

APPENDIX C

PUBLIC CONSULTATION

C1. INTRODUCTION

C1.1 Introduction

This report was drawn up in relation with the Environmental Impact Assessment (EIA) for the Completion and Upgrading project for Unit 4 of Rivne and Unit 2 of Khmelnytsky Nuclear Power plants.

Its purpose is to present the actions undertaken:

- to inform the public concerned and the interested NGO's and authorities:
 - of the nature and content of the project; and
 - of the studies envisaged to assess environmental impact; and
- to listen to their comments and remarks and take them into consideration.

C1.2 Context

The scoping process is part of a global procedure

- preceding any funding decision by EBRD regarding projects that may have an environmental impact;
- destined to create a dialogue with the public concerned.

The main stages in this procedure (to be executed under the Sponsor's responsibility) are.

- Public notification: to inform the public concerned and the interested NGO's and authorities.
- Scoping: to present the project and impact studies envisaged, listen to remarks and comments and take them into consideration in order to complete the EIA initially envisaged (if necessary).
- Environmental Impact Assessment: to study, pinpoint and assess possible impacts on the environment caused by execution of the project.
- Public participation: to present the results of the EIA and listen to any remarks and comments.

C2. PUBLIC NOTIFICATION

On August 6, 1996, the European Commission's Kyiv Delegation sent out a press release to the media and numerous press agencies (27 Ukrainian and 29 international), including the Financial Times and Der Spiegel (No.3).

This press release (see Figure C1) covered:

Figure C1
Environmental Impact Assessment of the 4th Unit of Rivne NPP
and 2nd Unit of Khmelnytsky NPP

Plans are being developed to provide assistance to Ukraine in constructing Unit 4 of the Rivne NPP and Unit 2 of the Khmelnytsky NPP to ensure that the NPPs meet world standards. The initial steps have been made by the European Commission and the European Bank for Reconstruction and Development (EBRD) in organising a study to assess potential environmental impacts of putting these two plants into operation. In order to ensure that all social problems have been addressed in the study, readers are invited to send their comments to the European Commission Representation in Kyiv (address is given below) by 21 August 1996. **ONLY WRITTEN COMMENTS WILL BE ACCEPTED.** Please mark "R4/K2 environment" clearly on your envelopes.

- the Completion and Upgrading Project for Unit 4 of Rivne and Unit 2 of Khmelnytsky Nuclear Power Plants; and
- the European Commission's decision to designate a West European Consultant to carry out the Environmental Impact Assessment (EIA).

It also asked the public and the various organisations involved to voice any remarks and comments.

C3. SCOPING

C3.1 Organisation of meetings

As part of the scoping, three public meetings and one special meeting were held.

Given the limited volume of reactions to the public notification, these meetings were scheduled after a major information campaign over the appropriate media (local television, radio, press).

The documents necessary for the scoping report were distributed widely prior to the meetings and included:

- the EIA terms of reference;
- proposed table of contents for the EIA, as envisaged; and
- a two-page document (see Fig. C2) reviewing the context of the R4/K2 project, and indicating the date and location of the scoping report meetings.

Figure C2
GOSKOMATOM NEWS 30 November 1996 (Translated from original Russian)

Special edition

Nuclear power is one of the leading sectors of the Ukrainian power industry. Statistical data for 1995 showed that the power units of the country's NPPs generated 70.5 billion kW hr of energy. This represents 36.7 % of the total energy produced in Ukraine.

44.035 billion kW hr of energy have been generated in the first half of the 1996. This is 46% of the total energy produced in Ukraine. Power production has increased by 14% in comparison with the first half of 1995.

The average total capacity of the NPPs for the first half of the current year has been 74% while it was 60.3% in the same period of 1995.

Compliance with safety operational procedures at NPPs has been improved over the last years. In comparison with 1994 the number of violations in 1995 was reduced (the average number is 9.6 violations) to 5.8 violations per one operating unit. This figure corresponds to the average number of violations in leading nuclear power states of the world.

One of the most important directions chosen for the development of the nuclear power industry in Ukraine is planning closure of the reactors which have completed their life and simultaneous construction of new power units designed to meet current safety levels.

Several power units at a NPP ensure reliable supply of power to all regions as well as high efficiency of the NPP.

Therefore, plans for the future development of this industry have been designed to increase the capacity of existing NPPs. Completing the construction of Unit 2 of the Khmelnytsky NPP and Unit 4 of the Rovno NPP is one of the most important tasks.

According to the Memorandum on the closure of the Chernobyl NPP by 2000 signed in December 1995 by the Government of Ukraine and the G7 uncompleted units of the Khmelnytsky and Rovno NPPs would compensate for the lost power of Chernobyl.

An EIA prior to any design work is required by the existing Ukrainian legislation as well as recommended by various international organisations

All interested parties including individuals could participate in discussions on a draft over-all programme for the EIA.

A broad public participation in discussing work on the initial EIA for the completion of the construction of Unit 2 of the Khmelnytsky NPP and Unit 4 of the Rovno NPP and providing comments on additional elements is required. This would allow Ukrainian nuclear power institutions not just to address environmental aspects of this problem which is being studied by a number of public organisations but also to understand social and political importance of constant consultation process and regular contacts with public.

The Ukrainian State Committee for nuclear power has prepared a draft programme of works for the initial EIA when designing a project for the completion of the construction of Unit 2 of the

Khmelniysky NPP and Unit 4 of the Rovno NPP. The following studies have been incorporated in this draft programme:

- 1) Identification of baseline data including:
 - geology and seismicity;
 - relief, landscape and drainage;
 - climate;
 - hydrology and ground water;
 - flora, land use and natural resources;
 - background radiation and contamination
 - social and economic data
- 2) Environmental Impact Assessment of the proposed facilities
 - safety analysis;
 - water supply, preparation and removal of treated effluents;
 - atmospheric releases;
 - environmental impacts of radioactive substances;
 - non-radioactive wastes;
 - heat release to environment.
- 3) measures for environmental protection;
- 4) management of radioactive waste, new fuel elements and spent fuel

Round table discussions will be organised with representatives of public organisations and individuals at the Khmelniysky NPP and Rovno NPP on 3 December 1996 and 5 December 1996 respectively. Their purpose will be to consider various suggestions, comments and additions in relation to this project.

