuits Demanding Termination of Environmentally Harmful Activities

1. Enterprises, institutions, organizations and private citizens have a right to file lawsuits in court or with an arbitration tribunal, and citizens have a right to do so in court, demanding termination of environmentally harmful activities which are damaging the health and property of citizens, the economy and the environment.

2. The decision by a court or an arbitration tribunal to halt environmentally harmful activities is also grounds for termination of financing of such activities by the corresponding banking institutions.

Section XV: International Cooperation in the Area of Environmental Protection

Article 92: Principles of International Cooperation in the Area of environmental protection

In its policy on environmental protection the Russian Federation assumes the need to ensure universal environmental safety and to develop international environmental protection cooperation for the sake of the present and future generations, and is guided by the following principles:

- every human being has a right to live under the most favorable environmental conditions;
- every state has a right to use the environment and natural resources for the purpose of development and to meet the needs of its citizens;
- the environmental well-being of one state may not be ensured at the expense of other states or without consideration for their interests;
- commercial activities carried out within the territory of a state should not harm the environment either within the boundaries of that state or beyond its jurisdiction;
- any type of commercial or other activities with unpredictable environmental consequences are not permissible;
- monitoring of the state of and changes in the environment and natural resources should be established at the global, regional and national levels on the basis of internationally recognized criteria and parameters;

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- free and unhindered international exchange of scientific and technical information on environmental protection issues and advanced resource-conservation technologies should be ensured;
- states should assist each other in environmental emergencies;
- all disputes connected with environmental issues should be resolved solely by peaceful means.

Article 93: International Treaties in the Area of Environmental Protection

If international treaties in the area of environmental protection concluded by the Russian Federation establish other regulations than those contained in the legislation of the Russian Federation, then the regulations contained in the international treaties apply.

Article 94: Obligations of Foreign Corporate Bodies, Foreign Citizens and Stateless Persons to Comply With the Environmental Protection Legislation of the Russian Federation and Its Constituent Republics

Foreign corporate bodies, foreign citizens and stateless persons within the territory of the Russian Federation are obligated to comply with the requirements of the present law and other legislative acts of the Russian Federation and its constituent republics, and are liable for violations thereof.

[Signed] B. Yeltsin, President of the RSFSR
Moscow, RSFSR House of Soviets
19 December 1991
No 2060-1

Point 4, Article 20 was published in the RSFSR draft law of 21 February 1992 entitled: "On Amendments to Article 20 of the RSFSR Law 'On Protection of the Environment'."]

RSFSR Supreme Soviet Resolution

On the Procedure for Enactment of the RSFSR Law "On Protection of the Environment"

The RSFSR Supreme Soviet hereby resolves:

1. to enact the RSFSR law "On Protection of the Environment" immediately upon publication.
2. that the supreme soviets of RSFSR constituent republics shall bring their legislation into accordance with the RSFSR law "On Protection of the Environment."
3. that until legislation of the RSFSR and its constituent republics is brought into accordance with the RSFSR law "On Protection of the Environment" it shall be applied insofar as it is not in violation of that law.
4. to instruct the RSFSR Supreme Soviet Committee on Ecology and Rational Use of Natural Resources and the RSFSR Supreme Soviet Committee on Legislation to use the RSFSR law "On Protection of the Environment" as a basis and to develop additional law pertaining to it,

preparing an RSFSR draft law "On Introduction of Amendments and Additions to the RSFSR Criminal Code and the RSFSR Code of Administrative Legal Violations," and to submit that draft for the consideration of the RSFSR Supreme Soviet by 1 June 1992.

5. to instruct the Government of the Russian Federation:

—by 1 March 1992 to draft and approve a statute on environmental funds;

—by 1 May 1992 to bring decisions by the Government of the Russian Federation into accordance with the RSFSR law "On Protection of the Environment" and ensure that ministries, states committees and agencies of the Russian Federation review and repeal standardizing acts which are in violation of the present law.

6. to repeal the RSFSR law of 27 October 1960 "On Protection of the Environment in the RSFSR" (see: VEDOMOSTI VERKHOVNOGO SOVETA RSFSR, 1960, No 40, p 586).

7. to instruct the RSFSR Supreme Soviet Committee on Ecology and Rational Use of Natural Resources and the RSFSR Supreme Soviet Legislative Committee to oversee implementation of the measures set forth in the present resolution, and if necessary to submit appropriate proposals to the RSFSR Supreme Soviet.

[Signed] R. I. Khasbulatov, RSFSR Supreme Soviet chairman
Moscow, RSFSR House of Soviet
19 December 1991
No 2061-1

IAEA Experts To Examine Kursk Nuclear Plant

*LD2802090692 Moscow RIA in English 1402 GMT
27 Feb 92*

[Text] Kursk, RIA—Experts of the International Atomic Energy Agency (IAEA) will come this summer to the Kursk nuclear plant to verify the observance of safety rules. This was decided when the plant's director Vladimir Gusarov went to the IAEA headquarters in Vienna under the pressure of the Kursk regional council of deputies. The council acted on instructions from its electorate, especially those living within the 30-kilometre zone of the nuclear plant. After the Chernobyl accident, people don't trust local experts and prefer to heed the opinion of foreign specialists.

RSFSR Licensing in Nuclear Production, Materials Announced

*LD0403231992 Moscow POSTFACTUM in English
2045 GMT 4 Mar 92*

[From the "Domestic Market" section]

[Text] Moscow—Legal and physical persons starting or engaged in production or utilization of nuclear materials, atomic energy and radioactive substances are to

Appendix C

List of Russian NGOs

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RUSSIAN NGOs: CONTACT LIST

RUSSIA

Россия

Alexander Baklanov
Apatity Econord Center
Zinoviev St., 14, kv. 65
Apatity 184200, Russia
tel: 7-12-66; 3-21-85; 3-39-91

184200 АПАТИТЫ
ул. Зиновьева 14, кв. 65
Центр Эконорд
Александр Бакланов

Igor Malyshev
Apatity Econord Center
Lenin St. 1a
Apatity 184200, Russia
tel: 306-95; 321-85

184200 АПАТИТЫ
ул. Ленина 1а
Центр Эконорд
Игорь Малышев

The Apatity Econord Center focuses on environmental problems of Kolsky Island as well as systemic problems of environmental management. These include having access to independent monitoring and independent (unbiased) environmental experts and developing a reliable information system. The center is also involved in ecotourism and environmental education. Membership: 100

Sergey Fyodorov
Association Ecology of the North
Uritski St., 54, kor. 2, kv. 1
Arkhangelsk 163060, Russia
tel: (81800) 64-54-1

163060 Архангельск
ул. Урицкого 54, к. 2, кв. 1
Ассоциация Экология Севера
Сергей Фёдоров

The Association Ecology of the North is involved in the anti-nuclear movement, the environmental problems associated with diamond mines and the industrial pollution of local rivers. Successes include halting the construction of a nuclear power plant in Arkhangelsk and participating in an inspection of the diamond mines. Membership: 1000

Tatiana Achirina
Ecological Association of Northern Peoples
Otko St., 30, kv. 20
Anadyr 686710, Russia
tel: 2-67-83

686710 Анадырь
ул. Отке 30, кв. 20
Экологическая Ассоциация Северных
Народов
Татьяна Ачирина

The Ecological Commission of the Association for Native People conducts research on the environmental problems of native people in the Magadan region. The association is also participating in the creation of the Beringia International Heritage Park. Membership: 14

Mikhail Shishin
Altai Branch, SEU
A. Petrov st., 152, kv. 35
Barnaul 656050, Russia
tel: (3852) 41-81-97

656050 Барнаул
ул. А.Петрова 152, кв. 35
Алтайское отделение, СЭС
Михаил Шишин

The Altai Branch of the Socio-Ecological Union is involved in environmental education, halting the construction of a nuclear power plant on the Katun River and founding a national park in the Altai Mountains. In 1990, the group opened a humanitarian-environmental lyceum in Barnaul. Membership: 90

Nikolai Fotiev
Euro-Asian Center "Noosphere"
Peschanaya st., 89; kv. 144
Barnaul 656049, Russia
tel: (3852) 23-03-08)

656049 Барнаул
ул. Песчаная 89, кв. 144
Европейско-Азиатский Центр
"Ноосфера"
Николай Фотиев

Berezniki (Urals) Ecology and Health
Kminikov St., 8, kv. 78
Berezniki, 618400 Permskoy obl.

618400 Пермск. обл., Березники
ул. Кминикова 8, кв. 78
Березники Экология и Здоровье

Ecology and Health publishes a newspaper, *Voters' Voice*, participates in environmental monitoring, organizes protests against the local nuclear power plant and is engaged in a joint venture for processing toxic wastes.

Bratsk, Committee to Save the Angara River
60 Letya VLKSM 40, kv. 7
663470 Krasnoyarskiy kray, Kezhma

663470 Красноярск. край, Кежма
ул. 60-летия ВЛКСМ 40, кв. 7
Братск, Комитет спасения Ангары

The Committee to Save the Angara River coordinates preservation activities.

Sergei Malinin
Baikal Foundation
P.B. 52
Bratsk 665718
tel: (39531) 4-30-63; 966-58; 4-88-57

665718 Братск
а/я 52
Фонд Байкала
Сергей Малинин

The goal of the Baikal Foundation is the preservation of Lake Baikal and Siberia. In 1990 the foundation organized an environmental camp and participated in a Soviet-American conference in Ulan-Uda.

Aleksandr Mudrov
"Chernobyl-Help"
Dmitrova St., 81, kv. 20
Bryansk 241022, or

241022 Брянск
ул. Димитрова 81, кв. 20
"Чернобыль Помощь"
Александр Мудров

Gorky St., 18
Bryansk 241000
tel: (8322) 6-18-39; 4-98-61; 22-0-63

241000 Брянск
ул. Горького 18
"Чернобыль Помощь"
Александр Мудров

Chernobyl-Help offers humanitarian assistance to people who live in regions contaminated by the Chernobyl accident or who have been evacuated from those regions.

Evgeny Ivanov
International Organization "Apogei"
Gorki St., 18
Bryansk 241000
tel: (08322) 61-8-39

241000 Брянск
ул. Горького 18
Международная Организация
"АПОГЕЙ"
Евгений Иванов

The International Organization "Apogei" is involved in environmental education and environmental ethics, specifically creating programs for specialists and professionals.

Popular Front, Ecology Section
Kalininskaya St. 29, kv. 12
Chelyabinsk 454084

454084 Челябинск
Калининская ул. 29, кв. 12
Народный фронт, Экологич. Центр

The Ecology Section of the Popular Front is developing a system to provide assistance to victims of environmental disasters, promoting the establishment of national parks and studying the effects of radiation on human health.

Natalya Mironova
Nuclear Safety Movement
Kalininskaya St. 29, kv. 12
Chelyabinsk 454084
tel: (83512) 35-64-59

454084 Челябинск
Калининская ул. 29, кв. 12
Движение Ядерная Безопасность
Наталья Миронова

The Nuclear Safety Movement educates the public about health and radiation problems. In 1990 the movement participated in a referendum on construction of new nuclear power plants and in an inspection of the Chelyabinsk nuclear power station. Membership: 30-member staff; 300,000 supporters

Valery Kiryushkin
Chelyabinsk Ecological Foundation
Pobedy Pr., 166-v, kv. 101
Chelyabinsk 454084

454084 Челябинск
пр. Победы 166-в, кв. 101
Челябинский Экологический Фонд
Валерий Кирюшкин

The Chelyabinsk Ecological Foundation studies the effects of pollution on human health. Membership: 30

Elvira Poretskaya
International Fuel Energetics
Association: Chelyabinsk Department
Pobedy Pr. 300, kv. 76
Chelyabinsk 454112
tel: (3512) 39-94-67; 41-01-93 (h)

454112 Челябинск
пр. Победы 300, кв. 76
Международная Топливо-Энергетическая Ассоциация /Челябинское отделение
Эльвира Порецкая

The Chelyabinsk Department of the International Fuel Energetics Association is involved in environmental monitoring and setting up an environmental information bank. In 1990 the group monitored the Techa River. Membership: 5

Sergey Fomichev
Green Party
Tereshkova St., 28a, kv. 49
Nizhegorodskaya obl., Dzerzhinsk 606005

606005 Дзержинск
Нижегородской обл.
ул. Терешковой 28-а, кв. 49
Партия Зелёных
Сергей Фомичев

In 1990 the Green Party successfully halted a nuclear power station. Membership: 500

Ludmila Deptseva
Public Ecological Committee
Dzerzhinski St., 26, kv. 12
Kamensk-Uralsk 623400
tel: 2-57-45; 2-64-948

623400 Каменск-Уральск
ул. Дзержинского 26, кв. 12
Общественный Экологический Комитет
Людмила Дипцева

The Public Ecological Committee of Kamensk-Uralsk is interested in nuclear safety, alternative energy, non-polluting technologies and environmental problems of cities. Membership: 50

Galina Ginet
Committee to Save the Tom River
Michurina St., 15, kv. 89
Kemerovo 650099
tel: (38422) 23-59-79

650099 Кемерово
ул. Мичурина 15, кв. 89
Комитет сохранения реки Томи
Галина Гинет

The Committee to Save the Tom River conducts environmental inspections of industrial and agricultural complexes, coordinates public actions for clean air and water and organizes meetings on industrial and agricultural pollution. In 1990 the committee conducted an inspection of the Kravivin reservoir, organized protests against environmentally damaging construction and helped establish small environmental businesses. A business arm of the committee promotes technology for extracting salts from heavy-metal wastes from the Abagur Mill. Membership: 25

Gennady Molokanov
Kuban Popular Academy
Zakharova St., 41, kv. 24
Krasnodar 350007
tel: (8612) 52-97-46; 5530-62

350007 Краснодар
ул. Захарова 41, кв. 24
Кубанская Народная Академия
Геннадий Молоканов

The Kuban Popular Academy publishes environmental articles and booklets, participates in activities to improve regional air and water quality and operates a farm using sustainable agriculture techniques. Membership: 1000

Vladimir Mikheyev
Krasnoyarsk "Ekologicheski Vestnik"
Michurina St., 8, kv. 10
Berezovka-Krasnoyarsk 663001
tel: 9-15-81

663001 Красноярск, Березовка
райцентр
ул. Мичурина 8, кв. 10
Красноярск "Экологический Вестник"
Владимир Михеев

The newspaper *Ekologicheski Vestnik*, which has been in publication since 1989, disseminates information about air and water pollution in the Krasnoyarsk region. The editorial office is also attempting to bring the activities of the local military plants to a halt, sponsoring ecotourism along the Yenisei River and acting as a watchdog over the ministry in charge of nuclear power. Membership: 104

Dr. Andrei Laletin
Krasnoyarsk Ecological Movement
Akademgorodok 16, kv. 3
Krasnoyarsk 660036
tel: 25-94-54

660036 Красноярск
Академгородок 16, кв. 3
Красноярское Экологическое
Движение
Андрей Лалетин

The Krasnoyarsk Ecological Movement is involved in forest protection, environmental monitoring, air and water pollution, ecotourism, environmental education and clean technology. In 1990 the movement organized a regional environmental conference and prepared an education program for specialists and activists. Membership: 160

Anna Stryukova
Bureau of Environmental Projects
Plekhanov St., 45, kv. 31
Leningrad 190000
tel: 311-63-68; 543-74-50

190000 Ленинград
ул. Плеханова 45, кв. 31
Бюро экологических разработок
Анна Стрюкова

Yuri Shevchuk
Bureau of Environmental Projects
tel: 246-25-83
Leningrad

Ленинград
Бюро экологических разработок
Юрий Шевчук

The Bureau of Environmental Projects educates the public about environmental legislation.

Constantin Ivanenko International Association for Psycotronic Research 3 Kotelnikov Alley, kv. 33 Leningrad 197341 tel: (812) 301-7411	197341 Ленинград аллея Котельникова 3, кв. 33 Международная Ассоциация Психотронического Исследования Константин Иваненко
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Vladimir Kaloshin Lipetsk Ecological Club Gornyatskaya St., 1, kv. 62 Lipetsk 398000 tel: (0740) 24-47-79	398000 Липецк ул. Горняцкая 1, кв. 62 Липецкий Экологический Клуб Владимир Калошин
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The Lipetsk Ecological Club conducts environmental monitoring, organizes boat trips on the Voronezh River, coordinates joint environmental activities of various organizations and enterprises and is attempting to create a local green movement. Successes include helping to work out local environmental laws, organizing demonstrations and collecting signatures against construction of "Stana 2500." Membership: 200

Natalia Proskurina "Bioclass" Pionerskaya St., 4, kv. 14 685019 Magadan tel: 2-92-23	685019 Магадан ул. Пионерская 4, кв. 14 Биокласс Наталя Проскурина
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"Bioclass" specializes in environmental education. Projects include developing high school education materials and environmental games for children.

