



BIDSF PROJEKT B6.2

ENVIRONMENTAL IMPACT ASSESSMENT OF V-I NPP DECOMMISSIONING

PUBLIC CONSULTATION AND DISCLOSURE PLAN

FEBRUARY 2006

TABLE OF CONTENTS

1	INTRODUCTION _____	2
2	GOALS & OBJECTIVES _____	3
3	DESCRIPTION OF THE PROPOSED ACTIVITY _____	4
3.1.	Zero Alternative _____	5
3.2.	Alternative 1: Immedi-ate Decommissioning _____	5
3.3.	Alternative 2: Deferred Decommissioning with Safe Enclosure under Surveillance for 30 Years _____	6
3.4.	Alternative 3: Deferred Decommissioning with Reactor Safe Enclosure for 30 Years _____	6
4	REGULATIONS AND REQUIREMENTS FOR EIA _____	7
4.1.	Slovak National Requirements _____	7
4.2.	EU Requirements and International Conventions _____	8
4.3.	EBRD Requirements _____	9
5	PROCEDURAL ASPECTS OF EIA IN THE SLOVAK REPUBLIC _____	10
5.1.	Environmental Impact Assessment Process _____	10
5.2.	Stakeholders _____	14
5.3.	The Public Rights in EIA Process _____	19
6	CURRENT STATUS OF THE EIA PROCESS FOR V1 DECOMMISSIONING _____	20
7	CONSULTATION AND DISCLOSURE PROGRAMME _____	21
7.1.	Public Consultation Meetings _____	22
7.2.	Consultation Documents, Presentations and Web Site _____	23
8	HUMAN RESOURCES AND RESPONSIBILITIES _____	24
9	CONTACT POINTS _____	24
10	REPORTING _____	25
Annex 1	SCOPE OF ASSESSMENT _____	28
Annex 2	MINUTES OF BOHUNICE INFORMATION MEETING _____	36

1 INTRODUCTION

The Public Consultation and Disclosure Plan (PCDP) set out the process by which Slovenske Elektrarne, a.s. (SE, a.s.) and the consultant's project team (consortium EWN – STM POWER) will provide information to stakeholders and the wider public on the environmental impact assessment (EIA) being undertaken to establish the appropriate strategy to address the potential environmental problems resulting from decommissioning of the nuclear power plant V1 in Jaslovske Bohunice.

Process of the environmental impact assessment of V1 NPP decommissioning started in the year 2002 when SE, a.s. (proponent) submitted the document *Complex Study of the V1 NPP Decommissioning* to the Ministry of Environment of the Slovak republic (MZP SR). The MZP SR accepted this Complex study as an Intention and issued after the scoping process the so-called *Scope of Assessment* specified pursuant to § 12 of Act 127/1994 Coll. (see Annex 1).

In July 2004 a Grant Agreement (GA 005) for the development of Bohunice V1 NPP decommissioning documentation was established between the European Bank for Reconstruction and Development (EBRD) and SE, a.s.

The Environmental Impact Assessment of V1 NPP Decommissioning is coded as B6.2 in the framework of Bohunice International Decommissioning Support Fund (BIDSF) administrated by the EBRD.

An international tender winner as the consortium established by German company EWN and the Slovak company

STM POWER is responsible for EIA-Report preparation and to support SE, a.s during whole EIA-process including public consultation. The consortium has vast experience gained in the decommissioning of the WWER-type NPP Greifswald in Germany and with the necessary Bohunice site specifics and Slovak environmental legislation knowledge.

Public involvement process will be carried out in accordance with Slovak environmental and access to information legislation, already in compliance with EU directives as well as with EBRD Environmental Policy and EBRD Public Information Policy. One of the requirements of EBRD Public Information Policy is the preparation of a Public Consultation and Disclosure Plan by the proponent for an EBRD financed project.

The PCDP defines a technically sound and culturally appropriate approach to meaningful consultation and disclosure. The plan describes local requirements for consultation and disclosure, identifies key stakeholder groups, provides a strategy and timetable for sharing information and consulting with each of these groups, describes resources and responsibilities for implementing the PCDP and details reporting/documentation of the consultation and disclosure activities.

2 GOALS & OBJECTIVES

The goal of the PCDP is to ensure that adequate and timely information is provided to project affected people and all other stakeholders, and that these groups are given sufficient opportunity to voice their opinions and concerns. To achieve this goal the following matters should be considered:

- Written and oral communications in Slovak language and readily understandable formats;
- Easy accessibility to both written information and to the consultation process by relevant stakeholders;
- Use of oral or visual methods to explain information for public;
- Clear mechanisms to respond to people's concerns, suggestions and grievances.

The PCDP is prepared by the consultant responsible for Environmental Impact Assessment Report preparation on the behalf of the proponent SE, a.s. and should achieve seven main objectives:

- Brief description of proposed activity alternatives;
- Description of applicable Slovak legal requirements for consultation and disclosure, including those of international conventions and EBRD requirements;
- Identification of key stakeholder groups who may be affected by the project;
- Provision of a strategy and timetable for sharing information and consulting with each of these groups during various phases of the assessment;
- Description of the project proponent's/consultant's resources and responsibilities for implementing the PCDP activities including contact information for the sponsor;
- Detail reporting/documentation of consultation and disclosure activities; and
- Provision of a comment and grievance/complaint mechanism.



Fig. 1 V1 NPP in Jaslovské Bohunice

3 DESCRIPTION OF THE PROPOSED ACTIVITY

The Slovak Republic undertook a commitment to shut down Units 1 and 2 of Jaslovské Bohunice V1 NPP in 2006 and 2008 respectively through the adoption of Resolution No. 801/99 of the Slovak Government of 14 September 1999 as a condition for fulfilling the Accession Agreement of the Slovak Republic to the European Union, Protocol No. 9 on unit 1 and 2 of V1 NPP Jaslovské Bohunice in Slovakia.

According to Act No. 127/1994 Coll. on Environmental Impact Assessment, SE, a.s. proponent submitted the document *Complex Study of the V1 NPP Decommissioning* to the Ministry of the Environment of the Slovak Republic (hereafter MZP SR) on 26 June 2002. The MZP SR accepted this Complex study as an Intention, the first step of standard EIA-process, and consequently opened the Scoping process. MZP SR issued a *Scope of Assessment* specified pursuant to §12 of Act 127/1994 Coll. on the Assessment of Environmental Impacts as amended by Act 391/2000 Coll., for the assessment of impacts of the proposed activity¹.