Please contact the Department for Public Relations of GOSKOMATOM of Ukraine for any additional information (tel.: 2944889).

Please send your suggestions, comments and additions to the Department for Public Relations of GOSKOMATOM of Ukraine (address: room 519, 9/11 Arsenalnaya St., 252011) by 15 December 1997).

the Department for Public Relations of GOSKOMATOM of Ukraine
tel./fax: 2944889

Special invitations were also sent to a list of people, local groups and organisations known for their grasp of the subject or their interest in the EIA.

The three public meetings organised by the project sponsor, Goskomatom, were held:

- in Kyiv on 6 November 1996;
- in Netishin (KHNPP factory town) on 3 December 1996; and
- in Rivne (capital of the Oblast of RNPP) on 5 December 1996.

The most representative organisations having participated in these meetings are listed in Table C1.

Table C1
Participants to scoping meetings

45 participants were present at Netishin meeting (KHNPP)

109 participants were present at Rivne meeting (KHNPP and RNPP)

16 participants were present at Kyiv meeting.

There were:

Representatives of governmental and non-governmental organisations

the Ukrainian Academy of Sciences,
Roukh (a well-known Ukrainian political organisation),
the Ukrainian Greenpeace,
Zeieznhi Svit (the "Green World"),
the Union of Power Workers and Technicians,
Netishin Institute for Ecology, the Academy of Water Science (Rivne),
the Rivne lis (Rivne Forest) Association,
the Youth Club of Ecology (Rivne).

Representatives of local mass media

Representatives of local government authorities

Representatives of the NPPS

NPP Director General and heads of several NPP departments.

Representatives of CE and sponsor:

Gennady SAZONOV	Investment and development Dpt. Goskomatom (head),
Ludwig LITVINSKY	R&D Centre for monitoring and emergency response systems,
Pierre AUDIGIER	Project Manager (Representative of the EC contractor),
Viadimir PASESHENKO	PMG Expert.

C3.2 Scoping Process Report

All the questions raised and suggestions made during the Scoping meetings were recorded. They are given in detail in Tables C2 and C3.

About half of the questions concerned the EIA.

One-quarter of those questions led to a change in the scope of the EIA (the remaining three-quarters having been resolved by the initial scope).

The main subjects of public interest during the scoping were:

- methodology of EIA;
- design and safety of NPPs;
- energy policy;
- decommissioning;
- waste management; and
- water supply.

Table C4 shows the share of the questions by subject.

Table C2
Questions raised during scoping meetings

The following table is divided into seven columns	
Column 1	Questions raised during scoping meetings.
Column 2 and 3	A cross in one of these columns indicates whether the subject is relevant to the EIA or whether it is related to the project, but out of the EIA scope.
Column 4 and 5	These columns indicate which chapter of the EIA deals with the subject and whether a new paragraph has been created or modified in order to take the subject into account.
Column 6	Indicates the meeting location where questions were asked and the NPP concerned.
Column 7	Comments.

Table C3
Proposals for additions to the EIA programme

The following table is divided into seven columns	
Column 1	Proposals of additions to the draft EIA.
Column 2 and 3	A cross in one of these columns indicates whether the subject is relevant to the EIA or whether it is related to the project but out of the EIA scope.
Column 4 and 5	These columns indicate which chapters of the EIA deal with the subject and whether a new paragraph has been created or modified in order to take the subject into account.
Column 6	Indicates the meeting location where proposals were given and the NPP concerned. The word Mail)) in this column means that the proposal has also been received by mail.
Column 7	Comments.
<u>ANNEX</u>	
No. 1	Recommendation of the International Commission on Radiological Protection, ICRP Publication 60.
No. 2	(80/836/Euratom + 84/836/Euratom) or (90/641/Euratom).
No. 3	E.C. Kier Delegation. Environmental Impact Assessment of the 4 th Unit of Rivne NPP and 2 nd Unit of Khmelniisky NPP. Press Release.
No. 4	Goskomatom News. Special Edition Press Release. Nov.1996.

Table C2
Questions raised during scoping exercise

	Questions raised	Relevant to EIA	Related to the project	Impact on the EIA scope		Location and NPP concerned	Comments
				Initial items	New items		
1	Could WWER reactors be upgraded in accordance with international standards?	X		Ch4		Kiev (both)	Radiation protection arrangements are in accordance with western standards.
2	What are the similarities and the differences between Ukrainian and international standards for radiation protection?	X		Ch4	4.3.5 and 4.5	Kiev (both)	A description of international and Ukrainian standards about radiation protection can be found in Section 4.
3	What about service personnel training?	X		Ch4 (4.4.3)		Kiev (both)	Service personnel training in radiation protection will be assured.
4	Which method of solid waste storage has been chosen?	X		Ch3 (3.7) Ch5(5.6)	5.6.3	Kiev (both)	
5	Where will the Ukrainian spent fuel will be stored and reprocessed? Is it planned that there would be a spent fuel storage in Netishin?	X		Ch3 (R 3.8.3)	5.6.3	Netishin	This issue could be discussed during Public Participation Process.
6	Would the Chernobyl environmental impacts be taken into account when constructing KhNPP2?	X		Ch3 (3.2.8)		Netishin	Calculation are taking radioactive background into account.
7	What are the similarities and the differences between the reactors proposed (WWER, PWR, RBMK)?		X			Kiev (both)	
8	What is the financial profitability of the project?		X			Kiev (both)	This issue could be discussed during Public Participation Process.
9	Does the project's budget include expenses for decommissioning?		X			Kiev (both)	This issue could be discussed during Public Participation Process
10	What is the projected term for decommissioning of RBMK reactors		X			Kiev (both)	
11	Could the construction of KhNPP2 solve power supply problems of the region?		X			Netishin (KhNPP)	This issue could be discussed during Public Participation Process.
12	Is it realistic to end a comprehensive EIA before January 1997 when the discussion on planned scope of activities started only in September 1996?		X			Netishin (KhNPP)	
13	In the case of an international project to decommission NPP's, could it be applied to KhNPP2 if the discussed project is not approved?		X			Netishin (KhNPP)	
14	Is there an international project for decommissioning of NPP's		X			Netishin (KhNPP)	Section 3 deals with Kh2 and R4 NPP's decommissioning but this part will be re-written.