Mikhail V. Kryakov All Union Society on the Environment Klinskaya St., 8 Moscow 125414	125414 Москва ул. Клинская 8 Союзное Общество Охраны Природы Михаил Кряков
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Sergey Kuznetsov Ecopolis Mira: Assn for the Ecological Development of Russia Domodedovskaya St., 5. kor. 3, kv. 519 Moscow 115551 tel: 337-45-29	115551 Москва ул. Домодедовская 5, к. 3, кв. 519 Ассоциация Экологического развития России: Экополис Мира Сергей Кузнецов
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Sergei Sharapov Ecopolis Mira: Assn for the Ecological Krasnaya St., 117, kv. 57 Solnechnogorsk 141500, Moskovskaya oblast	141500 Солнечногорск, Моск. область ул. Красная 117, кв. 57 Ассоциация Экологического развития России: Экополис Мира Сергей Шаралов
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Ecopolis Mira is interested in the ecology and health of humanity. Activities include presenting reports at international conferences. Membership: 150

Victor Gaidaenko
 Blue Movement
 Tulinskaya St., 6. kv. 58
 Moscow 107120
 tel: 362-65-87

107120 Москва
 Ул. Тулинская 6, кв. 58
 Синее движение
 Виктор Гайдаенко

The mission of the Blue Movement is to save man. The movement has both an environmental and spiritual focus. Membership: 10,000; 70 regional organizations

Alexei Volkov
 Ekaterina Golovina
 Druzhina for Nature Protection,
 Biology Faculty of MSU
 Yaroslavskoye Shosse 4, korpus 3, kv. 221
 Moscow 129348
 tel: 183-39-21; 232-09-32
 e-mail: sfmt:avolkov

129348 Москва
 Ярославское шоссе 4, к. 3, кв. 221
 Дружина по охране природы,
 Биологический факультет МГУ
 Алексей Волков
 Екатерина Головина

The Druzhina for Nature Protection of the Biology Faculty of Moscow State University studies rare species, organizes conservation efforts on nature preserves and advocates environmental legislation.

Ludmila Bogoslavskaya
 Ecological Council
 RSFSR Supreme Soviet
 Lavochkina St., 44, kor. 2, kv. 385
 125502 Moscow
 tel: 453-69-98; 205-43-36

125502 Москва
 ул. Лавочкина 44, кор. 2, кв. 385
 Верховный Совет РСФСР
 Экологический Совет
 Людмила Богославская

Svetlana Revina
 Ecological Council
 RSFSR Supreme Soviet
 Streletskaya St., 13, kv. 8
 Moscow 127018
 tel: 289-65-27

127018 Москва
 ул. Стрелецкая 13, кв. 8
 Верховный Совет РСФСР
 Экологический Совет
 Светлана Ревина

The Ecological Council of the RSFSR Supreme Soviet works on preservation of the Arctic and the environment of Russia. Membership: 50

Oleg Khabarov
 Ecological International
 Zolotorogsky Val., 11
 Moscow 109033
 tel: 361-68-23

109033 Москва
 Золоторогский Вал 11
 Экологический Интернационал
 Олег Хабаров

Nikolay Grishin
 Ecological Project Center
 Usievicha St., 15, kv. 10
 Moscow 125319
 tel: 151-93-11; fax: 200-22-16

125319 Москва
 ул. Усневича 15, кв. 10
 Центр Экологических Проектов
 Николай Гришин

Activities of the Ecological Project Center include environmental conservation and enhancement, health protection, rational use of natural resources and environmental education and training.

Mikhail Lemeshev
Ecology and Peace
Maronovsky, 26
Moscow 117049
tel: 23-82-123 (w); 33-60-513 (h)

117049 Москва
ул. Мароновская 26
Экология и Мир
Михаил Лемешев

Natalya Yurina
Ecology and Peace
Kuznetsky Most, 19
Moscow 103031
tel: 926-04-64

103031 Москва
ул. Кузнецкий Мост 19
Экология и Мир
Наталья Юрина

Ecology and Peace is an umbrella organization which works on developing fundamental principles of a rational economy and of global and regional environmental safety.

"ECOS" Publishing House
Zubovsky Bulvar, 4
Moscow 119021
tel: 201-85-10

119021 Москва
Зубовский бульвар 4
Издательство "ЭКОС"

Remir Senyukov
Fund to Save the Parma
P.B. 75
Moscow 117415
tel: 131-48-58

117415 Москва
А/Я 75
Фонд Спасения Пармы
Ремир Сеньюков

The Fund to Save the Parma works to protect and restore forests, conserve the water resources of the Komi republic, improve sewage treatment facilities and support the use of environmentally sound technology.
Membership: 80

Yuri Dzhibladze
Golubka: Soviet-American
Humanitarian Initiative
Moscow
tel: 142-92-83

Москва
"Голубка:" Советско-Американская
Гуманитарная Инициатива
Юрий Джибладзе

Natalya Kalyakina
Green Children's Planet
Shirokaya St., 9, kor.1, kv. 260
Moscow
tel: 479-74-13

Москва
ул. Широкая 9, к. 1, кв. 260
"Зелёная Детская Планета"
Наталья Калякина

Vladimir Zinichev
Institute of Biologic Development
Vavilova St., 26
Moscow 117808

117808 Москва
ул. Вавилова 26
Институт биологического развития
Владимир Зиничев

Anatoly Antoshechkin
Institute of Biomedicine and Ecologic Problems
Vorovsleovo St., 20
Moscow 121069
tel: 196-52-68; 290-29-11

121069 Москва
ул. Воровслёво 20
Институт биомедицины и
Экологических проблем
Анатолий Антошечкин

Sergey Bayazitov
 Intercenter for solving global problems
 4 Grazhdanskaya St., 39, kor. 2, kv. 56
 Moscow 107370
 tel: 160-19-47

107370 Москва
 4-я Гражданская ул. 39, к. 2, кв. 56
 Интерцентр решения глобальных
 проблем
 Сергей Баязитов

Georgi Nizharadze
 International Green Cross/Green Crescent
 Volochaevskaya St., 11/15
 109033 Moscow
 tel: 298-6247; 298-6232; 278-5145
 fax: 293-6248

109033 Москва
 ул. Волочаевская 11/15
 Экологический Интернационал
 Зелёного Креста и Зелёного
 Полумесяца
 Георгий Нижарадзе

The International Green Cross/Green Crescent is currently planning an international exhibit, "Ozone and Survival". The organization is also working on the creation of a global ozone reserve and on saving the Persian Gulf.

Rimma Vedeneeva
 Investigation Center of Soviet
 Sociological Association
 Kosygin St. 11, kv. 106
 Moscow
 tel: 137-88-39

Москва
 ул. Косыгина 11, кв. 106
 Исследовательский центр Советской
 Социологической Ассоциации
 Римма Веденева

Sergey Ponomarenko
 Laboratory of Ecological Planning
 Novoshchukinskaya St., 12, kv. 60
 Moscow 123182
 tel: 190-23-68

123182 Москва
 ул. Новошукинская 12, кв. 60
 Лаборатория Экологического
 проектирования
 Сергей Пономаренко

The Laboratory of Ecological Planning participates in environmental inspections and planning environmentally-sound land-use management. Membership: 6

Dr. Boris L. Berry
 Laboratory of Snow Avalanches and Mudflows
 Moscow State University
 Vernadsky Prospect, 64-A, Apt. 18
 Moscow 117454
 tel: 432-87-25; fax: 292-65-11

117454 Москва
 Пр-т Вернадского 64-а, кв. 18
 МГУ, Лаборатория снежных лавин
 и грязевых потоков
 Борис Л. Берри

Lyubov Rubinchik
 Moscow Ecological Federation
 Aerodromnaya St., 16, kv. 21
 Moscow 123363
 tel: 492-34-52; 285-80-27

123363 Москва
 ул. Аэродромная 16, кв. 21
 Московская Экологическая
 Федерация
 Любовь Рубинчик

The Moscow Ecological Federation is concerned with the problems of big cities. Specific activities include participating in inspections of nuclear power stations and working on general projects for the development of Moscow.

Marianna Kavitskaya
 National Academy of Sciences
 PB 99
 Moscow 125190
 tel: 198-2162; fax: 200-2216

125190 Москва
 А/Я 99
 Национальная Академия Наук
 Марианна Кавицкая

<p>Dr. Boris F. Goncharov N.K. Koltsov Institute of Developmental Biology Festivalnaya St., 22, kor. 7, kv. 969 Moscow 125581 tel: 135-64-73 (w); 455-69-70 (h)</p>	<p>125581 Москва ул. Фестивальчая 22, к. 7, кв. 969 Институт эволюционной биологии им. Н.К.Кольцова Борис Ф. Гончаров</p>
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The N.K. Koltsov Institute of Developmental Biology works to preserve biological diversity and stimulate the reproduction of amphibians. Membership: 11

<p>Dr. Alexey A. Bondarev Nuclear Society of USSR Podolskikh Kursantov St., 22-a Moscow 113545 tel: 478-97-36 (h); 243-23-86 (w) fax: 200-22-16</p>	<p>113545 Москва ул. Подольских курсантов 22-а Ядерное общество СССР Алексей А. Бондарев</p>
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<p>Sergey Smirensky Ornithological Society: Crane Working Group Oruzheyny Per., 25, kv. 223 Moscow tel: 258-32-88</p>	<p>Москва Оружейный пер. 25, кв. 223 Орнитологическое Общество: рабочая группа по изучению жизни журавлей Сергей Смиренский</p>
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<p>Vadim Khlebopashev Public Ecological Center of the Solntsevo region of Moscow Begovaya St., 6, kor. 2, kv. 36 Moscow</p>	<p>Москва ул. Беговая 6, к. 2, кв. 36 Общественный Экологический Центр Солнцевского района г. Москвы Вадим Хлебопашев</p>
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<p>Vilen Tumanyan Public Ecological Center of the Solntsevo region of Moscow Solntsevsky Pr., 4, kv. 81 Moscow 119620 tel: 439-25-96</p>	<p>119620 Москва Солнцевский пр. 4, кв. 81 Общественный Экологический Центр Солнцевского района г. Москвы Вилен Туманян</p>
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The Public Ecological Center checks all schools in the Solntsevo region for radiation levels. The center also monitors the air and regional bodies of water for radiation levels. Membership: 10

<p>Aleksandra Telegina Public Institute of Energy Inversion Shosseynaya St., 42, kv. 153 Moscow 109388 tel: 353-76-18</p>	<p>109388 Москва ул. Шоссейная 42, кв. 153 Общественный институт Энергетической инверсии Александра Телегина</p>
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The Public Institute of Energy Inversion works on alternative energy issues.

Vladimir Borzov Trade Union of Ecologists of the USSR PB 496 Moscow 119034 tel: 280-05-20; 396-06-81; 479-91-27; 491-58-87 fax: 200-22-16	119034 Москва П/Я 496 Экологический торговый Союз СССР Владимир Борзов
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Alexey Sankovsky TransEco Litovsky Blvd 18, kv. 292 Moscow 117588 tel: 425-46-45	117588 Москва Литовский бульвар 18, кв. 292 ТрансЭко Алексей Санковский
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Oleg Yanitsky UNESCO Program "Man and Biosphere" Stroiteley St., 11, kor. 3, kv. 48 Moscow 117311 tel: 930-56-38; 328-83-45	117311 Москва ул. Строителей 11, к. 3, кв. 48 Программа ЮНЕСКО "Человек и Биосфера" Олег Яницкий
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The UNESCO Program "Man and Biosphere" researches Soviet and foreign environmental movements and has published three booklets about environmental problems. Membership: 3

Union "Chernobyl" Bakinskaya St. 29-266 Moscow 115541 tel: 327-95-54	115541 Москва Ул. Бакинская 29-266 Союз "Чернобыль"
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Dr. Lyubov Anisimova USSR State Committee for Hydrometeorology Glebovsky St., 20b Moscow 107258 tel: 169-22-01	107258 Москва ул. Глебовская 20-б Госуд. Комитет Гидрометеорологии СССР Любовь Анисимова
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Dr. Olga Ponizova Youth Council for Nature Protection Sheremetievskaya St. 37, kv. 61 Moscow 127521 tel: 939-54-58 (w); 219-60-15 (h) fax: (095) 939-08-77	127521 Москва ул. Шереметьевская 37, кв. 61 Молодёжный Совет Защиты Природы Ольга Понизова
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The Youth Council for Nature Protection encourages students to develop practical scientific solutions to environmental problems, specifically focusing on the Moscow region, Komaidorsky Islands, Aral Sea and Far East.

Tamara Ivanova Youth Naturalists' Station Krasnoarmeyskaya St. 22, kv. 25 Moscow 125167 tel: 155-99-09	125167 Москва ул. Красноармейская 22, кв. 25 Станция Юных натуралистов Тамара Иванова
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Igor Vasiliev Zubovsky Proezd 3, kv. 37 Moscow tel: 246-25-39; 939-26-75	Москва Зубовский проезд 3, кв. 37 Игорь Васильев
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Yuri Yemelyanov
Mossoviet
Chertanovskaya St., 63, kor. 1, kv. 62
Moscow 113534
tel: 387-21-19

113534 Москва
ул. Чертановская 63, к. 1, кв. 62
Моссовет
Юрий Емельянов

As a member of the Moscow city soviet, Yuri Yemelyanov is involved in air and water pollution. Membership: 472 deputies to the Moscow soviet

Vassily Sokolov
Save Peace and Nature
Prospect Mira 36
Moscow

Москва
пр-т Мира 36
"Сохранение мира и природы"
Василий Соколов

Save Peace and Nature researches environmentally-safe technologies and is involved in cultural and economic activities. It has many branches in the RSFSR.

Vladimir Lupandin
Socio-Ecological Initiatives Foundation
13 Parkovaya St., 25, kor. 2, kv. 24
Moscow 105215
tel: 464-91-46; 125-80-88

105215 Москва
13-я Парковая ул. 25, к. 2, кв. 24
Фонд социально-экологических
Инициатив
Владимир Лупандин

The Socio-Ecological Initiatives Foundation conducts radiation monitoring and organizes expeditions to Chukotka and the Bryansk region. Membership: 20

Maria Cherkasova
Socio-Ecological Union
Malaya Bronnaya 12,12
Moscow 103104

103104 Москва
ул. Малая Бронная 12, 12
Социально-экологический Союз
Мария Черкасова

Sviatoslav Zabelin
Socio-Ecological Union
Krasnoarmeyskaya St. 25, kv. 85
Moscow
tel: 151-62-70

Москва
ул. Красноармейская 25, кв. 85
Социально-экологический
Союз
Святослав Забелин

Maria Ananicheva
Socio-Ecological Union
Staromonetny 29
Moscow 109017
tel: 945-40-94; fax: 200-20-90
e-mail: sfmt: sococo

109017 Москва
Старомонетный пер., 29
Социально-экологический
Союз
Мария Ананичева

Lidia Popova
Socio-Ecological Union
Krupskaya St., 8-1-187
Moscow
tel: 131-70-12

Москва
ул. Крупской 8-1-187
Социально-экологический Союз
Лидия Попова

Natalia Reutova
Socio-Ecological Union, Union of Filmmakers
Vasiliyevskaya 13
Moscow
tel: 195-4442 (h); 251-5060 (w)

Москва
ул. Васильевская 13
Социально-экологический Союз,
Союз фильмопроизводителей
Наталья Реутова

Vladimir Kosenko
Socio-Ecological Union (Katun Coordinator)
Susiskoy Proezd, 21, korpus 2, kv. 36
Moscow 113208
tel: 311-56-27

113208 Москва
Сусиской проезд 21, к. 2, кв. 36
Социально-экологический Союз
Владимир Косенко

Alexander Nadolishny
Socio-Ecological Union, EcoSafeguard
PB 273
Moscow 117602
fax: (095) 292-65-11

117602 Москва
П/Я 273
Социально-экологический Союз
Экологическая Защита
Александр Надолишний

Nikolay Krupenko
Socio-Ecological Union,
Ecomonitoring Department
Bolshevistsky per, 11
Moscow 101000
tel: 921-77-15

101000 Москва
Большевицкий пер., 11
Отделение экомониторинг
Социально-экологического Союз,
Николай Крупенко

The Socio-Ecological Union (SEU) is an umbrella organization of about 140 groups and as such is the largest nongovernmental environmental organization in the Soviet Union. The SEU held its founding conference in Moscow in December 1988.