The Scope of Assessment dated on 8th October 2002 covers the environmental impact assessment of all three alternatives of V1 NPP decommissioning considered in the *Complex Study of the V1 NPP Decommissioning* and zero

¹ The new EIA Act No. 24/2006 Coll. has been giving into force on 1 February 2006 and repeals the Act No. 127/1994 Coll. and Act No. 391/2000 Coll. According to provision of § 65 (3) of the Act No. 24/2006 Coll. environmental impact assessment opened before 1 February 2006 will follow previous EIA Act.

alternative (no action), eventually further alternatives resulting from the *V1 NPP Conceptual Decommissioning Plan* being prepared in the ongoing Project B6.1.

Alternatives for decommissioning of V1 NPP focus of the environmental impact assessment are as follows:

- **Alternative 1:**
Immediate decommissioning option;
- **Alternative 2:**
Deferred decommissioning option with safe enclosure under surveillance for 30 years; and
- **Alternative 3:**
Deferred decommissioning option with reactor safe enclosure for thirty years.
- **The zero alternative** in general represents the state that would arise and the subsequent consequences if a proposed activity (in this case NPP decommissioning) will not to be developed.

These alternatives should be elaborated and assessed in EIA-Report.

In July 2004 a Grant Agreement (GA 005) for the development of Bohunice V1 NPP decommissioning documentation was established between the EBRD, as the Administrator of Grant Funds provided by the Bohunice International Decommissioning Support Fund (BIDSF), and SE, a.s., as Recipient. This GA 005 includes, among others, the BIDSF project B6 for *Development of Bohunice V1 NPP Decommissioning Documentation*. This general project B6

includes a number of interrelated projects, namely:

- B6.1: The V1 NPP Conceptual Decommissioning Plan;
- B6.2: The Environmental Impact Assessment (EIA) Report of V1 NPP Decommissioning.

In accordance with Act No. 127/1994 Coll. and under the framework of the BIDSF, the proponent shall undertake an environmental impact assessment in accordance with Council Directive 97/11/EC amending EU Directive 85/337/EEC, inclusive of an Environmental Impact Assessment Report and public consultation process.

3.1. Zero Alternative

The zero option generally represents the status and consequences that would arise if a proposed activity (in this case V1 NPP decommissioning) will be not developed. However, spent fuel will be removed from each of the units and a part of operational radioactive waste will be treated before operation termination.

According to the Atomic Act the nuclear power plants, following the final reactor shutdown, should be operated in a scope that their radiation safety is continuously ensured and monitored.

The zero option means continuation of the shutdown status of V1 NPP without time limitation. This option does not require investments availability for decommissioning however it is not time limited and will put off the horizon of the new site utilization to a very far future. In addition it will extend hazards of possible radioactive substances leakage into the environment. It is not

advantageous also with respect to the costs and institutional control needed for an indefinite time. From the ethical point of view means burden for future generations and inconsistency with sustainable development.

It can be seen from the above that the zero alternative is unacceptable for the decommissioning in general and also for the V1 NPP decommissioning due to radiological endangering as well as cost-related reasons. Hence this option for the conceptual V1 NPP decommissioning plan will not be further evaluated.

3.2. Alternative 1: Immediate Decommissioning

The main characteristic of this option is immediate and continuous dismantling of equipment and facilities, demolition of buildings mostly up to the bottom of building pit and preparation of the site for industrial reuse.

Having the operation after reactor final shutdown terminated, the remaining operational liquid radioactive waste is processed and all the non-contaminated buildings that are not intended for other purposes are demolished.

The principle sequence of decommissioning activities is: system decontamination before, continual dismantling and decontamination after dismantling, if necessary. The generated radioactive waste will be treated and stored all times. It is followed by decontamination of building surfaces and demolition of the buildings even in the hermetic area. In this scenario the decommissioning is continuous. It begins with the operation termination after reactor final shutdown and at the end the

decommissioned site is released for unrestricted use.

3.3. Alternative 2: Deferred Decommissioning with Safe Enclosure under Surveillance for 30 Years

A basic characteristic of this option is the safe enclosure of the equipment of the primary circuit. Before the operation is terminated, the spent fuel is removed from each unit and part of the operational radioactive waste is processed.

No additional internal decontamination is performed during phase I, excepting the decontamination of the primary circuit as a whole. No contaminated items are dismantled in the phase I. The rest of radioactive waste is processed and civil engineering corrective maintenance is performed (civil engineering preservation), the turbine hall is dismantled and demolished. The facilities are closed as it is scheduled. Having the facilities closed, the environmental impact is regularly monitored.

After expiration of the term of safe enclosure under surveillance, the facilities are dismantled, by taking into account the radiation that could be decreased because of natural decay of radioisotopes. So this option could be characterized as an interrupted decommissioning process, where the facilities are safely enclosed and monitored during the defined time and at the end are dismantled up to unrestricted release of the site.

3.4. Alternative 3: Deferred Decommissioning with Reactor Safe Enclosure for 30 Years

A basic characteristic of this option is the safe enclosure of the reactor in the reactor shaft. Before the operation is terminated, the spent fuel is removed from the unit, part of the operational radioactive waste is processed and decontamination of the primary circuit as a whole is performed.

Further, during phase I, the rest of operational radioactive waste is processed, the non-contaminated facilities are dismantled and buildings are demolished if they are not intended for any further use. Pre-dismantling decontamination, dismantling the technological equipment excepting that which will be in the Deferred Decommissioning with Reactor Safe Enclosure, decontamination after dismantling and processing the arisen waste are successively performed. These activities would be followed by decontamination of the building surfaces and demolition of the controlled area excepting the part, which will be in the Deferred Decommissioning with Reactor Safe Enclosure. The safe enclosure of the reactor meets all the requirements of environment and radiation protection.

This option also includes an interruption of the decommissioning process. During the time of reactor safe enclosure, two independent buildings remain in the site area: the reactor shafts with the reactors and some other service buildings.

4 REGULATIONS AND REQUIREMENTS FOR EIA

4.1. Slovak National Requirements

Environmental Impact Assessment procedure in Slovak legislation is adjusted by the Act No. 127/1994 as amended by Act No. 391/2000 Coll. Recently the EIA Act was repealed by the Act No. 24/2006 of the National Council of the Slovak Republic on the Environmental Impact Assessment, which came into effect on 1st February 2006. By approval of this Act, the absolute coincidence of legal regulations in the field of Environmental Impact Assessment in Slovak Republic with the legal regulations of EU has been achieved:

- Council Directive 85/337/EC on Assessment of Environmental Impacts of Certain Public and Private Projects of 27th June 1985, in the wording of Council Directive 97/11/EC and Directive 2003/35/EC of the European Parliament, by which the public participation on proposal of certain plans and programmes regarding of environment is ensured and by which the Council Directives 85/337/EC and 96/61/EC "concerning integrated pollution prevention and control" are amended and supplemented.
- EP and EC Directive 2001/42/EC on Assessment of Environmental Impacts of Certain Plans and Programmes.