Table C3
Response to questions raised during scoping

	Questions raised	Relevant to EIA	Related to the project	Impact on the EIA scope		Location and NPP concerned	Comments
				Initial items	New items		
2	Decommissioning and future nuclear sites	X		Ch 3 (3.8 R 3.9.2)		Kiev (both) Mail	This section will be re-written in order to take this remark into account
3	Spent fuel management	X		Ch 3 (R 3.8.3) Ch 5 (5.6.3)		Kiev (both) Mail	This issue could be discussed during Public Participation Process.
4	There is a need for a more detailed study of water availability in the areas of the NPP locations	X		Ch 3 (3.5)	Ch 6 (6.1.5 /6.3) Ch 8	Kiev (both)	A regional scale assessment about water consumption needs to be provided.
5	To include an assessment of environmental impacts from the units already in operation	X				Netishin (KhNPP)	Releases being similar. each existing unit impact is quite similar to the one assessed.
6	To develop the protection measures for population during the reactor operation and during transportation of radioactive material.	X		Ch 4		Netishin (KhNPP)	Section 4 deals with protection measures for population.
7	To update the level of information on NPP Environmental Impacts provided to the public.	X				Rivne (both)	It is the purpose of the Scoping Process and the Public Participation Process.
8	To elaborate the EI for Unit 4 for the whole Western Ukraine Region and not only for the town of Kuznetsovsk.	X		Ch 6 Ch 7		Rivne (RNPP)	Calculations are assessing impact in a radius of 200 km around the NPPs
9	To compare environmental impacts of Unit 4 under construction with those of the alternative sources of power.	X		Addendum		Rivne (RNPP)	
10	Systems of sewage treatment facilities on site and in the town of Kuznetsovsk do not comply. by several controlled parameters. to current national standards and this fact has to be reflected in EIA of Unit 4.	X		Ch 3 (3.5.3)		Rivne (RNPP)	
11	It seems important not to forget human being in the elaboration of the EIA	X		Ch 6 Ch 7		Rivne (both)	
12	Site expertise prior to commissioning.	X		Ch 4 (4.3)		Kiev (both)	

	Questions raised	Relevant to EIA	Related to the project	Impact on the EIA scope		Location and NPP concerned	Comments
				Initial items	New items		
13	The system of NPP environmental monitoring should be connected to the state "GAMMA 1" system.	X			Ch 8	Rivne (both)	
14	Comparison of the operational reliability performance of the different reactors		X			Kiev (both)	
15	Power engineering policy of Ukraine		X			Kiev (both)	
16	Assessment for fabrication and transportation of nuclear fuel through Ukraine		X			Kiev (both)	
17	To develop a system for verification of validity of data provided.		X			Netishin (both)	This recommendation could be extended to the input data provided by the sponsor.
18	To include an analysis of economic and social infrastructure of the regions of KhNPP and RNPP locations.		X			Netishin (both)	
19	To update the environmental impact analysis with the issues related to decommissioning and to the site's conversion into a radiation safe area.		X			Netishin (both)	Section 3 deals with Kh2 and R4 NPPs decommissioning and the relevant paragraphs are being reorganised
20	To update addendum of the draft EIA with analysis of environmental impact assessment of alternative projects which do not envisage any construction of new power generating facilities i.e. a power efficiency and energy saving project.		X			Netishin (both)	Environmental Impact Assessment of alternative projects is planned.
21	To elaborate in detail the practical methods for radioactive waste disposal.		X			Rivne (both)	
22	To elaborate the issue of economic feasibility of the use of "dry cooling towers" aiming at the decrease of NPP water consumption		X			Rivne (RNPP)	
23	To study the possibility of introducing settling ponds in order to prevent flooding of historical places ("Cossack graves"). This flooding may be a danger originating from reconstruction and are increasing the level of Khrenikov water storage basin.		X			Rivne	

	Questions raised	Relevant to EIA	Related to the project	Impact on the EIA scope		Location and NPP concerned	Comments
				Initial items	New items		
24	To elaborate in detail the geological forecast for the region of NPP location as this region corresponds to a territory with tectonic stresses.		X		Ch 3 (3.2.2) Ch 4 (4.3.1)	Rivne (both) Mail	Paragraph 3.2.2 deals with geological and seismic studies. Paragraph 4.3.1 deals with Ukrainian rules for nuclear sites choice.
25	Nuclear safety of the Unit under construction should be the principal source for environmental studies.		X			Rivne (both) Mail	See: Riskaudit study
26	The areas of "moral risk" should correspondingly be taken into account.		X			Rivne (both)	
27	Due to the lack of water in the region it is proposed to elaborate. Avoiding the traditional methods. The issue of water supply for the Unit under construction.		X			Rivne (both)	
28	For the time being, the level of availability of NPP personnel does not allow for optimistic forecast of EIA for the Unit under construction.		X			Rivne (both)	

Table C4
Questions raised during scoping meetings, classified by subject

Subject	Share in %
Principles and methodology of EIA	20
Reliability of power plants Comparison with international standards Availability and capability of operating staff	20
Energy policy Socio-economic aspect Alternative solution	18
Decommissioning Site rehabilitation	12
Waste management and treatment policy	12
Impact on regional water supply/endemic situations of relative shortage	10
Miscellaneous	8

C4. PUBLIC PARTICIPATION PROCESS

At the end of the scoping process, several NGO's voiced their interest in being part of the public participation process (fax sent to the EEC and/or directly to the Consultant). A complete list is given in Table C5.

Table C5
List of NGO's interested in the public participation

NGO	From
Friends of the Earth	Australia
Friends of the Earth	England
Friends of the Earth	Scotland
Fund saving children of Ukraine from Chernobyl tragedy	Ukraine
Greenpeace	UK
Friends of the Earth (Hnuti DUHA)	Czech Republic
INECO	Ukraine
Lithuanian Green Movement	Lithuania
NA "Echo-Vostok"	Ukraine
Nadace Proti Atomovemu Nebezpeci a Jihoceske Matky	Czech Republic
Nature og ungdom	Norway
Polish Ecological Club	Poland
Program Energetických Uspor	Czech Republic
Socio-Ecological Union	Russia
Zelezni swit (green world)	Ukraine

The organisation of this phase was analysed in meetings with the Consultant, SRTI SYSTEM, and the Sponsor, Goskatom and its special institute: SSEC CSER (State Scientific Engineering Centre of Control Systems and Emergency Response) (meeting held in December 1996).