Vladislav Ksionzhok
International Ecological Competition
of Technological Projects
Sokoliny Gory St., 19, kv. 63
Moscow 105118
tel: 285-89-80

105118 Москва
ул. Соколиной Горы 19, кв. 63
Международный Экологический
Конкурс Технологических Проектов
Бладислав Ксионжек

The International Ecological Competition of Technological Projects organizes competitions and auctions of technological projects. Membership: 12

Vladimir Stratanovich
Pushkino, 7-120
Moskovskaya Obl.
422-44-40

Московская обл.
г. Пушкино 7-120
Владимир Стратанович

Askhat Kayumov
Ecological Center "Dront"/Druzhina Movement
Lopatina St., 11, kv. 143
Nizhniy Novgorod 603163
tel: (8213) 39-74-79

603163 Нижний Новгород
ул. Лопатина 11, кв. 143
Экологический центр «Дронт»/
Дружина по охране природы
Асхат Каюмов

The Ecological Center "Dront" is involved in preservation of biological diversity, improving air and water quality and educating the public about the environment. The center has also successfully influenced local officials concerning local nuclear power stations and hydroelectric dams. Membership: 50

Inessa Pochetova
Club "Ecology," Novgorod Branch, SEU
Leningradskaya St., 27; kv. 62
Novgorod 173003
tel: (81600) 76-74-3

173003 Новгород
ул. Ленинградская 27, кв. 62
Клуб Экология, отделение СЭС
Инесса Почетова

The Novgorod Branch of the SEU monitors the quality of food and agricultural supplies, educates the public about the environment, and has been involved in discussions about construction of an ammonia plant and protests against the Katun River hydroelectric dam. Membership: 15

Vera Mishunova
Public Ecological Organization "Ensi"
Michurin St., 43, kv. 38
Novosibirsk 630081
tel: (3832) 20-58-90

630081 Новосибирск
ул. Мичурина 43, кв. 38
Общественная экологическая
организация «энси»
Вера Мишунова

Anatoly Shpunt
Public Ecological Organization "Ensi"
Morskoy pr., 48, kv. 5
Novosibirsk 630090
tel: (3832) 20-58-90, 35-11-89

630090 Новосибирск
Морской пр. 48, кв. 5
Общественная экологическая
организация «энси»
Анатолий Шпунт

The Public Ecological Organization "Ensi" monitors the pesticide content of food supplies and develops alternative environmental projects. Successes include publishing a book, *On the Verge of Disaster*, developing an alternative to the planned Kalush hydroelectric dam, and protesting the diversion of north-flowing rivers. Membership: 20

Tatiana Belogradova
Novosibirsk Branch, SEU
Akademicheskaya St., 19, kv. 16
Novosibirsk 630072

630072 Новосибирск
ул. Академическая 19, кв. 16
Новосибирское отделение СЭС
Татьяна Белогрудова

The Novosibirsk Branch of the Socio-Ecological Union protests construction of nuclear power stations and is involved in agriculture and health. Membership: 30

Vadim Kalinin
Center for Environmental Research
Marks Pr. 98, kv. 66
Obninsk 249020
tel: (08439) 38-6-48

249020 Обнинск
пр-т Маркса 98, кв. 66
Центр исследования окружающей
среды
Вадим Калинин

Tatyana Shpotova
Center for Environmental Research
Obninsk
249020 Kaluzhskaya obl.
tel: (08439) 3-86-48

249020 Калужская обл
г. Обнинск
Центр исследования окружающей
Среды
Татьяна Шпотова

The Center of Environmental Research monitors water quality for toxic pollutants, protects local rivers and lakes for fishing and agricultural purposes, and coordinating ecotourism. Membership: 10

Nikolay Senin
Omsk Green City Socio-Environmental Assn.
K. Marks pr., 6, kv. 56
Omsk 644010
or

644010 Омск
пр-т К. Маркса 6, кв. 56
Социальное Экологическое
Объединение Зелёный Город
Николай Сенин

PB 5714
Omsk 644046
tel: (3812) 31-30-83

644046 Омск
П/Я 5714
Николай Сенин

The Omsk Green City Socio-Environmental Association monitors radiation pollution in homes, advocates compensation for people living in highly contaminated homes, publishes an environmental newspaper and participates in independent environmental inspections. Membership: 150

Yuly Shchipakin
Perm Branch, SEU
Kosmonavtov St., 88, kv. 39
Perm 614081
tel: (3422) 31-08-81

614081 Пермь
ул. Космонавтов 88, кв. 39
Пермское отделение СЭС
Юлий Щипакин

The Perm Branch of the Socio-Ecological Union advocates the use of environmentally sound technology, attempts to improve environmental conditions to alleviate environmentally-related illnesses and cooperates with professional organizations and businesses. Membership: 5

Sergey Soloviev
Petropavlovsk-Kamchatka, Greens Assn.
Gorki St., 15, kv. 44
Petropavlovsk-Kamchatsky 683024
tel: (41500) 31-35-2, 3-36-83

683024 Петропавловск-Камчатский
ул. Горького 15, кв. 44
Ассоциация Зелёных г.Петропав-
ловск-Камчатский
Сергей Соловьёв

The Greens Association of Petropavlovsk-Kamchatka coordinates the activities of NGOs, tries to influence legislation and sponsors ecological exhibitions and ecotourism.

Anatoly Lebedev
Greenpeace affiliate
Nekrasovskaya St., 48, kv. 912-a
Vladivostok 690014
tel: 239-922; 226-895

690014 Владивосток
ул. Некрасовская 48, кв. 912-а
Анатолий Лебедев

Projects of this organization include demilitarization of the territories of the Far East, ecotourism, development of environmental businesses and introducing cleaner technologies to industry and agriculture. The group has successfully halted nuclear research in Vladivostok and logging of the region's cedar forests. It has also disseminated information about a nuclear accident which occurred on a naval vessel in 1985. Membership: 25

Victor Starodubtsev
Ecological Initiative
Perevertkin St., 46, kv. 35
Voronezh 394000
tel: (0732) 23-05-93; 566-569

394000 Воронеж
ул. Перевёрткина 46, кв. 35
Экологическая Инициатива
Виктор Стародубцев

Ecological Initiative monitors the environment of Voronezh. In 1990 the group conducted an independent environmental inspection of a nuclear power station, a success which it accomplished through a city-wide referendum on the issue. Membership: 50

Aleksandr Tsyganov
Public Ecological Center
Kirova St., 13
Yakutsk 677000
tel: (41122) 27-11-2

677000 Якутск
ул. Кирова 13
Общественный-Экологический Центр
Александр Цыганов

In 1990 the Public Ecological Center conducted five inspections of underground nuclear testing sites and uncovered two sites with radiation pollution.

Ekaterina Skorikhina
Green Branch Club
Zakharova St. 19
Yaroslavl 150002
tel: 21-00-75; 22-40-61

150002 Ярославль
ул. Захарова 19
Клуб "Зелёная ветка"
Екатерина Скорыхина

Lidia Baykova
Green Branch Klub
Lekarskaya St., 1, kv. 1
Yaroslavl 150000
tel: (08522) 22-01-75

150000 Ярославль
ул. Лекарская 1, кв. 1
Клуб "Зелёная ветка"
Лидия Байкова

The Green Branch Klub educates the public about the environment and advocates the public's right to have control over their environment. In 1990 the group cooperated with Green Peace in Germany and worked on the construction of a sewage treatment plant. Membership: 42

Aleksandr Ogloblin
Cooperative "EKOS"
Kirova St., 9/7
Yaroslavl 150000
tel: (08522) 22-11-95

150000 Ярославль
ул. Кирова 9/7
Кооператив "ЭКОС"
Александр Оглоблин

The Cooperative "EKOS" is involved in sewage treatment. Membership: 18

BASHKIRIA, ASSR

Bashkiria branch of SEU

БАШКИРСКАЯ АССР

Башкирское отделение СЭС

Activities of the Bashkiria Branch of the Socio-Ecological Union include alleviating the consequences of environmental disasters such as recent phenol spills into city water supplies, providing assistance to disaster victims and raising local environmental awareness.

Dima Novitsky
Ecology, Health and Life
Lenin St., 21, kv. 32
Ufa 450025
tel: (3472) 22-44-89

450025 Уфа
ул. Ленина 21, кв. 32
Экология, Здоровье и Жизнь
Дмитрий Новицкий

Aleksandr Volkov
Ufa Intellectuals Club
Krupskoy 6, kv. 38
Ufa 450000
tel: (3472) 22-85-70

450000 Уфа
ул. Крупской 6, кв. 38
Уфимский Клуб Интеллигенции
Александр Волков

The Ufa Intellectuals Club is interested in environmentally-related illnesses and ecotourism. Membership: 100

Boris Rezhabek
Ecopolis Mira, Southern Branch
Eremenko St. 60/4, kv. 80
Rostov on Don 344133
tel: 8-8632-25-0728; 22-4291

344133 Ростов на Дону
ул. Еременко 60/4, кв. 80
Экополис Мира, Южный Филиал
Борис Режабек

Ecopolis Mira seeks to build communities of a new type, uniting the possibilities of city life and agriculture for the development of science, culture and religion. Specific interests include alternative energy and technology. In 1990 the group began developing an ecopolis in the Tanaise National Park near the Don River.

Mikhail Panov
Druzhina for Nature Protection
Gorky St., 24, kor. 1, kv. 10
Ryazan 390000

390000 Рязань
ул. Горького 24, к. 1, кв. 10
Дружина по Охране Природы
Михаил Панов

The Ryazan Druzhina for Nature Protection conducts environmental monitoring, supports public control of environmental legislation and works with the local Deputy Soviet.

Tatyana Baranovskaya
Youth Committee for Nature Protection
Gagarin St., 48, kv. 47
Samara 443079
tel: (8462) 68-35-25

443079 Самара
ул. Гагарина 48, кв. 47
Молодёжный союз по охране
природы
Татьяна Барановская

The Youth Committee for Nature Protection organizes environmental camps and ecotourism, coordinates protests against environmentally-damaging factories and advocates the protection and restoration of the Samarskaya Luna National Park. Membership: 20

Sergey Krinitsin
EcoInfo
Postovskogo St., 16-a, kv. 16
Sverdlovsk 620147

620147 Свердловск
ул. Постовского 16-а, кв. 16
ЭкоИнфо
Сергей Криницин

EcoInfo is involved in environmental education and ecotourism.

Albina Biychaninova
Tomsk Ecological Initiative
Korolev St., 8, kv. 3
Tomsk 634055
tel: (3822) 25-85-58

634055 Томск
ул. Королёва 8, кв. 3
Томск Экологическая Инициатива
Альбина Бийчанинова

The Tomsk Ecological Initiative is involved in air and water pollution and the extermination of Siberian forests. In 1990 the movement successfully blocked construction of an environmentally-hazardous plant in Tomsk, sponsored a public forum about radiation pollution and took part in independent inspections in the region. Membership: 20

Aleksandr Ksents
Ecological Center
Kirov Pr., 53/4, kv. 9
Tomsk 634012
tel: (3822) 44-79-53

634012 Томск
пр-т Кирова 53/4, кв. 9
Экологический Центр
Александр Ксенц

The Ecological Center researches environmentally-sound technologies and uses non-traditional forums for environmental education. Membership: 10

Vladimir Chernovol
Committee for Ecological Control
Mayakovskogo St., 9, kv. 11
Tuapse 352800
tel: (86261) 28-8-07

352800 Туапсе
ул. Маяковского 9, кв. 11
Комитет Экологического Контроля
Владимир Черновол

Projects of the Committee for Ecological Control include establishing a national park near the Black Sea, a Children's Center, zoos and botanical gardens. The Committee is also trying to establish an NGO watchdog group. Membership: 40

Irina Izvolskaya
Tula environmental newspaper, "For Survival"
Frunze St., 16, kv. 35
Tula 300034

300034 Тула
ул. Фрунзе 16, кв. 35
газета "За Выживание"
Ирина Изволская

Andrey Saltykov
Noosphere Environmental Club
Kashtankina St., 23, kv. 3
Ulyanovsk 432048
tel: (84222) 31-33-02

432048 Ульяновск
ул. Каштанкина 23, кв. 3
Экологический Клуб "Ноосфера"
Андрей Салтыков

The Noosphere Environmental Club is involved in environmental education and improving the urban environment of Ulyanovsk. Successes include halting construction on and pollution of the Sviyaga River, blocking construction of a microelectric plant in the center of the city and preserving two city parks. Membership: 23

DAGESTAN, ASSR

Salautdin Magidov
Green Movement of Caucasus
Oskar St., 60, kv. 31
Makhachkala 367002
tel: (87200) 72-0-51 (h); 7-68-16 (w)

ДАГЕСТАНСКАЯ АССР

367002 Махачкала
ул. Оскара, 60, кв. 31
Кавказское Движение Зелёных
Салаутдин Магидов

The Green Movement of the Caucasus publicizes environmental problems in Dagestan, specifically air, forest and river pollution. Membership: 17

KARELIA, ASSR

Dmitry Rybakov
"Paanayarvi"
Pushkinskaya St., 5-a, kv. 32
Petrozavodsk 185035
tel: (81400) 99-88-1

КАРЕЛЬСКАЯ АССР

185035 Петрозаводск
ул. Пушкинская 5-а, кв. 32
"Паанаярви"
ДМИТРИЙ РЫБАКОВ

"Paanayarvi" advocates alternative sources of energy and the protection of national parks. Projects include organizing protests against the construction of the Karelia nuclear power plant and organizing demonstrations in the Segezhe region. Membership: 25

Ninel Khakkarainen
Panayarvi Creative Noosphere Club
Neobrandenburgskaya St., 14-a, kv. 51
Petrozavodsk 185034
tel: (81400) 65-62-4

185034 Петрозаводск
ул. Необранденбургская 14-а, кв. 51
Творческий Ноосферный клуб
"Панаярви"
Нинель Хаккарянен

The Panayarvi Creative Noosphere Club studies illnesses related to air pollution and fluosis and is involved in natural resource issues and Karelian nature preserves.

KOMI, ASSR

Margarita Getsen
Komi Socio-Ecological Club
K Marks St., 212, kv. 17
Syktyvkar 167007
tel: (82122) 7-20-42; 2-50-12; 2-52-13

КОМИ АССР

167007 Сыктывкар
ул. К.Маркса 212, кв. 17
Коми Социально-Экологический клуб
Маргарита Гецен

The Komi Socio-Ecological Club is involved in environmental education, ecotourism and monitoring. In 1990 the club worked out a plan for creating a national park in Komi and halted plans to build an environmentally hazardous plant in Shezhazt.

TATAR, ASSR

Aleksandr Dorofeev
 "Ants" Nature Protection Brigade
 Zavoisky St., 12, kv. 120
 Kazan 420141

ТАТАРСКАЯ АССР

420141 Казань
 ул. Завойского 12, кв. 120
 «Муравьи» шк. отряд по охране
 природы
 Александр Дорофеев

The "Ants" Nature Protection Brigade works principally on issues of waste disposal and industrial wastes. The brigade also teaches children to put environmental protection into practice, cleaning streams and turning trash into souvenirs. In 1990 the brigade participated in the Greenpeace "No Time to Waste" project and successfully developed environmental technologies for using logging wastes. Membership: 30

Alsue Feishanova
 Ecology Department
 Kazan University
 Lenin St. 18
 Kazan 420008
 tel: 38-70-51; 39-80-68

420008 Казань
 ул. Ленина 18
 Казанский Университет
 Экологическое отделение
 Эльсу Фейшанова

The Ecology Department of Kazan University is involved in environmental education as well as a joint program with the National Audubon Society.

Bulat Tukhvatullin
 Ecological Foundation OASIS
 Ibragimov Pr., 4, kv. 54
 Kazan 420057
 tel: (8432) 37-32-81; 37-54-75; 53-51-43

420057 Казань
 пр. Ибрагимова 4, кв. 54
 Экологический Фонд "ОАЗИС"
 Булат Тухватулин

The Ecological Foundation OASIS develops environmental education programs for employers and businessmen, including education about waste products. In 1990 OASIS developed contacts with Americans and started an environmental school for employers. Membership: 50

TAJKISTAN

Khamid Atakhanov
 Tajikistan Branch, SEU
 Gissarskaya St., 15, kv. 27
 Dushanbe 734058
 tel: (3772) 35-05-43; 23-25-23

ТАДЖИКИСТАН

734058 Душанбе
 ул. Гиссарская 15, кв. 27
 Таджикское отделение СЭС
 Хамид Атаханов

The Tajikistan Branch of the Socio-Ecological Union is interested in environmentally related illnesses and reconstruction of polluting industrial plants. Projects include developing the Pamir National Park and participating in an inspection of the Rogunskaya Nuclear Power Plant. Membership: 15

Appendix D

Background Materials on ENBAS, ECOPROM and RIIF

ССОИМАШНА
ДЕЛОВОГО
СОТРУДНИЧЕСТВА
С ПАРУЖНЫМИ
С ЧЕА
Е ПЛА
О ПЖАНШЕЙ
СРЕ

ENVI

ENVI
BUSIA
ASSOC

**Ассоциация
делового сотрудничества
с зарубежными странами
в области окружающей среды**

ENBFIS

была основана в 1989 г. группой крупных промышленных предприятий и научно-исследовательских организаций по инициативе Государственного комитета СССР по охране природы и Торгово-промышленной палаты СССР.

Ассоциация «ИНБАС» является внешнеэкономической фирмой, представляющей интересы предприятий и организаций, которые хотят выйти на внешний рынок в целях установления контактов с зарубежными фирмами.

Основателями Ассоциации являются: производственное объединение «ЗИЛ», г. Москва; машиностроительный завод им. Хруничева, г. Москва; производственное специализированное объединение «Цветметэкология», г. Москва; научно-производственное объединение «ВНИИНЕФТЕМАШ», г. Москва; производственное объединение «Экибастузуголь», г. Экибастуз; производственное объединение «Нижнекамскнефтехим», г. Нижнекамск и другие.

Основные учредители Ассоциации «ИНБАС»: Общество с ограниченной ответственностью «Русское юридическое агентство», Бюро предпринимательской инновации «Ларосс», Ассоциация делового сотрудничества «Иртыш».

Ассоциация «ИНБАС» предлагает услуги в области деловой информации, инвестирования и маркетинга.

С момента создания «ИНБАС» ориентирована на налаживание сотрудничества с зарубежными странами в области окружающей среды.

Ассоциация проводит семинары и презентации ведущих зарубежных фирм, производящих газоочистное, пылеулавливающее и водоочистное оборудование, средства контроля за источниками выбросов и владеющих технологиями получения ценных сырьевых ресурсов из отходов производства, а также производящих оборудование для экологически безопасного уничтожения токсичных отходов.

Ассоциация «ИНБАС» берет на себя внешнеторговую, посредническую и координационную роль в реализации различных проектов. Мы оказываем помощь в выполнении экологических программ предприятий, находящихся в различных регионах стран СНГ.

Ассоциация «ИНБАС» действует на разных направлениях: организует обучение специалистов за рубежом, экспертизы и анализ состояния окружающей среды.

Ассоциация «ИНБАС» достигла хороших результатов в различных областях коммерческой деятельности, включая импорт и экспорт.

Ассоциация «ИНБАС» гордится своей способностью поставлять клиентам необходимую продукцию и услуги по чрезвычайно конкурентоспособным ценам. Другим источником чувства гордости является доверие клиентов, которое позволило установить прочные связи со многими российскими и иностранными фирмами.

Вне всякого сомнения, изучение и организация рынка сбыта отходов, поставка природоохранного оборудования, финансирование, а также маркетинг, представляемые Ассоциацией «ИНБАС», вполне удовлетворяют все больше и больше возрастающий спрос на наши проекты.