Regulation of the Ministry of Environment of the Slovak Republic No. 52/1995 on the List of Persons Professionally

Qualified to Assess Environmental Impacts also settles the details on enrolment of physical or legal entities in the list of persons professionally qualified to assess impacts of proposed activities.

The Public Health Protection Act 272/1994 (as amended by Act No. 470/2000) describes radiological safety standards, dose limits, discharge criteria and release levels for material and site release.

The Act of the National Council of the Slovak Republic No. 541/2004 on the Peaceful Uses of Nuclear Energy requires a preliminary conceptual plan for decommissioning before construction and conceptual decommissioning plan before permission for commissioning and operation. Conceptual plan for decommissioning which will be required for approval of the final stage of the NPP life cycle along with the EIA is under preparation in the BIDSF Project B6.1 *Conceptual Plan for V1 NPP Decommissioning* and will be taken into consideration in EIA-Report preparation.

The Slovak Republic has also ratified Nuclear Safety Convention (1997) and Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (2001).

Act No. 211/2000 Coll. of the National Council of the Slovak Republic on Free Access to Information and on amendment and supplementation of some other acts (Act on Information Freedom) settles the conditions and extent of free access to the information and especially to the information on environment and Act No. 205/2004 Coll.

on Collection, Storage and Distribution of Information on Environment settles the conditions and procedure for collection, storage and distribution of information on environment by public administration authorities and other legal and physical entities identified by this Act.

4.2. EU Requirements and International Conventions

On the international level, the Environmental Impact Assessment is regulated by the EEC UN Convention on the Environmental Impact Assessment in a Transboundary Context (Espoo, 1991), the EU Directive 85/337/EEC on the Effects of Certain Public and Private Projects on the Environment and by the Council Directive 97/11/EC amending the Directive 85/337/EEC. The abovementioned regulations are completely taken into account in the valid Slovak legislation in the field of the Environmental Impact Assessment.

Espoo Convention

EEC UN Convention E/ECE/1250 on the Environmental Impact Assessment in a Transboundary Context (Espoo Convention) was adopted on 25th February 1991 in the Finnish town of Espoo in order to develop international cooperation in the field of environment protection and sustainable development. This convention came into force on 10th September 1997. The Slovak Republic ratified this convention on 22nd November 1999 and it came into force on 17th February 2000.

The aim of this convention is to incorporate of the principles of

Environmental Impact Assessment to the national legislation of individual states and possibility for other states to intervene, in a precisely determined way, in the preparation of activities, which are carried out outside their territory and which can have undesirable impact on their environment.

Assessment of transboundary impacts is covered by the third part of Act No. 127/1994 Coll. of the National Council of the Slovak Republic on Environmental Impact Assessment. The procedure is fully in accordance with the requirements of Espoo Convention. The function of coordinating authority for assessment of transboundary impacts on environment is performed by the Ministry of Environment of the Slovak Republic, Department of Environmental Impact Assessment.

Aarhus Convention

EEC UN Convention on Access to Information, Public Participation in Decision Making Process and Access to Justice and in the Environmental Matters was adopted in the Danish town of Aarhus on 25 June 1998. The convention was signed by 35 states at the conference; some other countries signed it later. The convention came into force on 30 October 2001. Slovak Republic acceded with Convention on 5 December 2005.

Aarhus Convention is an essential document in the field of environment protection in accordance with the principles of sustainable development and exercising of one of principal human rights – right for favourable environment. Except the field of environment protection, this convention also concerns of the principles of civil

society. The aim of this convention is to support responsibility and transparency of decision-making and to strengthen public participation in decision-making process concerning of environment and general development of society.

Aarhus Convention settles the obligations of signatories in front of the public in the field of environment. The convention is based on three principles:

- Access of public to information on the environment;
- Public participation in decision-making process;
- Access of public to justice in environmental issues during decision-making process.

The first principle is currently exercised by Act No. 211/2000 Coll. on Free Access to Information and Act No. 205/2004 Coll. on Collection, Storage and Distribution of Information on Environment (implemented Directive 2003/4 EC) and the second principle is exercised by the new EIA Act (implemented Directive 2003/35 EC).

4.3. EBRD Requirements

The EBRD requirements reflect some important requirements with reference to European Union regulations and international conventions and treaties. The EBRD principles require that projects be held to the more stringent national and European Union standards. In the area of public consultation, the European Union requirements are set out in the EIA Directive. In addition, EBRD requires that the Espoo Convention's Public Information Policy and Environmental Policy, for any project that may have transboundary impacts be followed.

According to ERBD Environmental Policy the Bank will seek to ensure through its environmental appraisal process that the projects it finances are environmentally sound, designed to operate in compliance with applicable regulatory requirements and that their environmental performance is also monitored. It will pay particular attention to requiring appropriate and efficient mitigation measures and management of environmental issues, which may have legal, financial and reputation implications, as well as environmental implications. The EBRD will pursue the best practices in environmental management, including energy and resource efficiency, waste reduction and recycling.

The EBRD Public Information Policy is committed to enabling dialogue with its stakeholders, including project sponsors and other project stakeholders, governments and business partners, other international institutions, and civil society at large. In line with its Public Information Policy, the EBRD will promote four basic principles regarding public information and consultation. They are:

- Transparency;
- Compliance with the mandate and accountability to shareholders;
- Willingness to listen and receptivity to comment; and
- Safeguarding the business approach to implementing the mandate.

This Project needs to be undertaken in accordance with ERBD Environmental Policy and EBRD Public Information Policy. The Project has been classified as an A project, and a 120 days public consultation period applies.

5 PROCEDURAL ASPECTS OF EIA IN THE SLOVAK REPUBLIC

5.1. Environmental Impact Assessment Process

The purpose of the Environmental Impact Assessment according to Act No. 127/1997 Coll. is complete expert and public assessment direct and indirect impacts of planned constructions, facilities and activities before the decision on their permission under special provisions from the point of view of their presumed impact on the environment. The subject of the assessment are constructions, facilities and activities in the field of industry, energy, infrastructure, water management, agriculture, forestry, transport and communications, changes in land use, tourism, military facilities.

Obligatory assessment or screening is performed with regard to the severity of assumed impacts. Obligatory assessment consists of the following steps:

- Submission of Intention;
- Scoping and time table;
- Elaboration of EIA-Report;
- Comments and public hearing on EIA-Report;
- Elaboration of expert review;
- Elaboration of the final statement.