Execution of this phase must be preceded by:

- distribution of the EIA Draft Report (in Ukrainian or Russian); and
- distribution of the Least Cost Option Study (alternative solution to the Completion and Upgrading project) for Rivne 4 and Khmelnytsky 2.

The draft contents list for the EIA report was distributed in summer 1997 and a meeting held on 2 September 1997. The minutes of this meeting are attached (Annex 1). Comments received during that meeting, along with written comments received from a number of organisations and individuals were taken into account in preparing the scope of work for revising the EIA (Appendix B).

Annex 1

**MINUTES
OF THE CONFERENCE OF NON-GOVERNMENTAL ORGANIZATIONS,
THE MASS MEDIA AND CITIZENS ON ISSUES OF ENVIRONMENTAL
IMPACT ASSESSMENT (EIA) RELATED TO COMPLETING THE
CONSTRUCTION OF POWER UNITS 2 AND 4 AT KHMELNITSKY AND
ROVNO NPPS**

9/11 Arsenalnaya St., Kiev, September 2, 1997, 2 p.m.

State Committee of Ukraine for Nuclear Power Utilization

State Research and Development Center for Monitoring and Emergency Response Systems (DNITs SKAR)

Organizing Committee for Public Relations

Approved:
L.L.Litvinsky, Director, DNITs SKAR
September 12, 1997

Minutes of the Conference of Non-Governmental Organizations, the Mass Media and Citizens on Issues of Environmental Impact Assessment (EIA) Related to Completing the Construction of Power Units 2 and 4 at Khmelnytsky and Rovno NPPs

(9/11 Arsenalnaya St., Kiev, September 2, 1997, 2 p.m.)

PRESENT WERE

Representatives of governmental organisations

- | | |
|---------------------------|--|
| 1. Mikola Oberkovich | Department director, ENERGOATOM, <i>Chair of the meeting</i> |
| 2. Gennadiy Sazonov | Head of directorate, Derzhkomatom of Ukraine |
| 3. Lyudmila Blizniukova | Head of directorate, Nuclear Regulatory Agency of Ministry for Environmental Safety of Ukraine |
| 4. Lyudvig Litvinsky | Director, DNITS SKAR |
| 5. Kaia Kainurinne | Senior expert, PMG |
| 6. David Collier | Expert, EBRD |
| 7. Volodimir Paseshchenko | Expert, PMG |
| 8. Gennadiy Novosiolov | Head of department, DNITS SKAR, <i>Head of Secretariat of Organizing Committee</i> |

Representatives of non-governmental organisations (NGOs) and the media

- | | |
|------------------------|--|
| 1. Kostyantyn Buzadji | PR Coordinator, Greenpeace Ukraine |
| 2. Boris Vasilivsky | Ecopravo Kiev |
| 3. V.Vasilenko | Mouchel Consulting |
| 4. K.Hudzik | Reporter, the newspaper <i>Den</i> |
| 5. V.Dyukanov | UTSR |
| 6. K.Zvarich | Interfax Ukraine Information Agency |
| 7. Ihor Kirilchuk | Energy Program Coordinator, Greenpeace Ukraine |
| 8. Serhiy Kurikin | Deputy chairman, Greens Party of Ukraine |
| 9. T.Malkova | Green Dossier information and publishing center |
| 10. T.Murza | Ecoclub, Rovno |
| 11. S.Nepomnyashcha | Mouchel Consulting |
| 12. Andriy Odinenko | Executive director, Greenpeace Ukraine |
| 13. Pavlo Polityuk | Associated Press |
| 14. Vitaliy Polishchuk | Head of committee, Ukrainian Ecological Organization Zelenyi svit (Green World) |
| 15. N.Preobrazhenska | Member of presidium, Foundation for Rescuing Children from Chernobyl Disaster, Ukrainian Mothers Council |

16. O.Radchenko	InterNews, Vikna News
17. Yuri Samoilenko	Chairman, Ukrainian Ecological Organization Zelenyi svit
18. Hanna Syomina	Director, Ukrainian Ecological Women's NGO Mama'86
19. Volodimir Triliz	Chairman, Environmental Safety Independent Service
20. Yuri Urbansky	National Environmental Center of Ukraine. International Network
21. Volodimir Usatenko	Member of presidium, Peace Council
22. S.Fedorinchik	Zelenyi svit
23. O.Firak	National Radio Corporation
24. Volodimir Shevchenko	Energy committee, Zelenyi svit
25. Viktor Shcherbak	Coordinator for youth problems, Environmental Safety Independent Service

AGENDA

1. Opening of the conference	Chairman Mikola Oberkovich
2. EIA issues as they are today	Gennadiy Sazonov
3. Public relations activity	Ludwig Litvinsky
4. Discussion: questions, proposals, recommendations, answers of specialists	
5. Closing of the conference	Mikola Oberkovich

DISCUSSION*

Questions and comments of Igor Kirilchuk, Greenpeace Ukraine

Our commentaries and questions as to the public consultation are as follows:

1. Were our previous proposals on the project taken into considerations and how will they be taken into consideration in the future?
2. Greenpeace of Ukraine collected about 2,000 signatures by residents of Khmelnytsky Region and Rovno Region against completing the construction of the reactors. How it will be taken into account?
3. According to the Law of Ukraine *On Ecological Examination*, the results of ecological examinations have to be taken into account, but following the documents we received, it is not mandatory. Is that so or not?
4. Ukraine's population is over 52 million people. Three copies of results of ecological examinations, which were to be made available for public discussion in the cities of Netishin, Kuznetsovsk and Kiev, are not sufficient. Such results will have to be available also in the cities of Rovno and Khmelnytsky, in the district centers of these regions, as well as in Volyn Region (city of Lutsk).
5. Unfortunately, a limited number of non-governmental organizations received the documents for discussion. Ukraine's citizens have to be informed about public consultation both through the central press, radio and TV as well as through the local mass media.
6. The locations of the discussion, Kuznetsovsk and Netishin, are places where there are mostly the workforce of the stations, their relatives and managers. Therefore, such a selective survey will neither be representative nor objective. According to Greenpeace Ukraine the discussion must, apart from Kiev, be also held in Rovno and Khmelnytsky regions

* Presented here are only those extracts from each speech which contain questions, remarks and proposals directly related to environmental impact assessment and measures resulting from public discussions. The complete texts of the speeches are available in recording.