Коммерческая деятельность Ассоциации развивается быстрыми темпами благодаря высокой квалификации сотрудников в области внешней и внутренней торговли.

**The Environmental
Business
Association**

ENBFIS

was set up in 1989 by a number of large industrial enterprises and scientific-research institutes at the initiative of the USSR State Committee for Environmental Protection and the USSR Chamber of Industry and Commerce.

Today «ENBAS» is a foreign-economic company representing interests of enterprises and organizations eager to enter international market with the aim of entering into contracts with foreign firms.

The founders of the «ENBAS» are: Production Association «ZIL», Moscow; Moscow Machine-Building Plant after Khrunitchev; Production Specialized Association «Tsvetmetecologia», Moscow; Scientific-Production Association «Vniineftemash», Moscow; Production Association «Ekibastuzugol», Ekibastuz; Production Association «Nizhnekamskneftechim», Nizhnekamsk and others.

At the present time participants in «ENBAS» are the following: «Russian Juridical Agency Ltd.», Business Innovation Bureau «Laross» and Business Association «Irtys».

«ENBAS» renders services in the field of business information, investments and marketing.

From the very moment of its inception «ENBAS» was oriented to encourage cooperation with foreign states in the environmental sphere.

«ENBAS» organizes seminars and presentations of foreign companies, which produce gas-purification, dust-absorption and water-purification equipment, means of control of emission sources and develops technologies for obtaining valuable raw materials for ecologically safe annihilation of toxic waste.

«ENBAS» plays an intermediate and coordinating role in the realization of various projects. It renders assistance in carrying out ecological programs of enterprises situated in all regions of CIS countries.

«ENBAS» acts in various spheres: it organizes experts' training abroad, expertises and environmental assessment.

«ENBAS» is very successful in different areas of commercial activities, including import and export.

«ENBAS» is proud of its ability to provide clients with necessary products and services at very competitive prices. Another source of its pride is clients' confidence, which make it possible to set up firm contacts with many Russian and foreign companies.

It goes without saying that studies and organization of the market place, delivery of environmental equipment, financing as well as marketing provided by «ENBAS» help meet the more and more growing demands for its projects.

The commercial activities of the company are rapidly developing due to high skill of personnel specializing in the sphere of foreign and domestic trade.

ENBFIS Организация производства высокоэффективного природоохранного (газоочистного, пылеулавливающего и водоочистного) оборудования.

Разработка и создание систем и средств контроля за состоянием окружающей среды и источниками выбросов.

Внедрение экологически безопасных и ресурсосберегающих технологий, в том числе по переработке и утилизации промышленных и бытовых отходов, на предприятиях металлургического, топливно-энергетического, машиностроительного, химико-лесного и строительного комплексов.

ENBFIS

ENBFIS Organization of production of highly efficient environmental (gas-purification, dust-absorbtion and water-purification) equipment.

Design and development of systems and means of control of environment and emission sources.

Introduction of ecologically safe and resource-preserving technologies including processing and utilization of industrial and domestic waste on enterprises of metallurgical, fuel-energy, machine-building, chemical, timber and construction complexes.

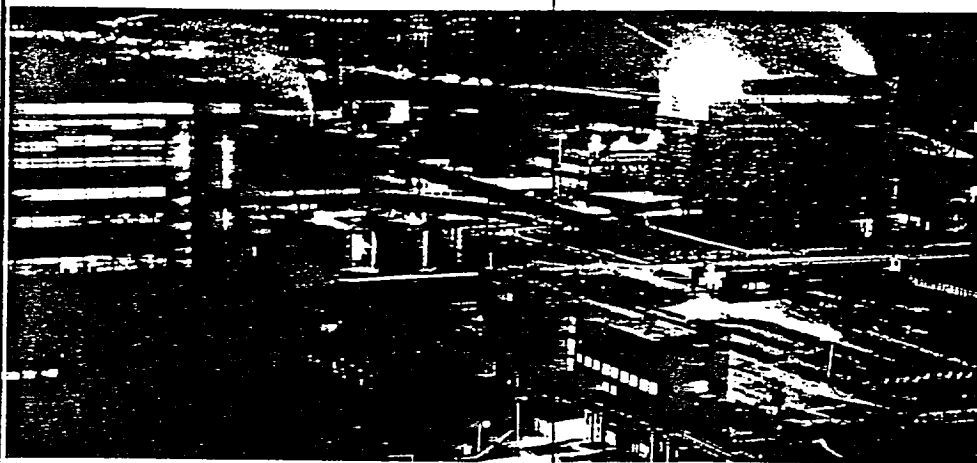
**Предприятия
и организации —
члены Ассоциации
«ИНБАС» —
предлагают
следующие направления
сотрудничества
с зарубежными
фирмами:**

МАШИНОСТРОИТЕЛЬНЫЙ ЗАВОД ИМЕНИ ХРУНИЧЕВА

- поставка озонаторных установок для водоподготовки, а также для доочистки сточных вод производительностью 25—100 и 0,25—15 кг озона в час, отличающихся от известных использованием токов высокой частоты и озонсорбции, что позволяет в два раза увеличить производство озона с единицы площади и на 30—40% снизить энергетические затраты; возможна кооперация в форме поставки в Россию компрессоров, систем осушки и очистки воздуха, приборов для газоанализа и определения (мониторинга) примесей в воде;
- использование озонных технологий в процессах очистки дымовых газов от оксидов азота и высокую степень очистки газов — SO_2 — 90%, NO_x — 70—80%; целесообразна поставка от зарубежных партнеров оборудования для гранулирования, расфасовки и упаковки образующегося в процессе очистки сульфата аммония с микроэлементами — безнитратного удобрения, а также другого оборудования, применяемого в газоочистных установках (по согласованию сторон).

НПО «НИИХИММАШ»

- совместное производство разделительных мембран и мембранных элементов для процессов обратного осмоса и ультра-фильтрации для очистки сточных вод, а также установок мембранного разделения на уровне европейских стандартов на базе имеющихся в России производственных площадей на контрактной основе с различными формами расчетов;
- совместная разработка и организация на контрактной основе высокоселективных ассиметричных газоразделительных мембран, плоских или рулонных мембранных элементов для разделения газовых и жидких смесей;
- участие в создании опытно-промышленных установок и последующая поставка на контрактной основе экологически чистых комплексов оборудования для переработки отходов птицефабрик и животноводческих ферм с получением очищенного биогаза, комплексных удобрений и ценных кормовых добавок, отличающихся экологической чистотой, получением высококалорийного метана, жидких и твердых органических удобрений, повышающих урожайность на 10—12% по сравнению с традиционными органическими удобрениями, белково-витаминными кормовыми добавками.



**Enterprises
and organizations
which are members
of "ENBAS"
offer the following
possibilities
of cooperation with
foreign companies:**

MACHINE-BUILDING PLANT AFTER KHRUNITCHEV

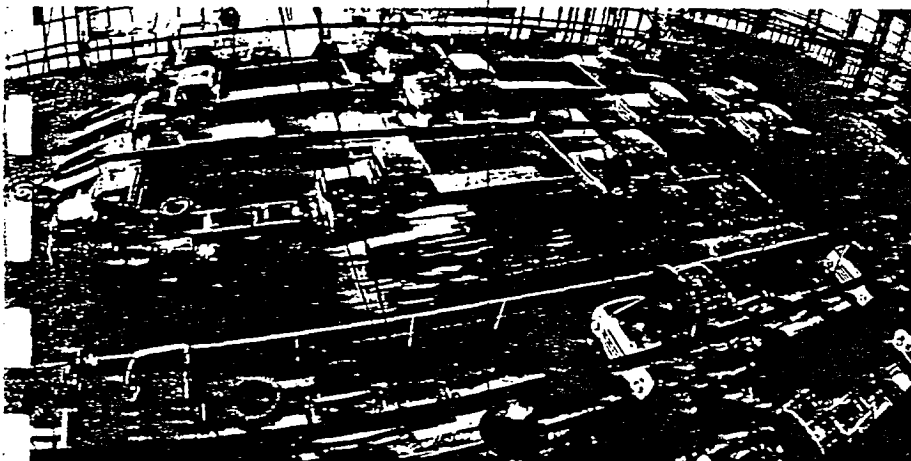
- delivery of ozonizing plants for water preparation and tertiary treatment of waste water with productivity of 25—100 and 0.25—15 kgs of ozone per hour, which differ from the known in use of high-frequency current and ozone-absorption which allow to increase production of ozone from the unit of area in two times and to decrease energy consumption by 30—40 per cent; cooperation in a form of delivery of compressors, air-drying and purifying systems, devices for gas analysis and monitoring of admixtures in water to Russia;
- utilization of ozone technologies in the processes of purification of flue gases from nitrogen oxides and receiving high quality purification from: SO_2 — 90%, NO_x — 70—80%. delivery of equipment for granulation and packing of resulting ammonium sulfate with microelements (nitrates free fertilizers), as well as other equipment used in gas-purification plants from foreign partners is expedient.

SCIENTIFIC-PRODUCTION ASSOCIATION "NIICHIMMASH"

- joint production of separating membranes and membrane elements for process of reverse osmosis and ultra-filtration for sewage purification as well as plants of membrane separation of European standard level on the basis of existing Russian industrial areas on the contract basis with different forms of payment;
- joint design and production on the contract basis of highly selective asymmetric gas-separating membranes, plane or rolled membrane elements to separate gas and liquid admixtures;
- participation in creating pilot-industrial plants and further delivery on a contract basis of ecologically pure equipment complexes for processing waste from poultry plants and stock-rearing farms producing purified biogas, complicated fertilizers and valuable feed additives, producing high-calory methane, liquid and solid organic fertilizers increasing crop capacity by 10—12% in comparison with traditional organic fertilizers, protein-vitamin feed additives

ПО «ЗАВОД ИМЕНИ ЛИХАЧЕВА»

- совместная разработка на основе имеющихся исследований нейтрализаторов различных типов — средств каталитического дожигания токсичных выбросов двигателей внутреннего сгорания и организация их промышленного производства;
- участие фирм в создании замкнутого водооборотного цикла производств объединения, а также во внедрении газоочистных установок различного типа;
- приобретение средств контроля газовых токсичных выбросов — SO_2 , NO_x , CO от энергетических установок объединения;
- приобретение технологий и оборудования для обработки и утилизации гальванических шламов, содержащих ионы тяжелых металлов.



PRODUCTION ASSOCIATION "ZAVOD IMENI LICHATCHOVA" (ZIL)

- joint design of various neutralizers — means of catalyst reburning of internal combustion engines emissions on the basis of existing researches and organization of their industrial production;
- companies' participation in creating closed water turn-over cycle for Association's productions, as well as in implementing various gas-purifying plants;
- purchase of means of control of gaseous toxic emissions — SO_2 , NO_x , CO from power plants;
- purchase of technologies and equipment for treatment and utilization of galvanic slushes containing heavy metals ions.

ПО «ЦВЕТМЕТЭКОЛОГИЯ»

- организация совместного производства на базе имеющихся в объединении производственных площадей газопылеулавливающего, водоочистного оборудования и приборов экологического контроля. Необходимо поставка зарубежным партнером технической документации на приборы, комплектующих изделий, оборудования для производства аппаратов и приборов, систем контроля и управления процессами газо- и водоочистки;
- создание совместной инженеринговой фирмы в области охраны окружающей среды в направлениях:
 - разработка аппаратов и систем очистки промышленных выбросов загрязняющих веществ в атмосферу и водоемы;
 - научный поиск и разработка новых технологий газо- и водоочистки;
 - проведение шефмонтажных, пусконаладочных работ на установках газо- и водоочистки и сервисного обслуживания;
 - проведение независимой экологической экспертизы технических решений по газо- и водоочистке;
- организация совместной фирмы по очистке русел рек от топлива, санитарной рубке леса на территории России и выпуск на этой основе мебели. Зарубежный партнер предоставляет современное оборудование для производства мебели, отделочные материалы и фурнитуру, квалифицированных мастеров

PRODUCTION ASSOCIATION "TSVETMETECOLOGIA"

- organization of joint production on the basis of existing industrial areas of gas- and dust-absorbing, water-purifying equipment and environment control devices. Delivery by foreign partners of technical documentation for devices, complete articles, systems of control of gas- and water-purification processes;
- setting up a joint engineering company in the sphere of environmental protection in the following directions:
 - development of plants and systems for purification of industrial contaminated emissions into atmosphere and water basins;
 - scientific search and development of new gas and water purification technologies;
 - organization of installation, adjustment and alignment of gas and water purification plants, their service maintenance;
 - organization of independent ecological expertise of designs for gas and water purification;
- setting up a joint company for purification of river-beds from snags, sanitar wood cutting on the territory of Russia and production of furniture on this basis. The foreign partner shall provide modern equipment for furniture production, leather finishing agents and accessories, qualified personnel.

ПО «СОЮЗСТРОМЭКОЛОГИЯ»

- совместные разработки на базе имеющихся исследований и организация производства лидарных систем определения накопления в организме человека и животных вредных веществ техногенного происхождения;
- совместное производство газоочистного оборудования для индустрии отдельных строительных материалов;
- совместное производство ветроэнергетических установок.

ENBFIS

PRODUCTION ASSOCIATION "SOJUZSTROMEKOLOGIA"

- joint developments and organization of production of lidar systems for determination of toxic technogenic agents in human and animal organisms on the basis of existing researches;
- joint production of gas-purification equipment for several construction materials manufacturing;
- joint production of wind-power plants.

СТЕРЛИТАМАКСКИЙ ЗАВОД «АВАНГАРД»

□ организация совместного предприятия по производству приборов экологического контроля на базе имеющихся производственных площадей и квалифицированного персонала, высвобождающихся в процессе конверсии;

□ приобретение системы экологического мониторинга для крупного промышленного города Стерлитамак.

СЫКТЫВКАРСКИЙ ЛЕСОПРОМЫШЛЕННЫЙ КОМПЛЕКС

□ приобретение у фирм технологии и оборудования для:

● производства активированного угля из лигнина;

● флокулянтов для производства бумажной массы;

● приборов контроля сточных вод и газовых выбросов;

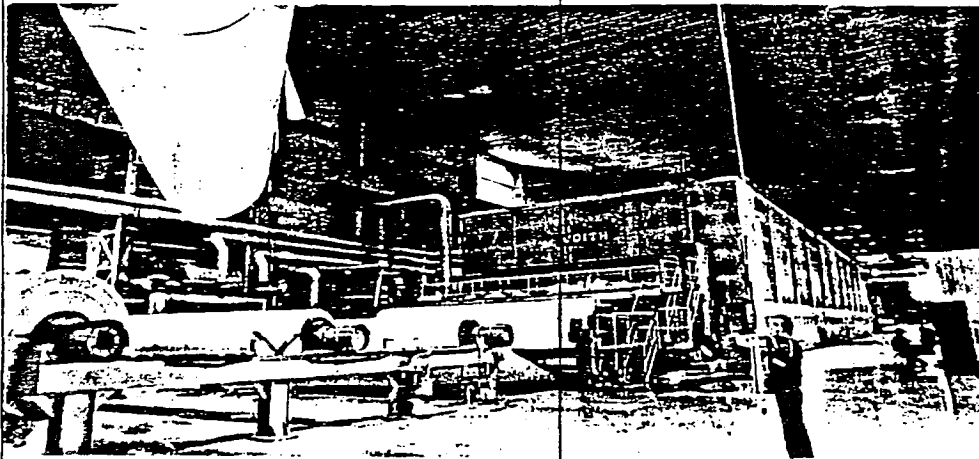
● утилизации коры и отходов фанерного и древесно-стружечных производств;

● извлечения из технологических масс фитостерина — сырья для производства гормональных препаратов;

□ организация совместного предприятия по производству целлюлозы со сбытом ее на мировом рынке.

ПО «СОВИНТЕРВОД» (СКТБ С ОЭП)

□ организация совместных разработок и производства технических средств для создания экологически чистых подземных противодинамических вертикальных и наклонных экранов под водоемами и каналами внутри плотин и дамб, защиты котлованов от грунтовых вод, строительства подземных ирригационных систем для аэрозольного увлажнения сельскохозяйственных культур, пылеподавления, пожаротушения с использованием аэрозольного распыления жидкости, для защиты рыб от попадания в водозаборные сооружения



STERLITAMAK PLANT "AVANGARD"

□ setting up a joint venture for production of environment control devices on the basis of existing industrial areas and personnel disengaging in the conversion process;

□ purchase of environment monitoring system for the large industrial city of Sterlita-mak.

SYKTYVKAR TIMBER-PRODUCING COMPLEX

□ purchase of technology and equipment for:

● production of activated coal from lignin;

● flocculants for paper mass production;

● means of control after sewages and gas emissions;

● utilization of bark and waste from plywood and wood-chips productions;

● extraction of phytosterin — raw material for hormone preparations production — from technological masses;

□ organization of a joint venture for pulp production and its sale in a world market

PRODUCTION ASSOCIATION "SOVINTERVOD"

□ organization of joint developments and production of technic means for creating: ecologically pure underground antilfiltration vertical and slope screen under water-basins and cannels, inside the dams and embankments, protection of foundation pits from ground waters, erection of underground irrigation systems for aerosol humidification of agricultural crops, dust- and fire-suppression using aerosol spraying; for protection of fish from entering to water intake installations.