Screening starts with submission of Intention and ends with issue of the decree, where Ministry of Environment of the Slovak Republic decides if an activity will be or will not be assessed. In case that activity will not be assessed,

permission process under special regulations follows.

In case of the decision that an activity will not be assessed, the process continues as in the course of compulsory assessment. Individual steps of assessment process are mutually associated and all participants of assessment process including wider public enter it from the initial phase.

Scoping and, if needed, its timetable are determined by the Ministry in cooperation with competent authority and permission authority after negotiation with the proponent and it will deliver it to the proponent together with the standpoints of affected parties.

The proponent will provide the assessment to at least in the scope of assessment stated under § 12 of this Act and will submit the EIA-Report to the MZP SR. The MZP SR will deliver the EIA-Report to the competent authority, the permission authority and the affected municipality for their opinions without needless delay, and in any case within three weeks at the latest.

The affected municipality will inform the public within one week after the delivery of the EIA-Report (§ 16, paragraph 1) or the final summary (§ 16, paragraph 2) about this fact and it will display the final summary in usual manner for a period of one month. At the same time it will inform where and when the EIA-Report may be viewed, made the abstracts from it or copied at own expense.

The affected municipality in co-operation with the proponent will arrange public hearing of the EIA-Report during the period of display the final summary.

The affected municipality will inform the public when the public hearing is to be held, and will invite the MZP SR, the competent authority, the permission authority and the affected authority to participate in it.

The affected municipality in co-operation with the proponent will prepare a record from the public hearing and it will be delivered to the MZP SR within two weeks from the date of public hearing. The affected municipalities can organise a joint public hearing.

The competent authority, the permission authority and the affected municipality will deliver to the MZP SR a written standpoint concerning the EIA-Report within two months from its delivery at the latest.

The public can deliver a written standpoint to the MZP SR within two months from the date of doing the final summary accessible to the public under § 17, paragraph 1 of this Act at the latest.

The affected authority, a civic initiative and a civic association can deliver a written standpoint to the MZP SR within two months from delivery of the final summary.

The MZP SR will ensure that an expert review is elaborated on the basis of the EIA-Report, taking into account the submitted records (§ 17, par. 4) and the standpoints (§18), within two months of the expiry of the last time limit under § 18 of this Act. This time limit can be prolonged in cases where there is adequate reason, but not more than further two months.

The expert review can be elaborated only by authorised physical or juridical entities (§ 42) and assigned by the MZP SR. Persons that have taken part in the elaboration of the Intention or EIA-Report cannot take part in the elaboration of the expert review.

The MZP SR will draw up in cooperation with the competent authority the final record within one month of the date of receiving the expert review under § 19 of this Act.

The MZP SR in addition to the general assessment of the impacts of the proposed activity in the final record will state whether it recommends or not recommends the implementation of the activity, under which conditions, as well as the required scope of its monitoring and evaluation (§ 36).

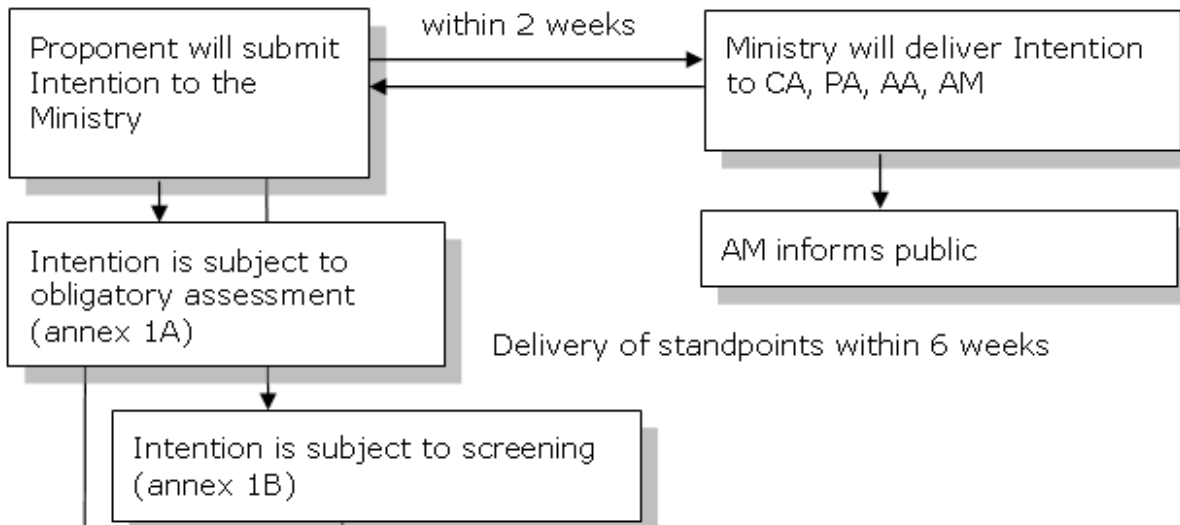
The MZP SR will deliver the final record to the proponent, the competent authority, the permission authority, the affected authority, the affected municipality, the civic initiative and the civic association (§9) within the time limit under paragraph 1.

Environmental impact assessment process will be carried out in accordance with Slovak environmental and access to information legislation, already in compliance with EU directives as well as with EBRD Environmental Policy and EBRD Public Information.

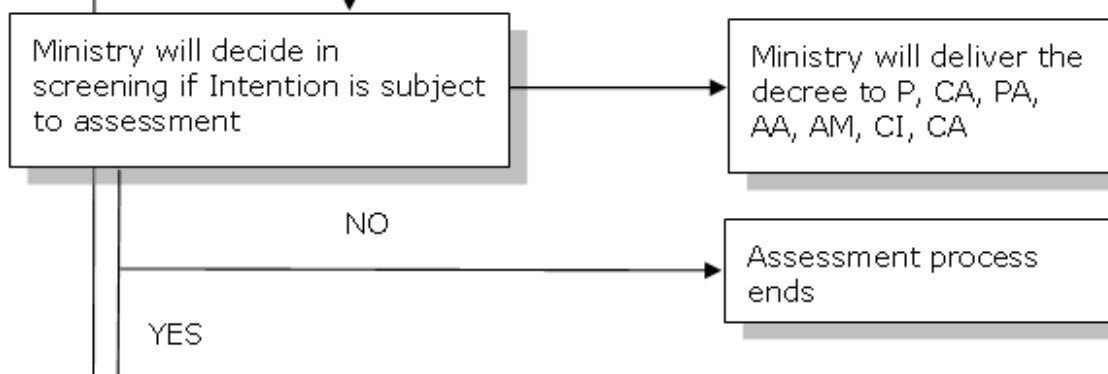
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Environmental Impact Assessment process according to Act No. 127/1997 Coll.