Chairman:

Thank you. Some words about the subsequent procedure. If a question has a short answer, it can be provided by the specialists present here; the rest of the answers will be given later on. But all questions and all proposals, both of earlier date and the ones to come, will be registered and taken into consideration.

Answer of chairman

Now as to the comment that all organizations have not received our material. In a matter of fact there might be a lot of non-governmental organizations, and we cannot know all of them. Therefore, if you have addresses or contact telephones of the organizations you could suggest, we would appreciate to have them.

Answer of Ludwig Litvinsky:

I will answer only those questions within my competence.

1. All the remarks which have been made earlier were received by the International Examination Group, and I hope you will see that when you receive the final copy of the report. If the remarks or proposals have not been taken into consideration, we will have a substantiated reply.
2. As for the ecological expertise. The final version of the report will be agreed upon with the Ministry of Environmental Protection and Nuclear Safety of Ukraine and the State Committee for Nuclear Energy of Ukraine; in accordance with Ukraine's operative legislation, the analysis of such documents must include an ecological examination as well as an examination of nuclear and radiological safety.
3. As to the small number of copies (three) of the report, we accept your proposal and will produce a larger number to be distributed in regional centers and large populated localities by agreement with the local administrations, probably to public libraries as well.
4. As to informing the population. We have provided with our information more than 20 mass media services, such as newspapers, TV and the like; some of their representatives are among the attendants today. The information was sent to the addresses of more than 60 non-governmental organizations.
5. This information was distributed three weeks ago. Taking into account the next two weeks, we believe that a total of five weeks is more than enough to present remarks concerning the scope of work which is planned to be performed at the power units. As to the remarks on the report, more time will be set aside.
6. The location of discussion is still under consideration. One of the considerations is to hold it in Rovno and Khmelnytsky, apart from Kiev. The decision is not final yet, but we will take your proposals into account.

Answer of Liudmila Blizniukova:

1. As to ecological examination, Ukraine's law on this issue foresees the possibility of a variety of examinations. But government ecological examinations (I stress the word government) differs from non-governmental examinations. They are carried out by units determined by the ministry and includes all the specialists which are necessary for this purpose. When preparing the conclusions of a government examination, the conclusions of a non-governmental examination are taken into account.
2. As to the procedure for public hearings, a law covering this question is being drafted at the present time; it will stipulate the procedure for holding public hearings, their timeframe, and other issues. The draft law is available at the Ministry of Environmental Protection, but it's only a draft and not an adopted law.

Question of the representative of the Vikna TV Program:

1. **A question to Mr. Litvinsky:** In the year 2000 the Chernobyl NPP will be closed down. If discussions on the two new power units will end only in 1998, by what time will they be completed then? Will they be put into operation before the year 2000?
2. **A question to Mrs. Kainurinne:** As an expert, you must be aware of the condition of the new units at the Khmel'nitsky NPP and Rovno NPP. What is your assessment about their condition and does it correspond to the level of safety accepted in the West?
3. **A question to Mr. Collier:** Has the program for financing the completion of these two power units been adopted?

Answer of Ludwig Litvinsky:

EIA and the public consultation is a requirement of EBRD. Its time frame has also been established by the Bank. Therefore, first, we cannot accelerate this process and, second, even after we managed to accelerate the process than it would not be possible to receive any response from the public. As to the time frame for putting the units into operation to replace the capacities of the Chernobyl NPP, receiving credits will really make it impossible for the power units to be put into operation before the year 2000.

Answer of Kaia Kainurinne:

The units are completed at 80-85%. An independent Western consultant assessed the modernisation programmes of these units and according to this consultant, after the completion, the safety level of these units corresponds to Western safety standards.

Answer of David Collier:

Unfortunately, I cannot answer your question. I'm only a consultant of EBRD sent here to observe the discussion, and I cannot speak on behalf of the Bank whose position on this issue I do not know.

Question of Kostiantin Buzadji, Greenpeace Ukraine:

I have two questions:

1. How and when will the public opinion be taken into account? We do not have all information on our previous proposals.
2. Do the new reactors at the Rovno and Khmenitsky NPPs correspond to European ecological and nuclear safety standards? As I understand, they do not meet modern requirements but rather the requirements of much older reactors.

Answer of the Chairman:

I appreciate your questions very much and, of course, we'll give the answers to them right away. But I would like to draw your attention here to our agenda of today. We have to review the list of those EIA operations that have been planned and make our remarks and proposals.

Answer of Ludwig Litvinsky:

All remarks and all recommendations will be sent to the international consulting company SRTI SYSTEM which is responsible for the project. Each of them will receive a response either on including them in the report or a substantiated response when they were not included. Previously, there was no requirement to have the final report agreed upon with the Goskomatom and the Safety Authorities(NRA), that is, we had no tools to influence the developer. Now we are going to have such a substantiated response in the book of 'questions and answers' to every remark.

Answer of Gennadiy Sazonov:

1. All remarks made during the three previous meetings with the public meetings have been entered in the minutes and included in the report of SRTI SYSTEM which has a table of questions and answers to what section the proposals have been referred to in the future report. We have the SRTI SYSTEM report and anyone who needs it can come to us and read it.
2. The design for the VVER type reactors were developed in the Soviet Union in the 1950s and, of course, not according to the standards existing in Ukraine today. The current safety rules in Ukraine are in no way inferior and in a lot of cases much more elaborate than Western requirements. As to our design, the purpose was not to bring them into conformity with new rules, which is impossible anyway, but to adjust them to the reactors of the same generation that operate in the West. In this way our reactors will have safety standards similar to the standards of Western reactors.

Answer of Liudmila Blizniukova:

From the ecological point of view these two power units after their completion will not be inferior even to Western plants in terms of modern requirements. As for monitoring, the Rovno station has now the first Gamma-1 system which was developed jointly with the European Union member countries, and we will introduce ASCRO systems which will completely correspond to Western equipment. Ukraine's new rules of radiological safety, which will be adopted, are also in accordance with international standards.

Question of Pavlo Politiuk, Associated Press:

1. Can the public's negative response to the completion of the power units cut this process?
2. Could such a negative response also block the financing of the project by the EBRD?