ММПО «САЛЮТ»

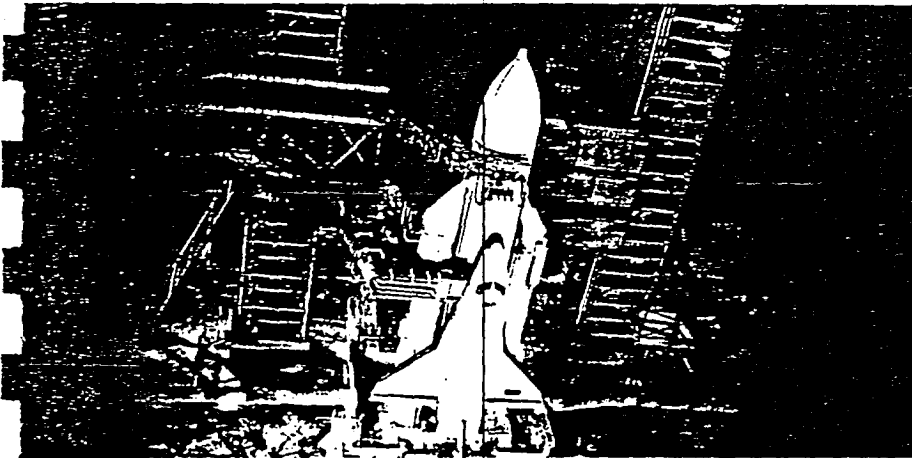
- приобретение локальных очистных установок для гальванических производств;
- привлечение иностранных фирм к модернизации стенда испытаний авиационных двигателей с уловом и нейтрализацией токсичных выбросов и обеспечением шумопоглощения.

ММЗ «СЕРП И МОЛОТ»

- приобретение установки непрерывного контроля сточных вод, приборов контроля газовых выбросов;
- приобретение технологии очистки от масел образующихся шламов (химическим, термическим или биологическим методом).

ПО «СЕВЕРНОЕ МАШИНОСТРОИТЕЛЬНОЕ ПРЕДПРИЯТИЕ»

- организация совместного предприятия по производству водо- и газоочистного оборудования иностранных фирм на высвобождающихся в результате конверсии производственных площадях;
- организация совместного производства катализаторов для дожигания отходящих промышленных выбросов в атмосферу на основе титана в газоочистных установках по технологии с использованием сырья и методов его обработки;
- закупка технологий и оборудования для утилизации отходов, в том числе гальванических шламов;
- организация совместного предприятия по разрезке корпусов атомных подводных лодок на металлолом, а также утилизация кабелей и резины.



MOSCOW MACHINE-BUILDING ASSOCIATION "SALIUT"

- purchase of local plants for galvanic productions;
- drawing of foreign companies into modernization of test beds for aviation engine collecting and neutralizing toxic emissions and providing noise absorption.

MOSCOW MACHINE-BUILDING PLANT "SERP I MOLOT"

- purchase of plant for continuous control of sewage, control devices for gas emissions;
- purchase of technology for purification of slushes from oils (chemical, thermal or biological methods).

PRODUCTION ASSOCIATION "SEVERNOE MASHINOSTROITELNOE PREDPRIJATIE"

- organization of joint venture for production of foreign water and gas purification equipment on industrial areas disengaging during conversion process;
- organization of joint production of catalysts for reburning flue industrial emissions on the basis of titanium in gas purification system according to technology using materials and methods of its treatment;
- purchase of technologies and equipment for utilization of waste, including galvanic slushes;
- organization of joint venture for cutting nuclear submarines bodies into scrap as well as utilization of cables and rubber.

ENBAS

ПО «НИЖНЕКАМСК- НЕФТЕХИМ»

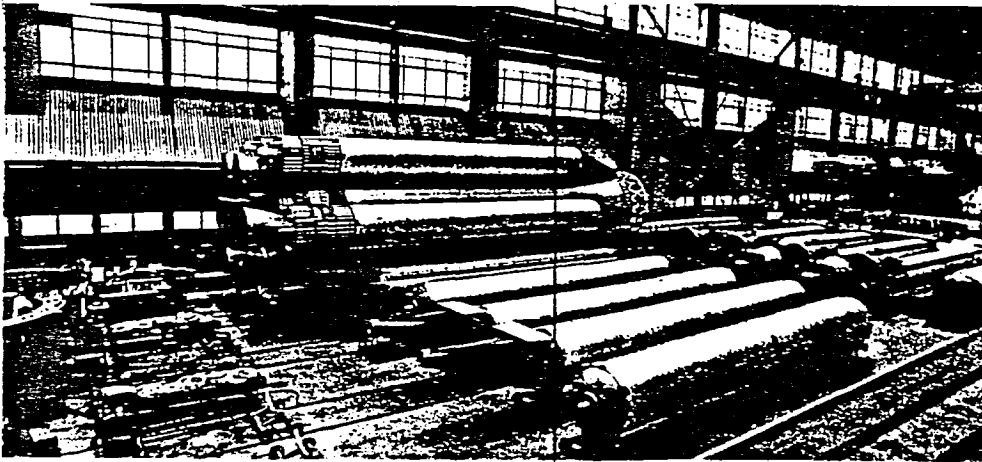
- приобретение технологии и оборудования для деминерализации сточных вод ТЭЦ, приготовления высококачественной питьевой воды;
- закупка приборов и средств автоматического контроля качества окружающей среды;
- организация с помощью заинтересованных фирм бессточного технического водоснабжения.

НПО «ЭКОЛОГИЯ»

- создание совместного предприятия по утилизации промышленных и бытовых отходов;
- реализация отходов цветных металлов, пластмассы и др.;
- создание совместного предприятия по производству товаров и изделий из сырья промышленных отходов.

ОБЩЕСТВО С ОГРАНИЧЕННОЙ ОТВЕТСТВЕННОСТЬЮ «РУССКОЕ ЮРИДИЧЕСКОЕ АГЕНТСТВО»

- оказание юридической помощи в части прав и законных интересов организаций, предприятий и иностранных фирм;
- сбор, анализ и распространение информации о возможностях и условиях инвестирования в экономику России;
- осуществление нотариальных действий.



PRODUCTION ASSOCIATION "NIZHNEKAMSKNEFTECHIM"

- purchase of technology and equipment for demineralization of sewage from thermal power plants, preparation of high-quality potable water;
- purchase of environment quality automatic control devices and means;
- organization of sewage-free technical water supply with the help of companies interested.

SCIENTIFIC-PRODUCTION ASSOCIATION "ECOLOGIA"

- organization of a joint venture for industrial and domestic waste utilization;
- realization of non-ferrous metals, plastics, etc. wastes;
- organization of a joint venture for production of goods and articles from industrial waste raw materials.

"RUSSIAN JURIDICAL AGENCY Ltd."

- rendering of legal assistance in the part of rights and legal interests of organizations, enterprises and foreign companies
- collection, analysis and providing information on the possibilities and conditions of investments in the Russian economy.
- notarial work.

БЮРО ПРЕДПРИНИМАТЕЛЬСКОЙ ИННОВАЦИИ «ЛАРОСС»

□ оказание помощи в реализации товаров народного потребления;
□ предоставление платных услуг в соответствии с применяемой в международной практике классификацией "The Central Production Classification" (CPC).

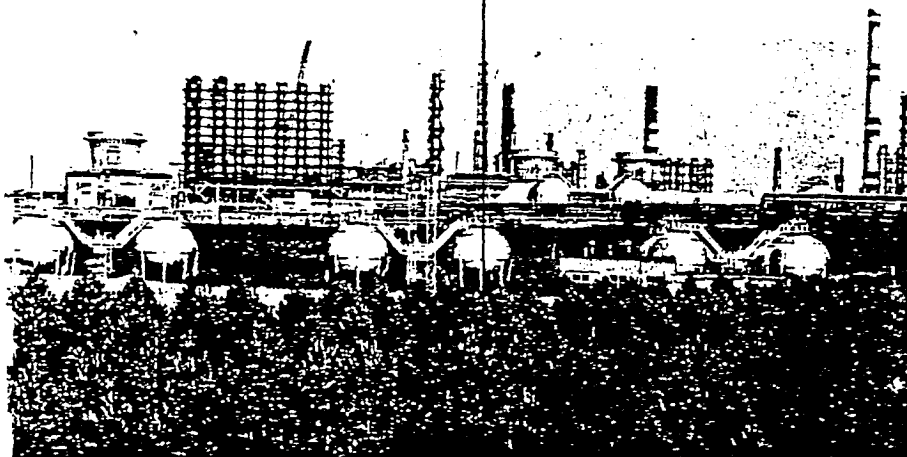
АССОЦИАЦИЯ ДЕЛОВОГО СОТРУДНИЧЕСТВА «ИРТЫШ»

□ содействие в строительстве фермерских хозяйств;
□ строительство нефтеперерабатывающих заводов;
□ выявление потенциальных партнеров среди российских предприятий и организаций, а также зарубежных фирм и организаций, налаживание прямых контактов и деловых связей между ними;
□ содействие в развитии предпринимательства и создании производств, основанных на формах хозяйственной деятельности в условиях рыночной экономики.

Ассоциация «ИНБАС» имеет два зарубежных представительства в Германии и Канаде, три филиала на территории России в городах Северодвинске, Липецке и Екатеринбурге, а также два дочерних предприятия НТЦ «Экомортехника» и Координационный Центр «ИНЭКС».

Постоянные представительства АДС «ИНБАС»:

1. 123231, г. Москва,
ул. Садовая Кудринская, д. 11/13,
тел.: 252-75-63, 252-75-64,
факс: 252-45-72
2. 620219, г. Екатеринбург,
ГСП-150, ул. А. Валека, д. 13,
тел.: 51-02-27
3. 164509, г. Северодвинск,
ул. Машиностроителей, д. 12,
тел.: 9-23-65,
телетайп: 276149 СВЕТ
4. 398001, г. Липецк,
ул. Горького, д. 15, кв. 49,
тел.: 77-73-91



BUSINESS INNOVATION BUREAU "LAROSS"

□ rendering assistance in commodities realization;
□ rendering paid services according to "The Central Production Classification" (CPC) used in the world practice.

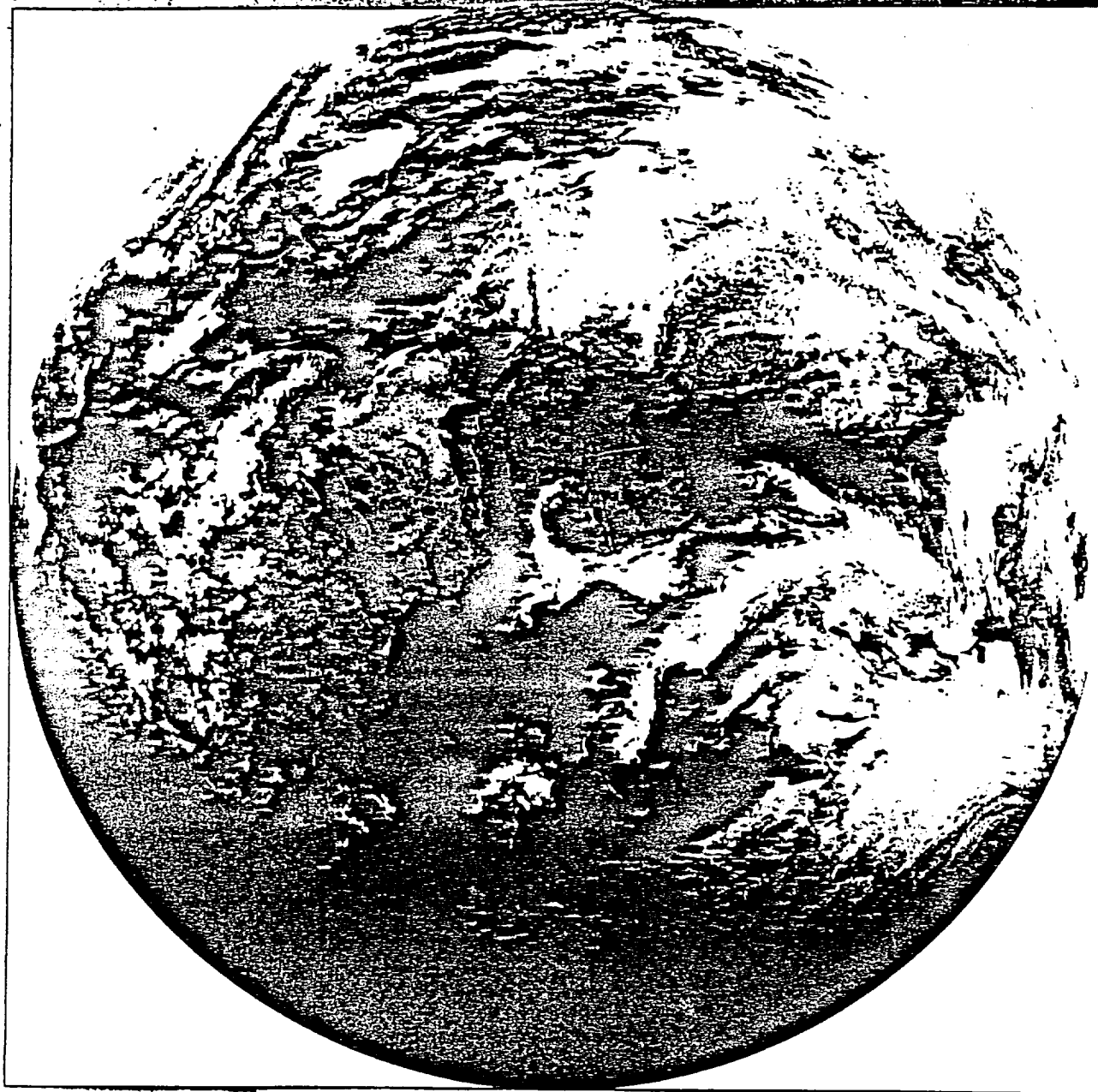
BUSINESS ASSOCIATION "IRTYSH"

□ assistance in erection of farms;
□ erection of oil-processing enterprises;
□ exposure of potential partners among Russian enterprises and organizations as well as foreign companies and organizations, setting direct contacts and business ties between them;
□ assistance in business development and organization of productions, based on economic forms under conditions of market economy.

Association "ENBAS" has foreign representative offices in Germany and Canada, branches in Severodvinsk, Lipetsk and Ekaterinburg, Russia and two daughter companies: Scientific-Technological Centre "Ekomor-technika" and Coordination Centre "INEKS".

Permanent offices of "ENBAS":

1. Head office —
11/13, Sadovaya Kudrinskaya Str.
Moscow, 123231 Russia,
phone: 252-75-63, 252-75-64,
fax: 252-45-72
2. 13. A. Valeka Str.
GSP-150, Ekaterinburg,
620219, Russia,
phone: 51-02-27
3. 12. Mashinostroiteli Str.
Severodvinsk, 164509, Russia,
phone: 9-23-65,
teletype: 276149 SVET
4. Fl. 49, 15. Gorky Str.
Lipetsk, 398001, Russia,
phone: 77-73-91



Консорциум
ЭКОПРОМ

ECOPROM
Consortium

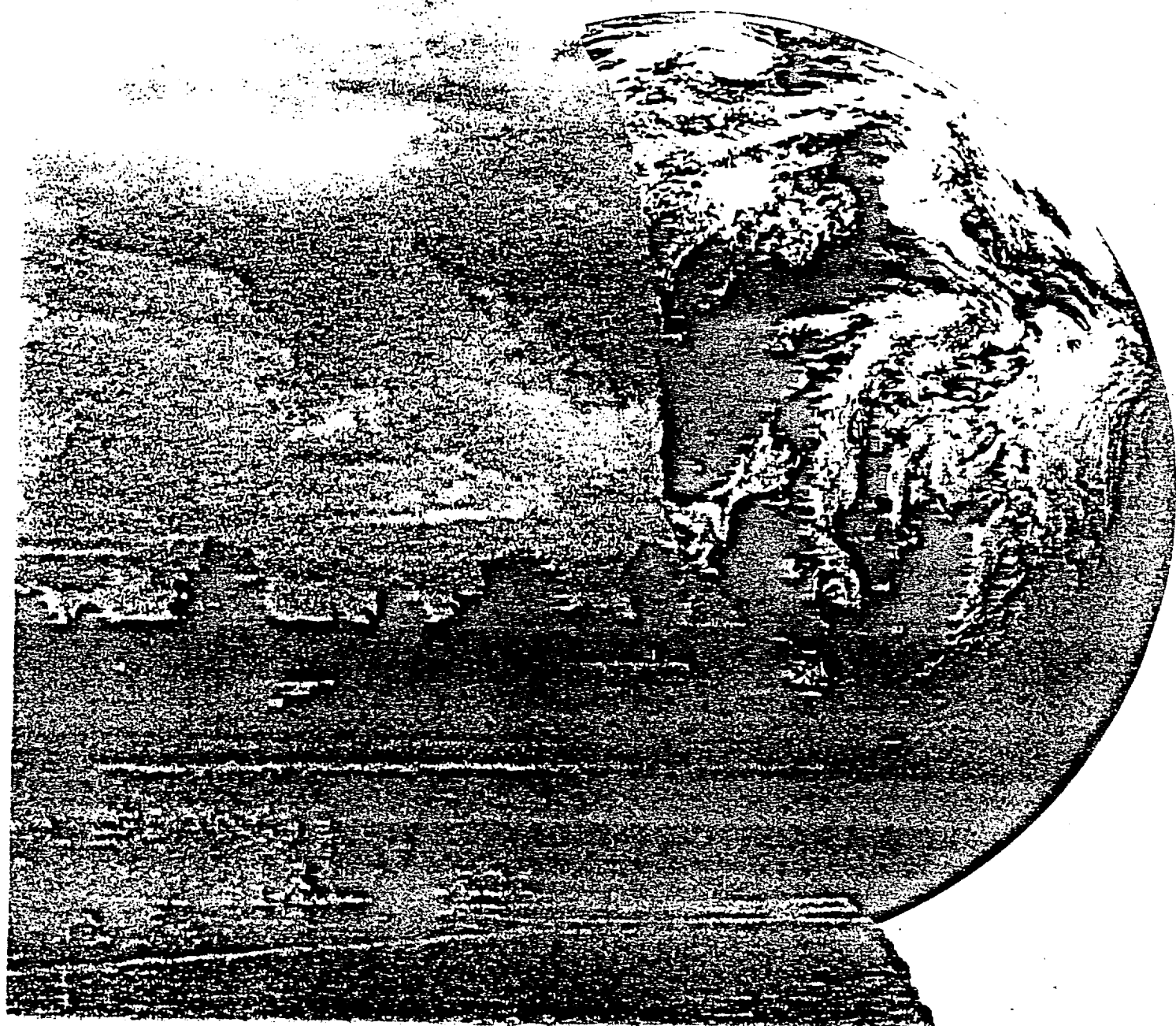
ЭКОПРОМ

ЭКОПРОМ

новейшие технологии
для более чистой планеты

ECOPROM

Technologies Clean
the Planet



Наша природа как никогда в опасности. Угрожающий характер приобрели взаимоотношения человека с природой. В руслах рек текут ядовитые потоки, с небес на землю падают кислотные дожди, города и целые регионы задыхаются в атмосфере, перенасыщенной промышленными и аграрными отходами. Развитие атомной энергетики порой необоснованно оправдывается неизбежным риском. Проблемы экологической безопасности затрагивают всех, независимо от богатства или бедности. Необходимы решительные действия по охране окружающей среды и рациональному использованию ресурсов. С этой целью в мае 1990 года по инициативе крупнейших организаций страны образован международный консорциум ЭКОПРОМ. Учредителями консорциума являются: научно-производственное объединение РОТОР (Черкассы), Кировский завод /Ленинград/, опытно-конструкторское бюро СОЮЗ (Казань), межотраслевое научно-производственное объединение РЕСУРС (Москва), научно-производственное объединение

Главный офис консорциума ЭКОПРОМ.
The main office of ECOPROM consortium.