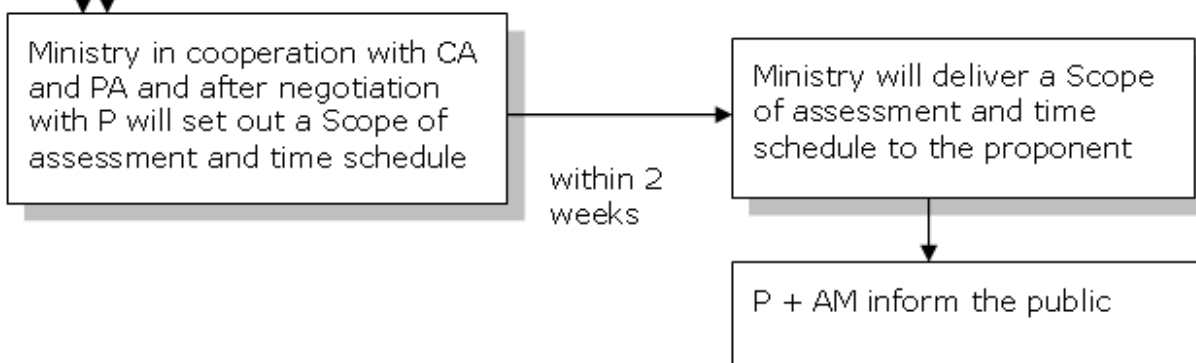
1 Submission of Intention

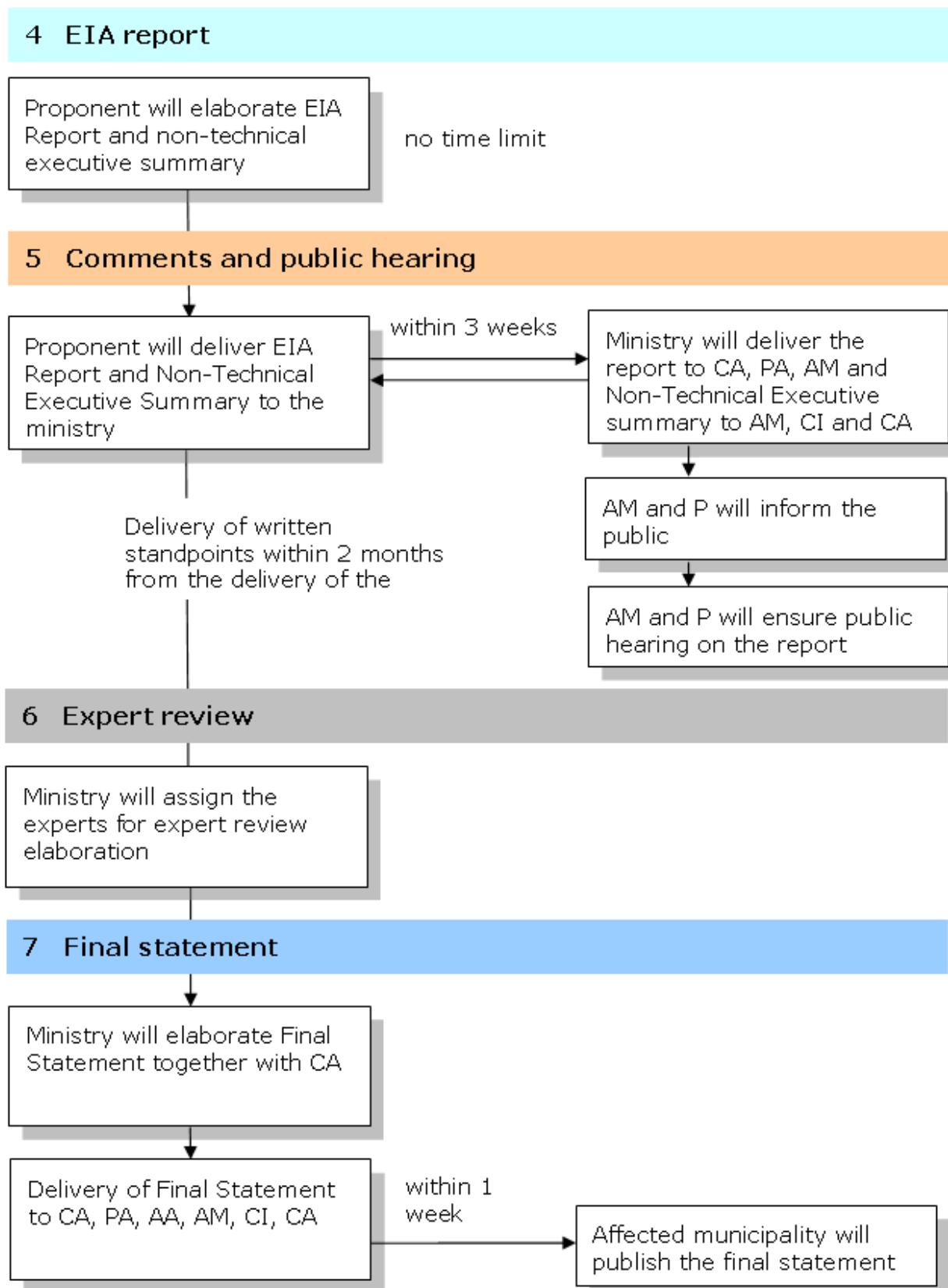


2 Screening



3 Scoping and time schedule of assessment





Legend: P – proponent, CA – competent authority, PA – permission authority, AA – affected authority, AM – affected municipality, CI – civic initiative, CA – civic association

5.2. Stakeholders

The whole assessment process in the Slovak Republic is managed and regulated by MZP SR, Environmental Impact Assessment Department. This Department is responsible for performing the assessment process in the sense of valid legislation, it sends the documentation, makes decisions in screening, determines scope of assessment and designates experts for EIA-Report review, prepares final statement, provides consulting service, runs the list of professionally qualified persons and is a contact point for assessing the transboundary impacts on environment.