Answer of Liudmila Blizniukova:

The answer is no. The decision remains, above all, to be solved by the qualified specialists working at regulatory bodies — Ukraine's Ministry of Environmental Protection and the Ministry of Public Health.

Answer of Ludwig Litvinsky:

If the conclusions of a public consultation will show that the completion of the units is a safety risk and if these conclusions will be supported by a government examination, than a decision about non-expedience of completion will be adopted. Public opinion will be accepted only if it will be substantiated.

Answer of David Collier:

There are two processes. One is related to Ukraine's energy policy, and the Bank doesn't interfere in this field. On the other one the Bank consults with the public and wants it to participate in the environmental impact assessment. When the Bank is satisfied with the level of safety and the EIA, it makes decisions. Whatsoever, this has nothing to do with politics.

Question of Yuri Urbansky, National Ecological Center of Ukraine, International Network:

My remarks have been set forth in a document that is attached.

1. The main remark is that the time for studying the document before this meeting was insufficient. Drafting an EIA calls for 1.5 to 2 months, taking into account both difficulties with postal service (sometimes it is not very fast) and time needed for comments or for updating some of the chapters.
2. As to the level of consultations. Why weren't meetings held at an international level? We demand that public hearings have to be organized in the neighboring countries at the least.

Answer of Ludwig Litvinsky:

1. As to the plan we have available, it's just regrettable that I didn't set the time for collecting the responses. The delay of two weeks, which we have, means that the entire process of environmental impact assessment will be delayed.
2. As for the 1-2 months for improving upon the report. That, too, isn't our time schedule; SRTI SYSTEM agreed to it. If the clients — in this case the European Commission and the State Committee for Nuclear Energy of Ukraine — will be satisfied with the results, if they will satisfy us, why not agree with this time schedule?
3. As to the organizations in neighboring countries. The distribution list included more than 60 non-governmental organizations, among which over 40 were in other countries and are concerned mostly with ecological issues.

Question of N.Preobrazhenska, Fund for Saving Ukraine's Children from the Chernobyl Tragedy:

First of all, I protest against Mrs.Blizniukova's statement, from which it follows that all our suggestions and meetings are a waste of time, because nobody pays any attention to us!

1. Now, as to the impact of the two future units on the environment. Since the environment includes water, air, vegetation and people, I suggest to involve in the examination, apart from the Ministry of Environmental Safety, also the Ministry of Public Health and the Ministry for Emergencies.
2. As to "The Main Guidelines and Scope of Work," on p.3 it's stated: "The program of renewal includes replacement/repair of equipment, the condition of which is deteriorating...," and further on, in the very same paragraph: "The first results of examination ... indicate to the unsatisfactory condition of the equipment's conservation." How can that be combined one with another? It's nonsense.
3. On page 4: "... assisted by Russian designers ..." I want to know specifically who. Further on, "... some of the measures on enhancing the level of safety will be completed after startup...," and all this will take three years. And what if something happens before these three years are over?
4. In the second column of the table there is an entry "physical contingencies." I understand that such things are always included in a plan, but for this purpose US \$117 million are allocated. You can't build in such a manner and spend so much money!
5. Further on: "The present document is preliminary and does not aim at a detailed development of each items..." But we need a detailed development!
6. On p.9: "At the present time Ukraine does not have clear normative documents on decommissioning, and such a situation is typical for the majority of European countries which began the construction of nuclear power plants before 1980." But if people don't know where to bury radioactive waste, how can they build nuclear power plants?
7. On p.6: "... it is advisable to inform about planned work through the mass media..." But I don't want to be informed, I want to take part in planning!
8. The translation of this document is bad.
9. What does "internal irradiation" mean — through food or breathing?
10. Why is environmental control effected only in the 30-kilometer zone and not in the 100-kilometer zone?
11. Why does Section 3 refer to measurements of food products and not agricultural products?
12. What does "design earthquake" (p.8) mean and why is it determined as an "earthquake once in a hundred years"?
13. Some comments on the phrase on p.8: "annual individual doses of the most irradiated part of the population ... is within the levels of accepted criteria." It's has been recognized since long that little doses of radiation are the most harmful for people, and everything that's higher than the background radiation hinders life.
14. One more little remark: you can't write "accident planning"; it has to be "accident scenario."
(The speaker also dwelt on other questions not directly related to the subject of the discussion. The full text is available in recording).

Answer of Chairman:

Thank you. We will attempt to provide brief answers to your questions right away. But I have to ask you the following: since the questions were many, frame them in greater detail and sent them to the PR Department of the State Committee for Nuclear Energy or to the SSEC CSER to have all of them considered.

Answer of Ludwig Litvinsky:

I can answer now only those questions which I managed to write down; as to the rest, we'll ask the experts to answer them later on.

1. As to harmonizing the documents with the Ministry of Public Health and the Ministry for Emergencies, we'll have to act in conformity with the Ukrainian legislation.
2. The measures on enhancing the safety level planned for the first three years after startup seem justified to me, because before the beginning of the reactor's operation not all the details can be foreseen. Of course, those measures which can be taken earlier will be taken, but the real operation might also reveal certain flaws.
3. "Physical unforeseen expenses" in the price list is an assessment of experts in economics; there's nothing else we can suggest.
4. As to the remark that you need a detailed picture on each question instead of a preliminary information, it's just what we're after: we'll have all the details only after working thoroughly on the report, and for the time being we can only outline those of the questions which need to be studied.
5. Excuse me for the bad translation of the document. This seems to be our flaw.
6. "Internal irradiation" implies special instruments which measure radiation doses of a human's body after it has accumulated radiological substances from food products, water and air.
7. Given a normal operation of a nuclear power station, permanent monitoring is conducted in the 30-kilometer zone. But even in this zone the consequences of the station's operation cannot always be revealed. In a pre-accident or accident situation the Ministry for Emergencies or the Ministry of Environmental Safety can extend the zone of monitoring.
8. Section 3 actually refers to agricultural products and not food product.
9. When dealing with seismic problems during the design of a nuclear power station, the probability of earthquakes occurring once every one hundred years (named "design earthquakes") is analyzed as well as other accidents of rarer frequency.
10. As to the "annual individual doses," the figures presented in the report follow from the operation of the already existing power units which produce **several percent** more radiation than the background radiation. These small additions to the annual background radiation of 10-15 micro roentgen per annum practically do not affect people. The small doses of radiation that had been mentioned are **several times** in excess of the background radiation.