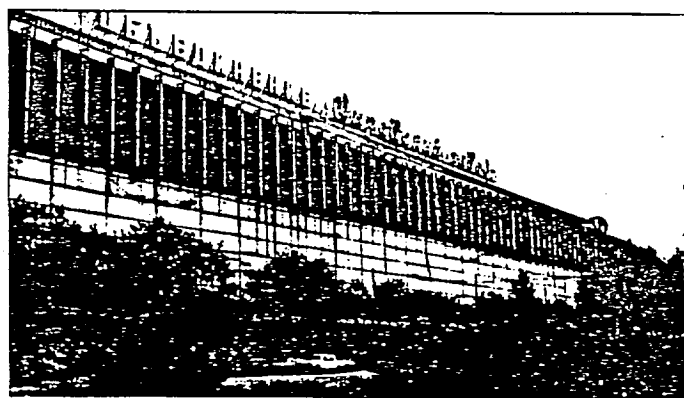
Группа руководителей консорциума ЭКОПРОМ.
The group of headers of ECOPROM consortium.

Our nature is in jeopardy, like never before. Man-nature relations turn to become more and more dangerous. Poisonous flows run over river beds, acidic rains fall from the skies to the earth, cities and large regions suffocate in an atmosphere oversaturated with industrial and agricultural waste. Progress of the nuclear power industry is sometimes not warranted on account of an unreasonable risk.

Ecological safety problems are of concern to everybody, whether rich or poor. Resolute moves are needed for protection of the environment and rational utilization of resources. With this in view, the ECOPROM international-owned consortium was founded in May 1990, at the initiative of the country's largest organizations and businesses.

The founders were the ROTOR Scientific and Production Corporation, Cherkassy; KIROV Plant/Leningrad/, SOYUZ Experimental Design Bureau, Kazan; RESURS Inter-Industry Scientific and Production Corporation, NPO ROTOR.
The ROTOR Scientific and Production Corporation.

НПО Кировский завод.
The KIROV PLANT Scientific and Production Corporation.



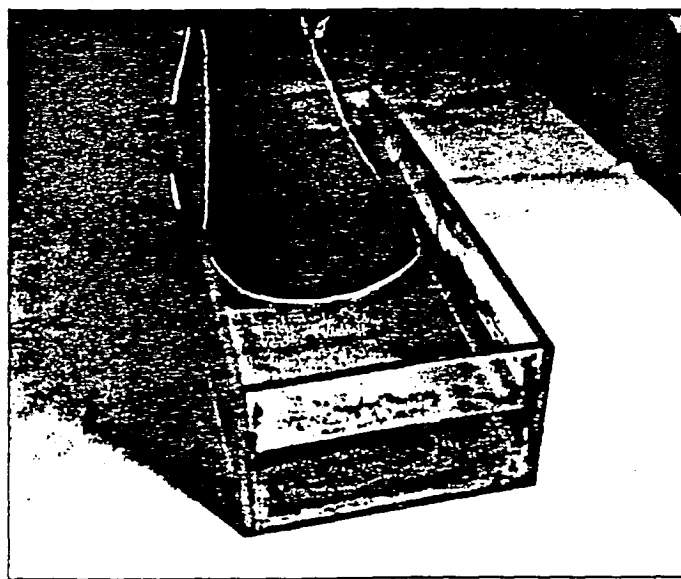
КОМПОЗИТ (Москва). Комитет общественной экспертизы СССР и другие организации.

Основными направлениями деятельности консорциума являются:

- производство экологического оборудования, приборов и систем для внедрения экологически чистых технологий в сферы переработки промышленных, сельскохозяйственных и бытовых отходов, очистки воздушной и водной среды;
- применение общемашиностроительной продукции для защиты окружающей среды;
- создание зон для отдыха, туризма, оздоровления населения на основе применения безотходных технологий и оборудования, обеспечивающих защиту окружающей среды;
- социально-культурная деятельность;
- изучение общественного мнения по экологии районов страны;
- гуманитарная, благотворительная и просветительская деятельность;
- рекламно-производственная деятельность.

Способ очистки воды от нефти при помощи специального сорбента.
The way of decontamination of water from oil with the help of special adsorbent.

Медицинские и косметические препараты, полученные с помощью высокопрецизионных фильтрующих мембран.
Medicinal and cosmetic remedies prepared with the help of high-precision microfilter membranes.



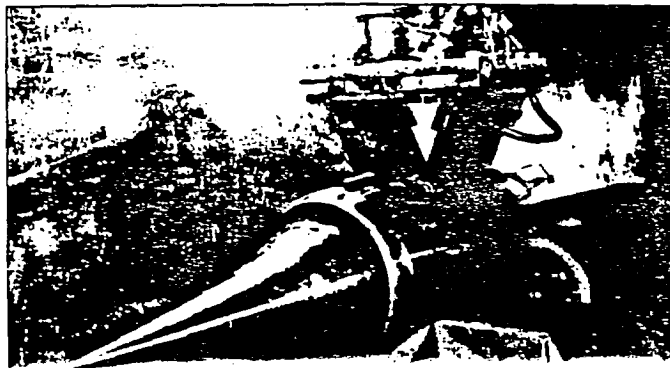
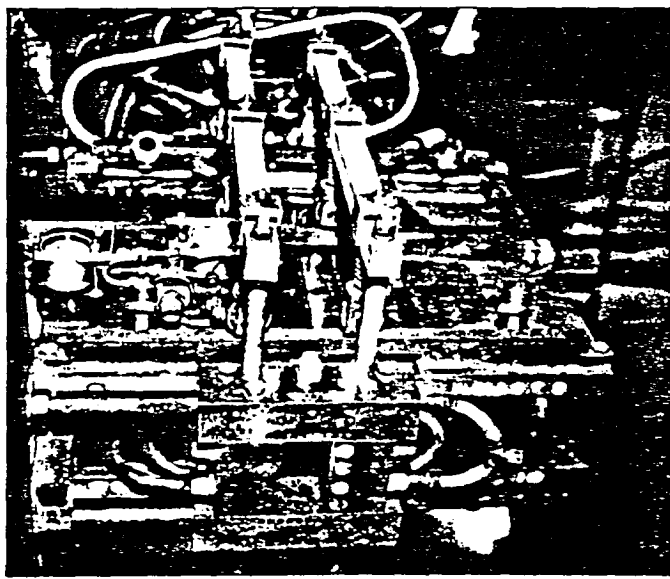
Moscow: KOMPOZIT Scientific and Production Corporation, Moscow; USSR Committee for Public Expert Examination, and some other organizations.

Major lines of the consortium's operation are:

- to manufacture ecological equipment, instruments and systems for the introduction of ecologically safe technologies in the sphere of processing of industrial, agricultural and domestic waste and purification of the air and water;
- to employ general engineering products for protection of the environment;
- to develop areas for recreation, tourism and health care, using no-waste technologies that provide for protection of the environment;
- to promote social and cultural activities;

Стенд для исследования сверхзвукового горения и испытаний сверхзвуковых камер сгорания.
The stand for studying supersonic combustion and tests of supersonic combustion chambers.

Первый в мире работающий на авиационном керосине экспериментальный двигатель, позволяющий развивать скорость до М=6.
The first in the world experimental engine-demonstrator working on aircraft kerosene with the flight speed of Mach 6.0.



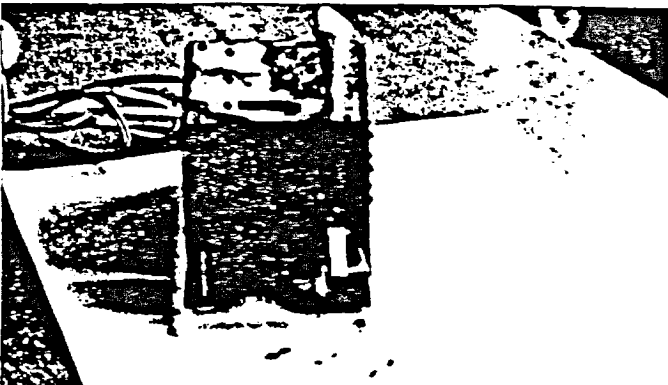
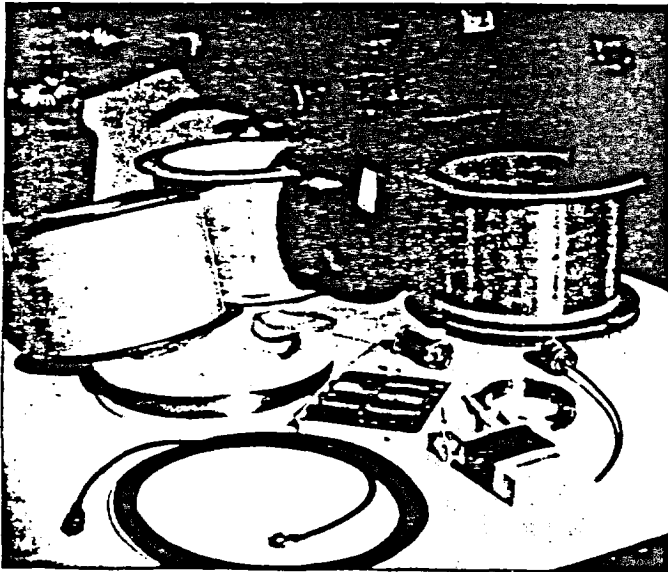
Участниками - членами консорциума ЭКОПРОМ являются государственные, общественные, кооперативные предприятия, объединения и организации, совместные предприятия, а также зарубежные фирмы и международные организации, признающие цели и задачи деятельности ЭКОПРОМа.

Консорциум ЭКОПРОМ стал одним из первых организаторов комплексно обоснованного наступления на загрязнение окружающей среды. ЭКОПРОМ не только поддерживает научный поиск, осуществляет разработку и внедрение передовых технологий, но и оказывает поддержку экологическим движениям за охрану среды и нравственное отношение к природе.

ЭКОПРОМ провел систематизацию научно-технических работ, выполненных более чем в 100 организациях - членах консорциума, и разработал на их базе комплексные программы "ЭКОТЕХПРОМ-95", "Экология Москвы", "Экологические

Волоконно-оптические световоды и устройства на их основе.
Дифракционные решетки высокого разрешения.
Fibreoptic waveguides and devices manufactured on their basis. Diffraction gratings of high precision.

Одноканальный электронный сепаратор отбраковки семян риса и других культур.
One-channel electronic separator of clean seeds of rice and other crops.



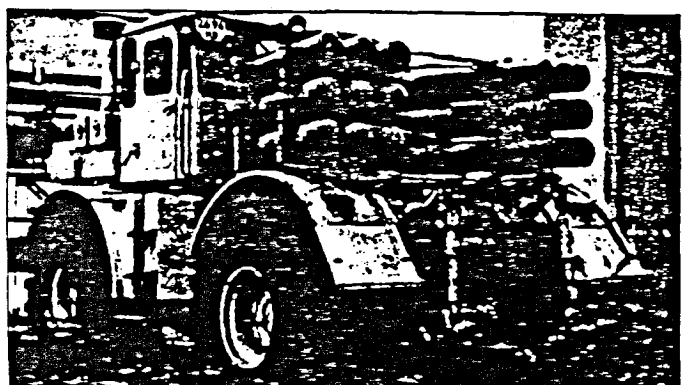
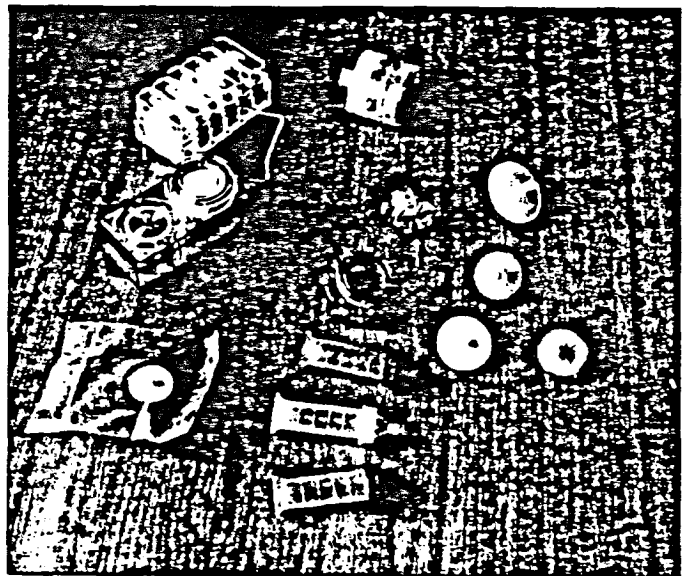
- to inquire into public opinion on the ecological situation in the country's various regions;
- to pursue humanistic, philanthropic and instructive activities;
- to provide advertizing and related production services.

Parties to the ECOPROM consortium are state-owned, public and cooperative enterprises, corporations, organizations, joint ventures, as well as foreign companies and international organizations, recognizing ECOPROM's aims and objectives.

The ECOPROM consortium became one of the pioneers organizing on all-round combat with the environment pollution. ECOPROM not only acts in support of scientific research and undertakes to elaborate and introduce advanced technologies but also renders assistance to the ecological movement for protection of the environment and a moral attitude to the nature.

ECOPROM has carried into effect a systematization of scientific and engineering work performed at more than a

Мембранные системы плазмифораза.
Membrane system of plasmapherez.
Трактор с газодизельным двигателем.
A tractor with gas-diesel engine.



технологиях очистки и доочистки водных ресурсов. Эко-Дунай, Эко-Балт.

Организовано проведение научно-исследовательских и опытно-конструкторских работ на предприятиях-учредителях и членах консорциума.

Так в НПО РОТОР завершены научно-исследовательские работы, выпущена техническая документация и начинается серийное производство оригинальных установок, основанных на методе сорбции-десорбции для очистки промышленных стоков гальванических производств. НПО "Завод им. Владимира Ильича" проводит научно-исследовательские работы и совместно с АН СССР, Мосэнерго, ТЭПом и НПО ГАЗООЧИСТКА завершает монтаж экспериментального блока на Южной ТЭЦ Москвы, предназначенного для испытаний опытного образца системы очистки газов с помощью ускорителя электронов.

В ассоциации ЭТО ЭКОПРОМа проводятся научно-исследовательские работы и подготовлены для испытаний образцы не содержащих драгоценных металлов нейтрализаторов выхлопных газов автомобилей. Четыре предприятия ЭКОПРОМа готовятся к серийному выпуску нейтрализаторов.

В рамках НИР синтезирован катализатор для этилированного бензина. В МНТК КАТАЛИЗАТОР созданы каталитические фильтры для дизельных грузовиков и автобусов. На базе малых предприятий ФИЛЬТР и МОТЕК разворачивается производство ядерных мембран для сверхтонких фильтров. Завершены работы по созданию топливной аппаратуры для эксплуатации автомобилей и тракторов на биогазе.