*Ministry of Environment of the Slovak Republic
Department of Environmental Impact Assessment
Namestie Ludovita Stura 1
812 35 Bratislava*

Further participants of the process are:

Proponent

Proponent is the juridical or physical entity intending to perform the activity that is to be assessed under EIA Act. It ensures documentation elaboration, provides information, cooperates with the affected municipality, and performs post-project analysis. The proponent is:

*Slovenske Elektrarne, a.s. (Headquarter)
Hranicna 12
827 36 Bratislava 212*

*Project Management Unit
Department of V1 NPP Shutdown
J. Bottu 2
917 01 Trnava*

Consultants

Consortium consisting of the following companies provides EIA-Report for the proponent including support in the process of public consultation and disclosure:

*EWN Energiewerke Nord GmbH
Latzower Strasse 1
17509 Rubenow
Germany*

*STM POWER, a.s.
Jana Bottu 2
917 01 Trnava
Slovak Republic*

Competent Authority

Competent authority is the central authority of the state administration within whose competence falls the assessed activity. It elaborates standpoints to the documentation, cooperates in determination of Scope of Assessment and in the elaboration of the Final Statement. The competent authority is:

*Ministry of Economy of the Slovak Republic
Department of Energy
Mierova 19
827 15 Bratislava 212*

Permission Authority

Permission authority is the authority of the state administration that is competent to issue the decision concerning the permission of the activity under special regulations. It elaborates standpoints to the documentation, cooperates in determination of assessment scope, it takes into account assessment results when making decisions on activity permission, it sends legal decision to the Ministry of Environment of the Slovak Republic. The permission authority is (see note on page 20):

*Nuclear Regulatory Authority of the Slovak Republic
Bajkalska 27
P.O.Box 24
82007 Bratislava*

*Nuclear Regulatory Authority of the Slovak Republic
Okružna 5
918 64 Trnava
(Regulatory body responsible for nuclear safety)*

Affected Authority

Affected authority is the authority of the state administration, which binding judgement, agreement, standpoint or expression of opinion, issued under special regulations, is the condition for permission of the activity. It elaborates standpoints to the documentation. The affected authorities are namely:

*Regional Office Trnava
Department of Environment
Kollarova 8
917 77 Trnava*

*Ministry of Public Health of the Slovak Republic
Chief Hygienic of the Slovak Republic
Trnavska 52
83752 Bratislava 37
(Regulatory body responsible for radiation protection)*

*Ministry of Environment of the Slovak Republic
Environmental Risk Management Section
Namestie Ludovita Stura 1
812 35 Bratislava*

*Ministry of Environment of the Slovak Republic
Water Protection Department
Namestie Ludovita Stura 1
812 35 Bratislava*

*Ministry of Environment of the Slovak Republic
Geology and Natural Resources Department
Namestie Ludovita Stura 1
812 35 Bratislava*

*National Labour Inspectorate
Spitalska 8
815 07 Bratislava*

*Regional Directorate of Fire and Rescue Service
Vajanskeho 22
917 77 Trnava*

Affected Municipalities

Affected municipality(ies) is (are) municipality(ies) at the territory of which the activity is to be carried out, and the municipality(ies) the territory of which will be affected by the activity. It informs public on documentation, assessment scope, decisions from screening and on

final statement, it elaborates standpoints to the documentation, organises public hearing.

Demarcation of the boundaries of affected area issues from localisation of proposed activities in the Intention, their character, possible impact on population, on built-up area of the municipalities and on surrounding country. Extent of affected area is determined in such a way so that villages with areas belonging to the first threatened zone defined by the Decree of Ministry of Interior of the Slovak Republic No 300/1996 Coll. are primarily included. This Decree is aimed at population protection in the course of production, transportation, storage and handling with hazardous substances. Its annex No. 2 *Break-up of threatened zones and assumed threatened zones and method of their delineation* establishes "areas" (30 km radius around the nuclear installation in Jaslovske Bohunice), "zones" (three with 5, 10 and 30 km radius) and "sectors" (16 sectors of a circle) (see the figure).

The first threatened zone, i.e. circle with 5 km radius, is used due to the following reasons:

- Environmental impact assessments of nuclear installation decommissioning (but also of other nuclear activities) at the site have been performed and accepted in this zone according to Act No. 127/1994 Coll. up to now.
- This zone is sufficient for the emergency planning regulations for all installations in Jaslovske Bohunice; contingent incidents or accidents in the decommissioned NPP without pressure system of the primary circuit, with removed spent fuel and with minimal amount of stored unconditioned radioactive wastes can

affect only the site, eventually adjacent area of the power plant.

- A different demarcation of area around all nuclear installations at the NPP site in Jaslovske Bohunice, related to the environmental impact assessment issues, is not available.

Long-term monitoring of the components of environment in the area with approximately 30 km radius is performed in order to assess impact of operated nuclear installations on environment.

Possible impacts of proposed activities on natural and anthropogenic components of environment and on population will be evaluated in the affected area. In case of social and economic impacts, a broader area will be assessed. Affected area comprises 9 villages:

- Jaslovske Bohunice, Katlovce, Malzenice, and Radosovce belonging to the district of Trnava;
- Zlkovce and Ratkovce belonging to the district of Hlohovec; and
- Velke Kostolany, Nizna and Pecenady belonging to the district of Piestany.

*Municipal Authority in Jaslovske Bohunice
919 30 Jaslovske Bohunice*

*Municipal Authority in Malzenice
919 29 Malzenice*

*Municipal Authority in Radosovce
919 30 Jaslovske Bohunice*

*Municipal Authority in Ratkovce
920 42 Cervenik*

*Municipal Authority in Zlkovce
920 42 Cervenik*

*Municipal Authority in Pecenyady
922 07 Velke Kostolany*

*Municipal Authority in Velke Kostolany
922 07 Velke Kostolany*

*Municipal Authority in Nizna
922 06 Nizna*

Public

Public is one or more juridical or physical entities, their associations, organisations or groups, inclusive non-governmental organisations (NGOs).

The Slovak legislation provides special participation opportunities to civic initiatives and civic associations. A "civic initiative" for the purpose of the EIA Act means not less than 500 physical persons more than 18 years old, of which at least 250 persons have a permanent address in the affected municipality, who will sign a joint standpoint to a proposed activity that is assessed under this Act.

If a group of not less than 250 physical persons more than 18 years old, of which at least 150 persons have a permanent address in the affected municipality, sets up a civic association under special regulation, for the purpose of further support to the standpoint of a civic initiative or directly for the purpose of environmental protection of the particular activity assessed under this Act, and presents a written standpoint then this civic association will also take part in the administrative proceedings in which a decision is reached for the permission of the given activity under the special regulations.

During scoping and timetable phase written standpoints have been delivered

by Mrs. L. Kupke Siposova and NGOs Energy 2000 and Energy of 3rd Millennium.

Professionally Qualified Experts

Experts registered into the list of the professionally qualified experts for the environmental impact assessment kept by Ministry of Environment (Regulation No. 52/1995 on List of Persons Professionally Qualified to Assess Environmental Impacts) elaborate expert reviews and documentation.