Answer of Liudmila Blizniukova:

1. Normative documents on the disposal of spent nuclear fuel are currently being drafted by our ministry with the involvement of experts. Their drafts are available. Today there are many dry burial trenches for spent nuclear fuel located right at the site of the stations. The project of each station undergoes an examination of experts.
2. As to the allowances made for the public consultation, they are taken into account during the preparation of a public consultation. Resolution No.870 of the Cabinet of Ministers defines the procedure for submitting documents to a government ecological examination. Before conducting our examination we receive the conclusions of the Ministry of Public Health and other documents of this kind.
3. There is one more information that will be of interest to both the public and the mass media. Every year the Ministry of Environmental Protection and Nuclear Safety issues a report on nuclear and radiological safety which informs about the situation at our stations as well as cases of accidents and their reasons. The report is always available for familiarization.

Question of S.Fedorinchik, Information Center of the Green World:

1. The Section "General Provisions on the public consultation" it is written: "In conformity with Article 9 of the Law of Ukraine *On Information* all citizens of Ukraine, legal entities and state bodies have the right to prompt receipt through the mass media of publicly distributed information about the activity of state bodies and organizations..." Article 9 does not contain these words; I see in this a serious deformation of the law.
At the same time the same section completely passes over in silence Article 21 "Powers of Non-Governmental Associations in the Field of Environmental Protection," while Article 57 of the Constitution guarantees everyone the right to know the rights contained in the law.
2. Item "I" of Article 21 says that non-governmental organizations have the right to initiate countrywide and local referendums on questions related to environmental protection, utilization of natural resources and ecological safety. I suggest considering the question whether public opinion was studied by way of referendums.
3. There's one representative from Rovno here, while most of the attendants of the conference are from Kiev. Why weren't the non-governmental organizations from Volyn Region, Khmelnytsky Region and Rovno Region invited to this discussion. And why the information about it wasn't distributed by the local mass media?

Answer of Gennadiy Sazonov:

1. As to the accusation about deforming Article 9 of the Law *On Information*, the quoted abstract does not contain the text of the law at all.
2. A referendum can be held on the initiative of non-governmental organizations and therefore it's more a province of your concern than the government's officials.

Answer of Ludvig Litvinsky

1. Although we didn't write the section "General Provisions on the public consultation," it can be pointed out that its authors probably did not intend to recopy all of the respective laws; they can be obtained in any library.
2. Some words about the provision of information. When we will prepare the report of today's conference you'll see that more than twenty information centers, including regional newspapers, were informed about the event. The fact that they did not print this information is not our fault.

Question of Volodimir Shevchenko, Energy Commission of the Green World:

1. Section 5 refers to 0.25 mSv per annum as the cumulative dose limit for the population during the operation of a NPP. But the National Commission for Radiological Protection of the Population suggested to set the limit to 0.1 mSv per annum for the entire population and not only for those who live closer than three kilometers from a nuclear station, and the document with this suggestion was approved by Parliament.
2. Every power facility, more so a NPP, which emits a certain amount of radionuclides during operation, impacts on the environment. How it will impact and what will be the degree of the impact, it will become clear only after the completion of the project discussed here. But in the presented document it is stated that "with the commissioning of the second power unit at Khmelnytsky NPP and the fourth power unit at Rovno NPP, no considerable increase in the background contamination level is expected."
3. Section 5 does not contain any characteristics on the real exposure of the region's population after Chernobyl accident. The Ministry of Public Health has this information. When assessing the impact of NPP the earlier effect of radiation on the population has to be taken into account as well as the subsequent effect to which people will be subjected in 30 years of NPP's operation.

Answer of Ludwig Litvinsky:

1. I appreciate very much the latter remark; we will send it to SRTI SYSTEM.
2. As to new rules, a lot of new draft laws are now under consideration. But to date there are no new rules that exist as legislative acts, the more they did not exist two or three months ago when SRTI SYSTEM was preparing this document.

3. As to the phrase "considerable increase" of levels, specialists understand "considerable" as being several times, "negligible" as percents, and "large" as "by a factor of."

Answer of Liudmila Blizniukova:

I would like to emphasize on the rules, which is an extremely important issue. New rules have already been developed with allowances for all remarks, and they have been approved by the Ministry of Public Health of Ukraine. Probably they will be brought into force on January 1, 1998 after a certain procedure (not determined so far).

Question of Yuri Samoilenko, Ukrainian Ecological Association Green World:

I have two questions:

1. I would like to know who in the government is personally supporting this program.
2. Which of the non-governmental organizations expressed their support for this program.

Answer of Gennadiy Sazonov:

1. The answer to the first question can be as follows: the decision on the completion of the units is recorded in the memorandum between the government of Ukraine and the G-7. Anyone who is interested in definite individuals, can look at the signatures of the document of December 25, 1995. Besides, this question was the subject of several resolutions and two Presidential Edicts, and, finally, of the "National Energy Program of Ukraine up to the Year 2010" that was approved by Parliament, the government and the President.
3. As to the second question, no information is available at the present time.

Question of Vitaliy Polishchuk, Commission Chairman of the Ukrainian Ecological Association Green World:

(The speech of Mr. Polishchuk was completely devoted to terminating the development of nuclear power engineering in Ukraine and worldwide and does not contain any questions or proposals related to the subject under discussion. The full text of the speech is available in recording).

Question of Boris Vasilkivsky, Ecopravo (EcoLaw)

1. There is already the first EIA version. What have been suggested to discuss now: what has been done or what is planned to be done?
2. The present documents state that the public consultation is in accordance both with Ukrainian legislation and the requirements of the EBRD. But these requirements are rather different. There are many Ukrainian laws, by which the public may interfere in a project and call it off. This concerns, for example, the requirement of mandatory publication of a respective announcement in the mass media, more time for discussion and the like. The EBRD requirements are less stringent. Therefore, which procedure do you follow?
3. I think that the public consultation would be more effective, if its representatives (specialists) would take part in the work of government commissions.
4. Yet another question — about the EBRD representative. The ecological safety of this project is a condition for financing it by the European Bank. If the public submits a report proving that allocating funds for energy-save technologies is more economic than completing the construction of the two power units, will the EBRD finance such a new project instead of the one there is today.