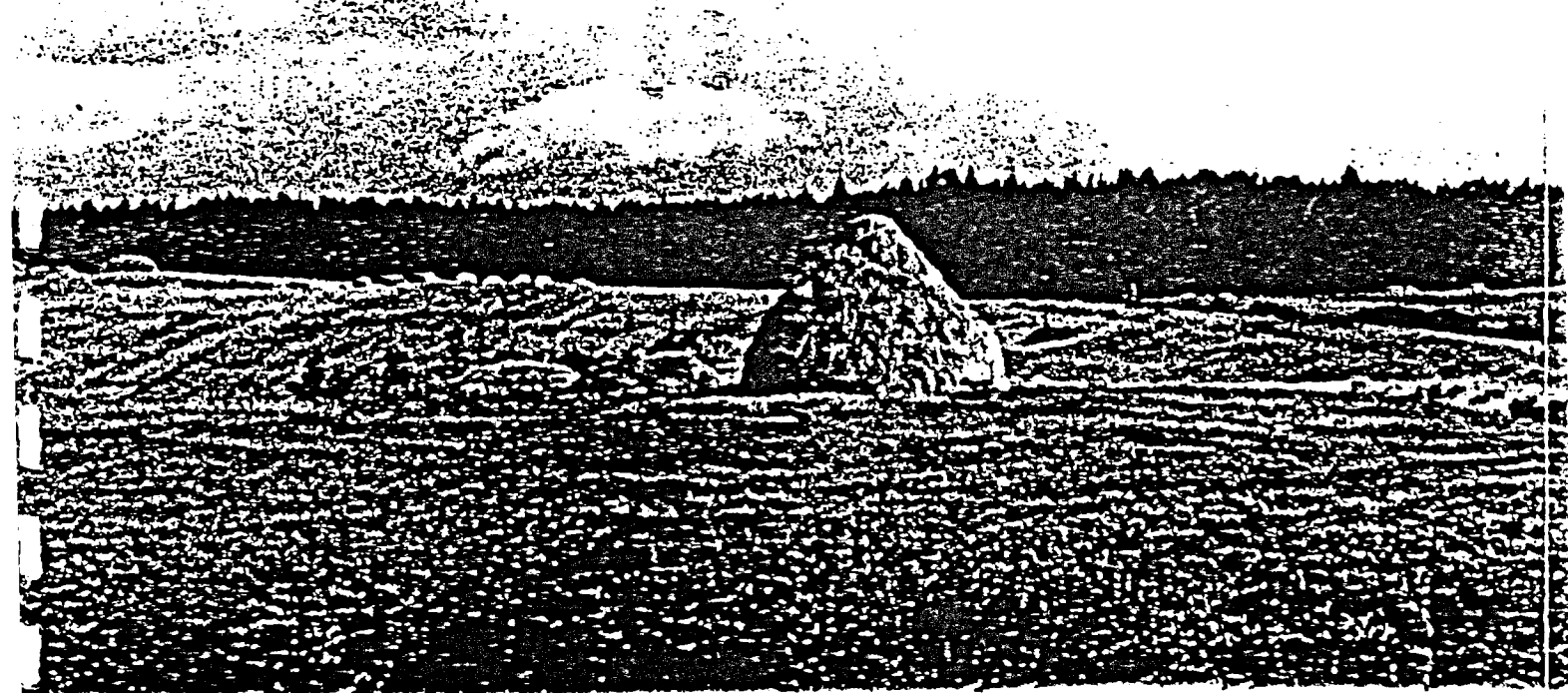
В ЭКОПРОМе ведутся работы по внедрению новых технологий переработки птичьего помета и навоза в экологически чистые удобрения для индивидуального и коллективного агропроизводства.

hundred member parties of the consortium. On the basis of that work it has elaborated some comprehensive programs like ECOTECHPROM-95, Moscow Ecology, Ecological Technologies for Cities, Towns and Settlements of the Volga River Basin, Eco-Danube, Eco-Balt.

Scientific research and experimental design work has been arranged at the founder and member enterprises of the consortium. For instance, the ROTOR Scientific and Production Corporation has completed research work, produced technical documents and commenced serial production of unique plants, based on a sorption-desorption method, for the treatment and purification of industrial effluents of galvanic production works. The Plant named after Vladimir Iljich carries out scientific research and, jointly with the USSR Academy of Sciences, Mosenergo, All-Union State Design Institute Teploelektroproekt and the GAZOOCHISTKA Scientific and Production Corporation is about to complete the assembly of an experimental block at the South Control Combined Electric Power-and-Heat Generating Plant, meant for trials of an experimental prototype of a system of gas purification with the use of a cathode-ray accelerator.

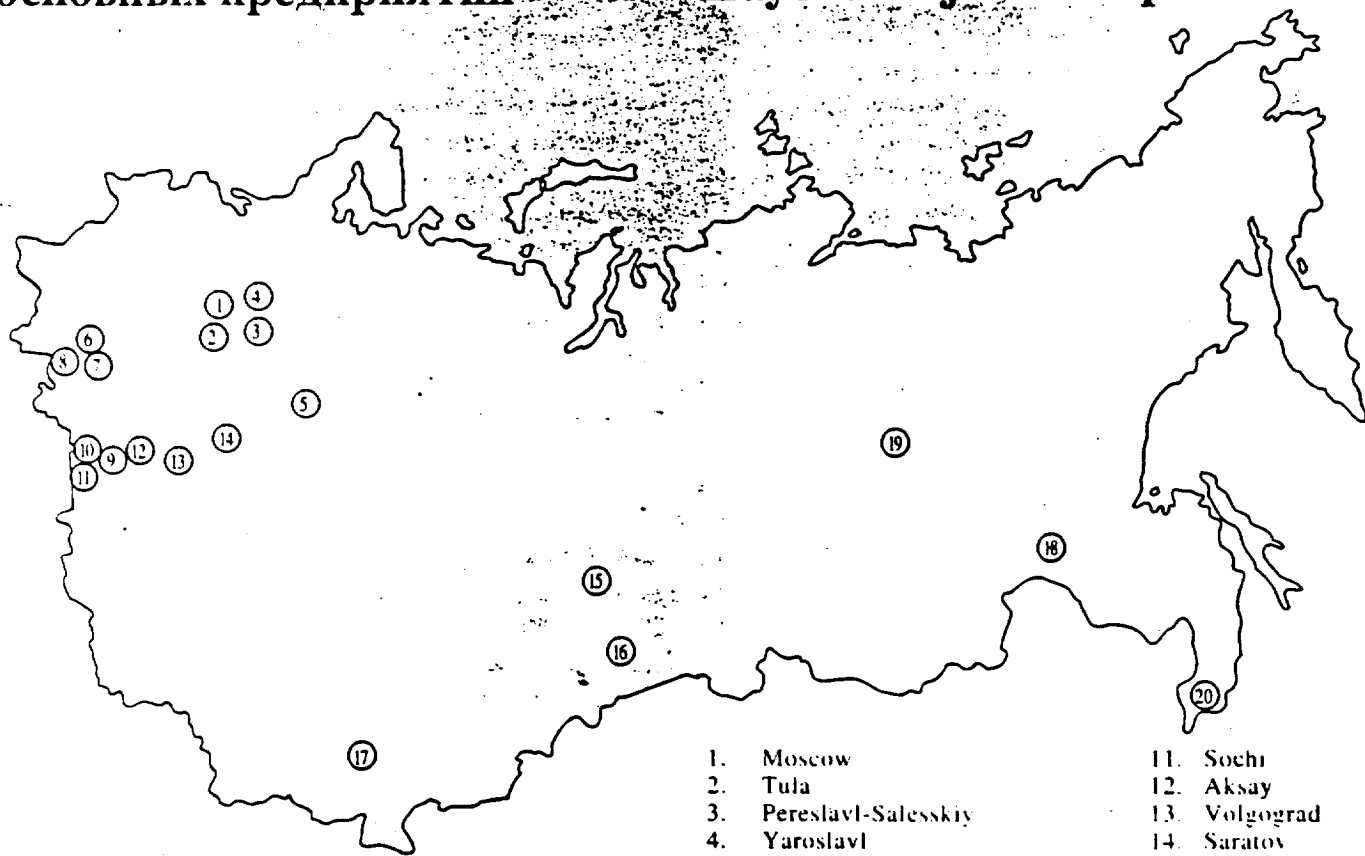
The ECOPROM ETO Association carries out scientific research and has made ready for trials prototypes of car/truck exhaust gas neutralizers that contain no precious metals. Four of ECOPROM's enterprises are getting ready to manufacture neutralizers in commercial series.

Within the framework of a scientific research program, a catalytic agent has been synthesized for ethyl gasoline. The KATALIZATOR Scientific and Production Corporation has developed catalytic filters for diesel trucks and buses. On the base of the FILT and MOTOK



Консорциум ЭКОПРОМ
Схема расположения
основных предприятий

ECOPROM
Consortium
Layout Major Enterprises



- | | |
|------------------------|-------------------|
| 1. Moscow | 11. Sochi |
| 2. Tula | 12. Aksay |
| 3. Pereslavl-Salesskiy | 13. Volgograd |
| 4. Yaroslavl | 14. Saratov |
| 5. Kazan | 15. Novosibirsk |
| 6. Kiev | 16. Gorno-Altaysk |
| 7. Cherkassy | 17. Tashkent |
| 8. Ilyichevsk | 18. Zeya |
| 9. Krasnodar | 19. Mirniy |
| 10. Novorossiysk | 20. Vladivostok |

Совместно с ПО СЕРП И МОЛОТ и ассоциацией СТОРМО создано предприятие по переработке золошлаковых отходов в строительные материалы и высокотвердые инструменты для металлообработки.

small enterprises, production of nuclear membranes for superfine filters is being arranged. Work has been completed to start manufacturing fuel equipment for the operation of biogas-driven cars, trucks and tractors. ECOPROM conducts work to introduce new technologies



Разработаны технологии по переработке отходов пластмасс, резины (в том числе и автопокрышек) в полноценные пластмассовые изделия. Созданы проекты вибрационных катков-уплотнителей и других устройств для обработки полигонов отходов, а также для дорожного строительства, с увеличенной в 5-6 раз производительностью по сравнению с используемой в настоящее время дорожной техникой.

Все эти примеры являются лишь небольшой частью новых прогрессивных технологий, воспроизводимых на предприятиях ЭКОПРОМа. Разработанные технологии, устройства, материалы применимы практически во всех видах деятельности человека.

Консорциум ЭКОПРОМ открыт для всех отечественных и зарубежных предприятий, фирм и организаций, которые стремятся внести свой вклад в дело спасения мира от экологической катастрофы. Только разумная кооперация позволит в кратчайшие сроки использовать значительный научно-технический потенциал природоохранительных технологий, до сих пор не реализованный промышленностью.

for processing dung and manure into ecologically pure fertilizers for individual or collective agricultural production.

Jointly with the SERP i MOLOT Production Corporation and STORMO Association, an enterprise has been established to process ash-and-slag waste into building materials and high-strength metal-working tools.

Technologies have been developed for processing plastic and rubber waste (including tyres) into plastic goods of full value. Projects have been designed of vibrating roller compactors and other devices intended for operation on waste plots and road construction, which have a capacity 5 to 6 times over that of road machines now available.

The above examples are but a few of new advanced technologies in operation at ECOPROM enterprises. The developed technologies, equipment and materials can be of use in practically any sphere of man's activities.

The ECOPROM consortium is open to any national or foreign enterprises, companies or organizations that are willing to make their contribution to the cause of saving the world from an ecological disaster. It is only reasonable cooperation that can help, within a short time, to utilize the great scientific and engineering potential of technologies for nature protection which have not yet been employed by industries.

МЕЖДУНАРОДНЫЙ КОНСОРЦИУМ ЭКОПРОМ

СССР, 103775, Москва, Кузнецкий мост, 6/3
Телефон: 927-87-22. Телефакс: 927-83-52, 975-25-43

ECOPROM International Consortium

Kuznetskiy most 6/3, Moscow, 103775 USSR
Phone: 927-87-22. Fax: 927-83-52, 975-25-43



RUSSIAN INDUSTRIAL INVESTMENT FUND.

Russian Industrial Investment Fund (RIIF) was established by the Decree N 566 of the President of Russia, June 6, 1992 as an institution assigned to provide conditions for stimulation and efficient implementation of investments (including those from abroad) in Russian industry. The activities of the Fund are regulated by its CHARTER. The Fund plans also to invest directly upon accumulation of its own financial resources.

RIIF was set up by:

- Ministry of Industry of the Russian Federation;
- Supreme Economic Council of the Presidium of the Supreme Soviet of the Russian Federation;
- important Russian commercial banks ("Promstroybank", "Incombank", "Aviabank", "Stolichny", "Kuznetskbusinessbank"etc.);
- large investment companies and industrial enterprises (Military industrial investment company, joint stock company KAMAZ, industrial association ZIL, scientific production association "ASTRA", state concern "Norilsky nickel", scientific production association "Composit"etc.);
- large associations and business structures (Association of Russian banks, Russian association of joint ventures, International association of directors of industrial enterprises, Moscow banking union, Interregional stock exchange union etc).

Main Directions of Activity:

- coordination of investment policy of state, business and financial institutions;
- incentive and organization of financial resources utilization of Russian and foreign investors for investment implementation and privatization programmes from initial to final stage;
- development of methods for project execution and investment realization. Adaptation of international project elaboration and expertise systems to specific Russian conditions;
- execution of combined actions for setting up joint stock companies and privatization of industrial enterprises during the implementation of investment projects;
- encouragement and guidance by the Fund structures of investments into projects vital for Russian economy and creation of tax-free and other advantageous and privileged conditions for those projects;
- expertise and analyses of legal, financial and technical problems;
- creation and management of data banks on projects and programmes of the former Ministry of Industry in electronics, aviation, chemistry, machine building, timber industry, radio engineering, defence industry etc.
- provides audit, legal consulting, marketing and other services.

Advantages of the Fund:

- has direct links through its regional branches and representations with a large number of industrial enterprises and free access to the information on those enterprises and their activities;
- assists the members in representation of their interests in Russia and abroad through local branches and foreign representations;
- helps the members to select potential Russian and foreign partners, choose the best way of cooperation, sign agreements and contracts, create joint venture companies and associations with foreign participation;
- supports the members in defending their legal rights and interests in court and other bodies dealing with economic conflicts, members of the Fund have the right to take part in its management;
- offers guarantees and insurance of investments (including those from abroad);
- has tax exemption specified by the President's Decree (profits received on accomplishment of projects carried out with the Fund are tax-free) and provides other advantages;
- participates in drafting legal documents and other official papers in order to improve legal regulation of investment activity, secure and consolidate legal guarantees of investments (including those from abroad).

RUSSIAN INDUSTRIAL INVESTMENT FUND is open to new members, juridical and physical entities, including those from abroad. The members have the right to participate in management of the Fund.

President - *Serguey N. Tolmachev*
Vice-president - *Michael V. Ermolaev.*

Address: *103819, GSP, Moscow, A-47, 1 Tverskaya-Yamskaya street, 1/3.*

Telephone: *(095) 251-57-50*

(095) 209-82-00

Fax: *(095) 200-01-11*

Accounts: *MOSCOW, Russia, account N 005070896/B-92 in Incombank, Moscow Swift Bic: Incomsumm account N 39575730 in Bank of America International, New York account N 9498346 in Deutsche Bank, Frankfurt/M.*



УКАЗ

ПРЕЗИДЕНТА РОССИЙСКОЙ ФЕДЕРАЦИИ

О создании Российского промышленно-инвестиционного фонда

В целях стабилизации работы промышленности, скорейшей интеграции ее в мировую экономику и поддерживая инициативу Министерства промышленности Российской Федерации и финансово-кредитных организаций России, постановляю:

1. Создать Российский промышленно-инвестиционный фонд как некоммерческую организацию для привлечения внебюджетных инвестиций в промышленность России.

2. Министерству промышленности Российской Федерации оказать Фонду необходимое содействие в создании условий для эффективной работы.

3. Освободить от налогообложения доходы банков и других инвесторов, получаемые от долгосрочных кредитов и иных вложений, направляемых на финансирование проектов Российского промышленно-инвестиционного фонда.



Общий Президент
Российской Федерации

Б.Ельцин

Москва, Кремль

6 июня 1992 года

№ 566

The Decree

of the President of the Russian Federation

On establishment of the Russian Industrial Investment Fund

In order to stabilize the work of industry, its rapid integration in world economy and supporting the initiative of the Ministry of Industry of the Russian Federation and some financial credit organizations of Russia, I decide:

1. To establish the Russian Industrial Investment Fund as a non-commercial organization assigned to attract extra budget investments in industry of Russia.

2. The Ministry of Industry of the Russian Federation must assist the Russian Industrial Investment Fund in providing the conditions for efficient work.

3. To exempt from taxes the profits of banks and other investors received from long-term credits and other investments directed to finance the projects of the Russian Industrial Investment Fund

The President of the Russian Federation

B. Eltsin

Moscow, the Cremlin

June 6, 1992

N 566

Form 675 (5-19)
PRUCIDE **Piasdex*** PROLESS
MONTREAL TORONTO

Appendix E

*List of Companies Recommended to COTE by PHL,
and Visit Itinerary Re: Signal Visit*

M.P

P E R L E Y  H U R L E Y

December 21, 1992

Ms Ofelia Sfetcu, Ph.D.
Director
Canadian Office for Training in the Environment
7th floor
235 Queen St.
Ottawa, Ontario
K1A 0H5

Dear Ofelia:

Following our meeting on December 16, I am writing to confirm that the Canadian Office for Training in the Environment (COTE) has agreed to complete arrangements for, and coordinate the visit of, representatives of Signal Scientific and Industrial Enterprise, St. Petersburg (Signal), to Canada. Signal is a group of manufacturing facilities in St. Petersburg currently involved in the production of finished metal products and electronic components. Signal's proposal to set up a demonstration wastewater treatment centre in St. Petersburg is attached.

It is my understanding that COTE will be responsible for funding of the visit, logistical arrangements, meetings between Signal representatives and private sector companies and government officials, interpretation, and escort of the Signal party from their arrival in Toronto through to their departure.