Additional Stakeholders

Additional stakeholders will continue to be added to the register as they are identified or identify themselves.

International stakeholders are not still involved because no transboundary effects of a proposed activity are expected. Contribution of V1NPP decommissioning to radiological impacts in standard and non-standard conditions is neglectable compare to normal or accidental states of units, radioactive waste treatment centre and spent fuel interim storage facility operating at EBO-site. No any significant impacts are expected during decommissioning stages of all proposed decommissioning alternatives beyond state boundaries already from the point of distance of affected area and state boundaries. All radiological impact is limited to area of decommissioned NPP and non-radiological impacts (noise, traffic, dust, etc.) and socio-economical impact especially to affected municipalities.

MZP SR a contact point for assessing the transboundary impacts on environment will inform in accordance with Espoo Convention competent authorities of the

neighbouring countries by the means of Non-Technical Executive Summary delivery.



Fig. 2 Threatened zones around the nuclear installation in Jaslovské Bohunice – 3 zones with 5, 10 and 30 km radius and 16 circle sectors.

5.3. The Public Rights in EIA Process

Civic associations and citizens of affected municipalities have the right to participate in the whole assessment process from the very beginning.

Also in the case of Environmental Impact Assessment of V1 NPP Decommissioning public was and still will be invited by developer and affected municipalities representatives to active participation in next period of the assessment process.

Delivered comments and standpoints of public, NGOs and affected municipalities must be considered during assessment and decision making process.

Public in the Phase of Intention

After submitting the Intention, public has the first opportunity to participate. It is a duty of self-government to inform public about intended activity and to announce when and where the Intention will be available for public (for the period of 5 weeks). The public has the right to submit standpoints or comments to the municipality or directly to the Ministry of Environment. The Ministry has to take these standpoints into account (and to deal with them in further steps of the process). Public can also establish a civic association in this phase, which can also submit its standpoint.

Public in Screening

Public standpoint to the Intention has a great significance in screening, especially if it is concretely mentioned that it is necessary to assess the Intention or not, why it is important to elaborate assessment report to complete the whole

EIA process and so on. The public can establish a civic initiative or association in this phase. Assessment is obligatory for nuclear activities.

Public in Scoping and Determination of Timetable

Scoping is an extremely important step and the public can either influence it or utilise it in further steps of the process. It can influence it namely by its standpoint to the Intention. The Ministry takes into account the standpoints to the Intention especially for the purpose of scoping (it does not mean that it has to satisfy them, but it has to deal with the arguments).

In Chapter 6 is in more detail described an incorporation of delivered comments and stand points of NGOs Energy 2000 and Energy of 3rd Millennium into the Scope of Assessment.

Public in Public Hearing of the EIA-Report

It issues from the abovementioned facts that the most important tools of public in the phase of EIA-Report are:

- Check-up of report completeness with the possibility to suggest its returning to the proponent,
- Active participation in public hearing,
- Possibility to establish a civic association (if it has not been already established),
- Possibility to send a standpoint to the report.

Public in Development of the Expert Review to EIA-Report

In spite of the fact that the act does not regulate public participation in expert

review development, there is no hindrance for citizens to direct expert review developer's attention to the facts

that are considered by them as relevant ones.

6 CURRENT STATUS OF THE EIA PROCESS FOR V1 DECOMMISSIONING

According to Act No. 127/1994 Coll. on environmental impact assessment Slovenske Elektrarne, a.s. (proponent) submitted the document *Complex Study of the V1 NPP Decommissioning* to the MZP SR on 26 June 2002. The MZP SR accepted this Complex study as an Intention and issued after the scoping process the so-called *Scope of Assessment* specified pursuant to § 12 of Act 127/1994 Coll.

During the scoping process, MZP SR defined and issued on 8 October 2002 the Scope of Assessment after discussion with proponent and in co-operation with the competent authority (Ministry of Economy of the Slovak Republic – Department of Energy), the permission authority (Department of the Environment of the Regional Office in Trnava fulfilling at this time the role of the Civil Office and issuing the top-level licenses²) taking into account written standpoints of affected authorities (mainly both regulatory bodies: Ministry of Health and Nuclear Regulatory Authority) and affected municipalities and non-governmental organizations.

²According to the provisions of the Act No. 541/2004 (Atomic Act), the Nuclear Regulatory Authority fulfils the role of the Civil Office for constructions of nuclear facilities. The role of the NRA in the EIA process is changing from the "affected" to the "permission" authority. The new Act has been giving into force on 1 December, 2004.

The Scope of Assessment includes (for detail see Annex 1):

- Conceptual requirements (concerning the radioactive waste management and the site interrelations systemic issues);
- General requirements (i.e. requirement to elaborate all points of the Annex No. 3 of the of Act 127/1994 Coll. number of copies, and no requirements for elaboration timing);
- Specific requirements, which follow the proposals and comments of affected bodies, municipalities, as well as very detailed proposals and comments of NGOs.

The EIA-Report shall be elaborated for all three proposed and zero alternatives according to Act No. 127/1994 Coll. (Annex 3) taking into account *Conceptual Decommissioning Plan* issued before the end of operation of the reactor is a safety document supporting the EIA according to the Act No. 541/2004 Coll.

Environmental impact assessment process is in the phase of elaboration of EIA-Report at present (step 4 in Scheme of EIA process according to Act No. 127/1994 Coll.) The time table of previous, current and next activities is summarized in the table.

7 CONSULTATION AND DISCLOSURE PROGRAMME

One of the main attributes of the EIA Act is that it establishes the public hearing process after submitting the Environmental Impact Assessment Report. According to the actual experience, the public hearing can be a very effective tool how the NPP operator/decision maker can persuade the public of its intentions and decisions correctness. Authors of the Environmental Impact Assessment Report play always the key role in this part of the EIA process. Therefore the Consortium considers its participation on the public hearing as an inherent part of its activities within the Project B6.2.

The citizens of municipalities that may be affected by the proposed activity is the most important target group and it is the highest priority to involve affected communities in public consultation to identify concerns, views, needs and preferences, and to find solutions of identified problems.

The planned public consultation activities will focus mainly on affected communities within I. Protection Zone of NPPs in Jaslovské Bohunice. Of course, those people who do not live within the zone of project direct impacts but live close to the proposed project site will be also afforded the opportunity of participating in the public consultation. The public should not only be able, but also encourage providing comments and recommendations to the EIA documents.

All NGOs expressing interest in environmental and social aspects of the proposed developments will be targeted for involvement in the consultation and disclosure process. As a minimum,

organisations already participating in scoping process will be involved.