Answer of Gennadiy Sazonov:

1. Today we are gathered to discuss the format of the future report which doesn't exist yet. And today (and for about the next two weeks) we have to receive proposals as to the suggested plan.
2. As to the procedure, we have to strictly comply with the procedure of the European Bank, since our aim is to receive the credit. Such a credit at a completion cost of 1 billion will come to approximately 1.6 billion for Ukraine. Should the credit be extended for an energy-saving program, we would have to go through the very same procedure anyway, because now Ukraine doesn't have the money.

3. Some words about energy-saving and other projects. Three years ago the EBRD conducted a study at its own cost on the further ways of developing the energy sector in Ukraine. According to this study, the completion of the units at Rovno NPP and Khmelnsky NPP was believed to be of the greatest advantage. There is also the Surrey study of 1996, and this year the Bank is making additional studies on reducing expenses; so far we have relied on the EBRD study.

Answer of Liudmila Blizniukova:

1. This document (EIA) was also harmonized with our legislation, just as all the related procedural questions.
2. As to the public consultation in government examinations, there are no prohibitions or obstacles on the part of the government in this respect. The problem is whether one non-governmental organization will trust the specialists' competence of such organization.

Answer of David Collier:

According to the requirement of the Bank, four weeks are assigned from the moment of the documents' receipt; 60 days are assigned for remarks on the report after its distribution. But there is also an additional rule. The Bank cannot make a decision earlier than 120 days later which provides the opportunity for making remarks and analyses.

Question of T.Murza, EcoClub (Rovno):

I am certain that not a single organization in Rovno Region received information about this meeting. We learned about it from the representatives of Greenpeace Ukraine, and therefore we could not read these documents nor make any remarks.

Answer of Ludwig Litvinsky:

Excuse me for having overlooked your organization in the distribution list.

Answer of Chairman:

I believe that by now we have received a rather complete list of non-governmental organizations concerned with ecology. This list will be taken into consideration during the planning of our future meetings. Any more questions, please. Are there any organizations whose representatives did not have the floor yet? You're welcome.

Question of the Representative of Greenpeace Ukraine:

I want to repeat the proposal that we had expressed in writing. In order to engage the public, information has to be distributed through the mass media. Just printing is not enough; there must be an appeal to have people come here and participate. In the press release there is no such appeal.

Answer of Ludwig Litvinsky:

I beg your pardon, but the press release was produced by our specialists and we are responsible for it. Its last paragraph reads as follows: "We hope for an active participation and assistance of all non-governmental organizations and the mass media in holding the said functions." In addition to the press release we sent out letters with personal invitations to participants.

Question of Kostiantin Budzadji, Greenpeace Ukraine:

The process of scoping calls for including contacts of the project's client with representatives of the public from the respective regions. Please tell me, when did such contacts occur? After all, the meetings in Vinnitsa and Khmelnsky with representatives of nuclear institutes are not just encounters with village grannies. All this was done just for showing, like today's meeting.

Answer of Gennadiy Sazonov:

I don't think so. In November last year we had two meetings: one in Khmelnsky and the other one in the Rovno regional center. The meetings were attended by a large number of people and representatives of the public. Of course, we did not reach out to every granny, as you put it; that

couldn't have been our purpose at all, since such a granny cannot influence a future EIA. The meetings were attended by representatives of solid organizations, both government and non-governmental, who verbally and in writing expressed their remarks and proposals on the format of the report.

Question (the representative did not introduce himself):

I want to continue commenting on the scope of work that has to be performed:

1. The weakness of the VVER reactors is their containment domes which can be affected in case of an air accident. I would like to have the report include an analysis of air traffic intensity in the area of the stations.
2. An examination is needed on the local climatic changes following from water cooling in the cooling towers.
3. It is necessary to analyze the socioeconomic consequences of construction of the two reactors:
 - a) resettlement of people that attends construction;
 - b) impact on the material well-being of the population of the area.
4. Comparison of the impact on the environment of this project with the impact of alternative projects.
5. Inclusion of an analysis of questions related to energy saving.
6. Inclusion of the complete minutes of the previous and the present meetings.
And a related question: when and where will the complete minutes of today's meeting be available?
7. The report should be not in Russian, but in Ukrainian.
8. The agenda should be discussed before the meeting.
9. It would be desirable that each submitted remarks would receive a response.
10. Can a report after its publication be considered as unsatisfactory owing to its discussion. What will be the future of this report and the future development of events?
11. At this meeting we did not have a chance to speak about economic issues. Let's hold a special meeting for this purpose.

Answer of Gennadiy Sazonov:

As to the last question, I would like to have well in advance a list of questions which you call economic. It looks like that both parties lack a substantiated economic study. The report of Surrey was criticized by everyone, and the Bank ordered a new economic study.

Answer of Ludwig Litvinsky

1. As for the minutes of today's meeting, we are not planning to make a detailed one. If you want to obtain a record, please contact our PR department (see our contact telephone).
2. As to the language of the report, I would like to inform you that at the last talks on EIA issues our proposal was approved to issue the report in two languages, English and Ukrainian, without the Russian at all.

Question (the representative did not introduce himself):

Why was this meeting called at such a time after holidays and vacations. As a result, it was difficult to find people. The next meeting is also planned for January, shortly before the Christmas holidays. Will it be possible to organize that meeting properly?

Answer of Ludwig Litvinsky:

Regrettably, I do not have a clear answer to this question. According to today's plans, the meeting will be in the latter half of January, and we hope that everything will be ready by that time. Everything will depend on the international examination of SRTI SYSTEM and the procedure for harmonizing the report with respective ministries and agencies.

Question of Hanna Siomina, MAMA-86:

My question will probably be of an academic interest. Every mother in Ukraine is against what you are doing. What is your attitude to this?

Answer of Gennadiy Sazonov:

I want to cite just one example. By demand of the Ministry of Environmental Safety we conducted a sociological poll on nuclear stations in Mikolaiv Region. If you wish, we can show you the results which are quite interesting. The poll was conducted by population groups, trades and professions. By the results of this poll the regional administration adopted a decision to have the nuclear station completed in its design capacity!

Chairman:

It looks like that everyone has taken the floor today. Are there any more questions? If not, permit me to close our conference.

Chairman
Chairman, Secretariat of the organizing committee

Mikola Oberkovich
Gennadiy Novosiolov