The remainder of this letter summarizes tasks to be completed by COTE and by Perley & Hurley Ltd. (PHL) for the visit, as follows:

1. Members of the Signal party, and Visas

The visit leader is:

- Mr. Valentin Zanin
General Manager,
Signal Scientific and Industrial Enterprise
193019 St. Petersburg
Knipovich st. 4
Telephone: 122 269
FAX: 567 83 55

Other members of the party are:

- Mr. Vladimir Gromov
Deputy Chief Technologist
Signal Scientific and Industrial Enterprise
193019 St. Petersburg
Knipovich st. 4
Telephone: 567 83 74
FAX: 567 83 55
- Anna Valentinova Zanina

PHL forwarded a formal letter of invitation to Mr. Zanin by fax December 13, to assist him in obtaining visas for his party from the Canadian Embassy in Moscow. Minister-Counsellor Ferry de Kerckhove van der Varent of the Canadian Embassy was informed of the visit, and asked to expedite the issuing of visas upon receipt of Signal's visa applications.

Please note that while the status of Mr. Zanin and Mr. Gromov as Signal employees is clear, I have not been provided with a title or affiliation for Anna Zanina.

PHL ACTION: Once you and I have agreed on the contents of this letter, I will forward a letter by fax to Mr. Zanin to inform him that COTE is assuming responsibility for the visit. I will also request that he confirm whether Ms Zanina is a Signal employee.

2. Timing of the Visit

Mr. Zanin previously requested that his visit to Canada take place after January 20. I have suggested to him that he and his party plan to arrive in Toronto on January 23 or 24, for meetings during the week of January 25-29. You and I agreed that it may be necessary to select dates in early February.

COTE ACTION: If an alternative date is selected, you should inform Mr. Zanin of the alternative date as soon as possible, in order that he can apply for visas for the correct period.

3. Funding of the Visit

I have informed Mr. Zanin that partial funding from COTE for the visit will be available. No mention has been made to Mr. Zanin of the Wastewater



Technology Centre's application for two round trip economy airfares to the Program for Export Market Development.

COTE ACTION: I understand that you will ask Mr. Zanin to arrange air travel for himself and his party through Aeroflot, or otherwise contribute financially to the visit.

4. Contact with Potentially Interested Companies and Government Officials

Attached please find a list of companies, and federal and provincial officials, identified by PHL as having a potential interest in the Signal visit.

COTE ACTION: We agreed that your office will:

- add to this list from ISTC files;
- prepare the final list of companies and officials to be contacted to determine their interest in meeting the Signal representatives;
- inform them about the visit;
- prepare a short list of the companies and officials who indicate interest in meeting the Signal party;
- provide interested companies and officials with the Signal project specifications;
- inform Signal of questions about its operations raised by those reviewing the specifications;
- arrange meetings between companies, officials and the Signal party.

5. Logistical Arrangements

COTE ACTION: We agreed that your staff will make other necessary logistical arrangements concerning the visit including:

- arrangement of ground transportation for Mr. Zanin and his party both to and from Toronto airport and to and from all meetings;



- preparation of an itinerary of meetings;
- discussions with the Canada-Russian Business Council concerning a possible reception to be held for the Signal party by the CUBC;
- accompaniment of the Signal party by an ISTC representative from their arrival in Toronto through to their departure.

6. Interpretation

As no members of the Signal party speak English, an interpreter will be required for the duration of the visit.

COTE ACTION: You indicated that you will arrange for an interpreter, either through the Russian Embassy in Ottawa, or through other sources.

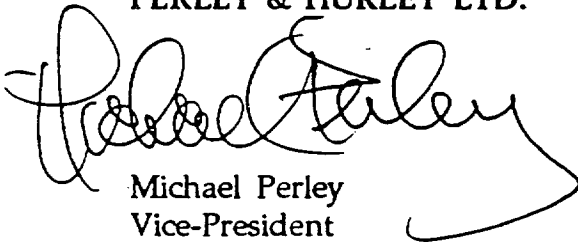
7. Briefing of COTE Staff by PHL

PHL ACTION: PHL will be pleased to brief your staff who will have primary responsibility for organization for the visit.

The above summarizes PHL's understanding of COTE's and PHL's responsibilities during the Signal visit. If I can provide further clarification or details, please call me at your convenience.

Yours very truly,

PERLEY & HURLEY LTD.



Michael Perley
Vice-President

encl.

c. Adèle M. Hurley



Rob McRae
Deputy Director
Environment Division
Department of External Affairs

Bruce Christie
Green Plan Project Officer
Environment Division
Department of External Affairs

Lucien Bradet
Director General
Environmental Affairs
Industry, Science and Technology Canada



Companies and Officials Identified by Perley and Hurley Ltd.
as Having a Potential Interest in the visit of
Representatives of Signal Scientific and Industrial Enterprise
to Canada

Companies

- The Metal Finishing Suppliers Association - Canadian Chapter

For names of equipment suppliers within the Association who may be interested in meeting the Signal representatives, contact:

- Michael Dejak
Sales Manager
ECO-TEC Inc
925 Brock Road South
Pickering, ON
L1W 2X9
Telephone: 416-931-3400
FAX: 416-831-3409

For names of chemical/commodity suppliers within the Association who may be interested in meeting the Signal representatives, contact:

- Ted Halahel
Englehard Canada Ltd.
100 Englehard Drive
Aurora, ON
L4G 3N1
Telephone: 416-727-3191
FAX: 416-727-1028

- Dr. Stuart Smith
Chairman
Wastewater Technology Centre
c/o RockCliffe Research and Technology Inc.
280 Albert Street
Suite 1000
Ottawa, Ontario
K1P 5G8
Telephone: 613 232-7772
FAX: 613-236-9241

NOTE: Dr. Smith has had the Signal project specifications reviewed by WTC staff and a list of questions prepared for Signal's review prior to the visit. These questions have been translated by PHL and will be forwarded to Signal during the week of December 21.

- Mr. J.B. Stott
Vice President, Marketing
Kenox Corporation
53 Village Centre Place
Suite 300
Mississauga, ON
L4Z 1V9
Telephone: 416-275-3798
FAX: 416-275-8246
- Frank M. Wheeler, P. Eng.
Vice-President
Hatch Associates Ltd.
2800 Speakman Drive
Mississauga, ON
L5K 2R7
Telephone: 416-855-7600
FAX: 416-855-8270
- Dr. Bruce Holbein
Tallon Metal Technologies Inc.
67 Watson Road
Guelph, ON
N1H 6H8
Telephone: 519-836-9494
FAX: 519-763-3366

- Dr. Denis Kidby
Iasmetech Metal Technologies Inc.
67 Watson Road South
Guelph, ON
N1H 6H8
Telephone: 519-836-9494
FAX: 519-763-3366
- Mr. Andrew Kellner
Metal Recovery Industries Inc.
670 Strathearne Avenue N.
Hamilton, ON
L8H 7N7
Telephone: 416-549-9894
- Mr. Michael Sheedy
Prosep Technologies Inc.
Unit 7, 817 Brock Road S.
Pickering, ON
L1W 3L9
Telephone: 416-831-2474
- Mr. Harry Marshall
President
Aer-O-Flo Environmental Inc.
1175 Appleby Line
Unit C3
Burlington, ON
L7L 5H9
Telephone: 416-335-8944
FAX: 416-335-8972
- Mr. Peter Weinwurm
President
Agglo Recovery Inc.
34 Leading Road
Rexdale, ON
M9V 3S9
Telephone: 416-740-0188
FAX: 416-740-1453

- Mr. M.A. Coulter
Managing Director
Cemcorp Ltd.
2170 Stanfield Rd.
Mississauga, ON
L4Y 1R5
Telephone: 416-566-7227
FAX: 415-566-7228
- Mr. Brian Winters
President
Custom Environmental Services
7722-9 Street
Edmonton, Alberta
T6P 1L6
Telephone: 403-440-1825
FAX: 403-440-2428
- Mr. D. Hickling
President
Ecodyne Limited
2201 Speers Road
Oakville, ON
Telephone: 416-827-9821
FAX: 416-827-8428
- Mr. Gary Sirota
Vice-President
P. Lane & Associates Ltd.
5439 Cogswell Street
Halifax, NS
B3J 1R1
Telephone: 902-423-8197
FAX: 902-429-8089
- Mr. Ken Heuchert
Petwa Canada Ltd.
4120-23rd St. NE
Calgary, Alberta
T2E 6W9
Telephone: 403-291-2650
FAX: 403-291-5251

- Mr. Rick G. Kozuch
Marketing Coordinator
Philip Environmental Group
P.O. Box 423, Station B.
208 Hillyard Street
Hamilton, ON
L8L 7W2
Telephone: 416-577-6960
FAX: 416-577-0305
- Mr. Richard V. Laughton
President
Pollutech Environmental Limited
768 Westgate Road
Oakville, ON
L6L 5N2
Telephone: 416-847-0065
FAX: 416-847-3840
- Mr. Gregory H.P. Ramsay
President
Ramsay Machine Works Ltd.
1630 Store Street
Victoria, BC
V8W 1V3
Telephone: 604-384-5314
FAX: 604-389-0504
- Mr. Kelvin Dushisky
General Manager
Rescan Environmental Services Ltd.
510-1111 West Hastings Street
Vancouver, BC
V6E 2J3
Telephone: 604-689-3460
FAX: 604-687-4277

Officials

- Mr. Doug Vallery
Research and Technology Branch
Ontario Ministry of the Environment
Environmental Technology Development
12th Floor
135 St. Clair Avenue West
Toronto, Ontario
M4V 1P5
Telephone: 416 323-4476
FAX: 416-323-4437

- Mr. Richard LePage
Manager
Investment Canada
Environmental Technologies
P.O. Box 2800, Station D
235 Queen St.
Ottawa, Ontario
K1P 6A5
Telephone: 613-995-8956
FAX: 613-996-2515

- Mr. Gordon W. Gow
President and CEO
International Corporation
Ministry of Industry, Trade and Technology
7th floor 56 Wellesley St. W.
Toronto, ON
M7A 2E4
Telephone: 416-314-8247
FAX: 416-314-8222

- Mr. David Reid
Consultant, Environmental Protection Industries
Industry Development
Ministry of Industry, Trade and Technology
7th floor Hearst Block
900 Bay St.
Toronto, ON
M7A 2E1
Telephone: 416-325-6893
FAX: 416-325-6885

- Mr. Peter Victor
Assistant Deputy Minister
Ministry of the Environment
Policy Development and Intergovernmental Relations
2 St. Clair Avenue West, 14th Floor
Toronto, Ontario
M4V 1L5
Telephone: 416 323-5063
FAX: 416-323-5062

- Mr. Nasrat Hijazi
CEIA
Chairman
C/O Delcan Environmental Consultants Inc.
133 Wynford Drive
North York, Ontario
M3C 1K1
Telephone: 416 441-4111
FAX: 416-441-4131

- Mr. Randy Norberg
Special Advisor
Ontario Ministry of Energy
Deputy Minister's Office
56 Wellesley Avenue West, 10th Floor
Toronto, Ontario
M7A 2B7
Phone: 416 327-2983
FAX: 416-327-1510

- COTE to add names of additional federal officials

ENVIRONMENTAL TRAINING MISSION FROM RUSSIA

February 8 - 12, 1993

PROGRAM

Feb. 8	09:00 - 12:00	Briefing Session at ISTC-ORO 1 Front Str. W, 4th floor (Front & Yonge entrance)
	12:00 - 13:30	Lunch at ISTC
	13:30 - 16:30	Visit Main Wastewater Treatment Plant of Metropolitan Toronto (Ashbridges Bay)
Feb. 9	09:30 - 11:30	Visit Wastewater Technology Centre (WTC) (Burlington)
	11:45 - 13:15	Lunch hosted by ISTC, to include WTC & Zenon
	13:30 - 14:30	Visit Aer - O - Flow (Burlington)
	15:00 - 16:30	Visit ACG Technologies (Mississauga)
Feb. 10	07:30 - 09:45	CEIA Breakfast Meeting Metropolitan Toronto Board of Trade, Mississauga
	10:30 - 12:00	Visit ECO-TEC (Pickering)
	12:00 - 14:00	Lunch hosted by ISTC
	14:30 - 15:30	Meeting with Kenox (at ISTC)
	15:30 - 16:30	Meeting with Agglo (at ISTC)
Feb. 11	09:30 - 10:30	Purley & Hurley (at ISTC)
	10:30 - 11:30	Meeting TBA
	12:00 - 13:30	Lunch at ISTC
	13:30 - 16:00	Wrap - up Discussion (at ISTC)

Form 675 Q (S)
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Appendix F

*List of Water Treatment Projects,
St. Petersburg Regional Administration*

Leningrad Region

Administration

193311, St. Petersburg

Suvorovskij Prospekt, 67

Telegrams: Saint Petersburg, 193311

Teletype: 121025 "Vremya", Tel.: 316 62-72

002199 8 1006

Canada

Perley & Hurley Ltd.

Enterprise for Environmental Installations and Services

Attention: Mr. Mike Perley, Vice-President

December 16, 1992, No. 3.33/18162

Dear Mr. Perley:

I am sending you the plan for projects and constructions which are to take place in the Leningrad Region between 1993 and 1995.

I am looking forward to your further co-operation.

Yours truly,

Yu. V. Fonkin

Assistant Administration Manager

P L A N

for Projects and Constructions
to take place in the Leningrad
Region between 1993 and 1995

1. Area of Gatchin
City of Gatchin
 - reconstruction of the city sewer system's (KOS) aerotanks for the bio-oxidation of sewage waters
 - construction of a disposal area for dewatered residue from the sewer system (KOS) and muddy fields
2. Area of Kingisepp
City of Kingisepp
City of Ivangorod
 - construction of a facility for the clean-up of the city's KOS
 - planning and construction of the city's sewage installations
3. Area of Kirish
Settlement of Budogoshtch
 - construction of sewers for household sewage

4. Area of Lodeynoye Polye
City of Lodeynoye Polye

- further development of the
existing sewer system - second
phase

- construction of storm sewers
with a water cleaning station

5. Area of Liga
City of Liga

- further development of the
city's sewage installations

6. Area of Podporozhye
City of Podporozhye

- construction of the city's
sewer canalization

7. Area of Priozersk
City of Priozersk

- construction of the city's sewer
canalization with a sewage cleaning
facility

8. Area of Slantzy
City of Slantzy

- construction of the city's sewer
canalization

- storm sewers

9. City of Sosnovyj Bor

- storm sewage cleaning facility
- reconstruction and further development of the sewer system canalization

10. Area of Tihkvin
City of Tihkvin

- construction of the city's sewer system (KOS)
- storm sewer canalization

11. Area of Tosno
City of Tosno

- further development and reconstruction of sewer installations

City of Lyuban

- planning and construction of sewer installations

Appendix G

Canadian Environmental Technology and Service Companies

Contacted During the PHL Survey

*Canadian Environmental Technology and Service Companies
Contacted During the PHL Survey*

NOTE: The group of companies indicated in bold letters responded to PHL's request for a telephone discussion of their interest in the Russian market.

Ross Milne
Head, Environmental Management Division
Acres International Limited
480 University Avenue
Toronto, ON M5G 1V2
Telephone: (416) 595-2000
FAX: (416) 595-2004

Peter L. Weinwurm
President
Agglo Recovery Inc.
34 Leading Rd.
Rexdale, ON M9V 3S9
Telephone: (416) 740-0188
FAX: (416) 740-1453

Frank A. Rovers
President
Conestoga-Rovers & Assoc. Ltd.
615 Colby Dr.
Waterloo, ON N2V 1C2
Telephone: (519) 884-0510
FAX: (519) 884-0525

G2

Robert A. Goodings
President
Gore & Storrie Ltd.
255 Consumers Rd.
North York, ON M2J 5B6
Telephone: (416) 499-9000
FAX: (416) 499-4687

H.J. Vander Laan
President
Trojan Technologies Inc.
845 Consortium Court
London, ON N6E 2S8
Telephone: (519) 685-6660
FAX: (519) 681-8355

Harry Marshall
President
Aer-O-Flo Environmental Inc.
1175 Appleby Line, Unit B-2
Burlington, ON L7L 5H9
Telephone: (416) 335-8944
FAX: (416) 335-8972

Don Lush
Principal
Beak Consultants Ltd.
14 Abacus Rd.
Brampton, ON L6T 5B7
Telephone: (416) 794-2325
FAX: (416) 794-2338

John Nunan
President
Dames & Moore, Canada
7560 Airport Road
Mississauga, ON L4T 2H5
Telephone: (416) 671-9921
FAX: (416) 672-7784

G3

David Duggan
President
Delcan International Corporation
133 Wynford Dr.
North York, ON M3C 1K1
Telephone: (416) 441-4111
FAX: (416) 441-0445

David Nicholson
President
Bennett & Wright Limited
47 Cranfield Rd.
Toronto, ON M4B 3H7
Telephone: (416) 751-5111
FAX: (416) 751-9873

Victor Nowicki
President
Geobac Technology Group Inc.
P.O. Box 3240 Station B
Fredricton, NB E3A 5G9
Telephone: (506) 451-1991
FAX: (506) 457-2100

Richard Laughton
President
Pollutech Environmental Ltd.
768 Westgate Rd.
Oakville, ON L6I 5N2
Telephone: (416) 847-0065
FAX: (416) 847-3840

Peter Laughton
Vice-President and Director of Environmental Engineering
R.V. Anderson and Associates Ltd.
Suite 400
2001 Sheppard Ave. E.
Willowdale, ON M2J 4Z8
Telephone: (416) 497-8600
FAX: (416) 497-0342

G4

Charles J. Kretch
Director International Operations
M. M. Dillon Ltd.
1900 City Park Drive
Suite 500
Ottawa, ON K1J 1A3
Telephone: (613) 745-2213
FAX: (613) 745-3491

John Coburn
President
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