Certain institutions and local authorities have been identified as key stakeholders because of their role in the EIA and/or implementation process or because of their previous involvement in this area. Past experience suggests that these will be the ones with the greatest interest and provision has been made in advance within the project for more detailed involvement.

Implementation

Various methods and instruments of information dissemination and feedback collection will be applied to information and involvement of affected community members into project development including: public meetings, distributions of printed documents (EIA-Report, Non-Technical Executive Summary), visual presentations, CD-presentations, Web sites (proponent and EBRD), etc.

However, the most important events will be comments and public hearing of EIA-Report.

Announcement of Consultation

Announcement letters will be sent to registered stakeholders announcing the commencement of the EIA-Report consultation and inviting their participation. The announcement will be no later than one week before the commencement of the main consultation period. Announcement of consultation in affected municipalities will be by the means of local broadcasting and information boards.

Time Table

Activity	Starting Date	Finish Date	Duration
<i>Submission of Intention</i>	26 June 2002	–	–
<i>Comments and standpoints period of Scoping period</i>	–	4 October 2002	30 days
<i>Information of stakeholders on Scope of Assessment</i>	8 October 2002	–	–
<i>Start of PCDP elaboration</i>	12 January 2006	14 February 2006	–
<i>EIA-Report elaboration</i>	12 January 2006	18 July 2006	–
<i>Scoping information meeting</i>	16 February 2006	–	–
<i>Public consultation period SVK</i>	15 August 2006	20 October 2006	60 days
<i>Public consultation period EBRD (including expert review)</i>	15 August 2006	15 December 2006	120 days
<i>Public hearing meeting</i>	5 September 2006	–	–
<i>Final Statement issued by MZP SR</i>	15 January 2007	–	–

7.1. Public Consultation Meetings

Public consultation and disclosure need to be undertaken in accordance to Slovak regulation (Act 127/1994 Coll.) as well as EBRD Environmental Policy and EBRD Public Information Policy. The local municipalities in co-operation with the proponent shall arrange a public hearing of the EIA-Report.

One day information meeting at the beginning of elaboration EIA-Report with the aim to inform public, affected municipality representatives and involved authorities about scope of assessment for EIA-Report was held in Jaslovske Bohunice on 16th February 2006. This

meeting was common for all affected municipalities. The minutes of meeting and list of participants are given in Annex 2.

Scoping meeting

One day "Scoping meeting" at the beginning of the development of the EIA-Report with affected public, government organizations, local authorities and NGOs, is intended to inform and clarify the content and extent of the environmental information to be included inside the EIA-Report already defined in Scope of Assessment.

Public hearing meeting(s)

Public hearing will be held to review the EIA-Report in affected municipalities. The Mayor of Jaslovske Bohunice together with the proponent shall organize a common public consultation of the EIA-Report with stakeholders, which will include affected municipalities, as well as regional public, which could be affected by the investment proposal. Local and leading regional non governmental organizations will be included in the process.

The detailed arrangements of public hearing and meetings will be confirmed following discussions with stakeholders. Meetings will start with a presentation of the Project by the proponent or consultant summarising the programme and the main results and conclusions of the EIA-Report.

EWN-experience in Greifswald NPP decommissioning will be presented at public hearing.

All plenary questions and comments arising from meetings should be clarified in appropriate manner.

The proponent together with consultant shall prepare a detailed summary record of all public meetings, public hearing and associated information activities (e.g. in newspapers). This will need to include a list of participants, issues raised, information provided. Record from public hearing shall be delivered to the MZP SR within two weeks from the date of the public hearing.

During the consultation phase, stakeholders that may wish to comment and/or be informed about the project have access to the EIA-Report and/or Non-Technical Executive Summary and may submit comments to MZP SR.

7.2. Consultation Documents, Presentations and Web Site

Visual presentations

Visual presentations will be prepared for so called "*Scoping Meeting*" which will be held in Jaslovske Bohunice at the beginning of the assessment as well as for Public Hearing. Presentation will be devoted to Project description, main results and conclusions of the EIA-Report as well as EWN-experience in Greifswald NPP decommissioning (at public hearing).

Environmental Impact Assessment Report and Non-Technical Executive Summary

The EIA-Report is the basic document in the environmental impact assessment process for V1 NPP decommissioning. First reason is that the various decommissioning alternatives will be assessed and compared with regards to their environmental impact. A second reason, and not less important, is that the development of the EIA-Report will provide the basis for the public consultation on the proposed activities in relation to the V1 NPP decommissioning, and their associated environmental impacts.

After the EIA-Report is submitted to the Ministry of Environment, it has to be sent to the municipalities, who have to inform the public that the EIA-Report and Non-Technical Executive Summary is available (30 days) for consultation during 60 days.

The affected municipality organises a Public Hearing together with the

proponent, within the same 30 days. The minutes of the Public Hearing are sent to the MZP SR. Written comments may also be sent. MZP SR must take into account the comments presented as well as the results of the Public Hearing before making a decision.

Web-Site

It is important that members of the public have the opportunity to provide comments and/or request additional information online. The EIA-Report, NTES, and PCDP will therefore be available on proponent and EBRD web-

sites for download and stakeholders will be able to comment it via email.

The documents will be displayed on web sites of proponent and EBRD with addresses as follows:

www.ebrd.com

www.seas.sk

CD presentations

All written documents and visual presentations will be also available on CDs.

8 HUMAN RESOURCES AND RESPONSIBILITIES

Key experts and experts of EWN - STM POWER Consortium are responsible for the development of the PCDP, EIA-Report and Non-Technical Executive Summary and together with the proponent for their implementation.

The Consortium experts will assist the

proponent during public consultation process in communication with stakeholders who may have complaints about the process. Stakeholders may also contact the Project Manager (proponent) directly if necessary. Contact details will be included in relevant documentation.

9 CONTACT POINTS

All written comments and proposals of stakeholders from scoping period (Scope of Assessment) will be considered during the elaboration of the Environmental Impact Assessment Report or answered in separate annex or supplement. Similarly, the comments from public consultation of EIA-Report period will be answered at meetings, or later by letters, eventually in annex or supplement of EIA-Report.

Slovenske Elektrarne a.s. (proponent) as well as consortium EWN – STM POWER recognize the need to be transparent and take decisions on the project based on feedback from stakeholders in order to improve the project, mitigation of impacts and maximize benefits for all stakeholders, especially for affected. The public participation process will be administrated in an open and transparent manner.

10 REPORTING

The minutes of the Public Hearing are sent to the MZP SR. Written comments may also be sent. The MZP SR must take into account the comments presented as well as the results of the Public Hearing before making a decision.

All documentation of EIA processes,

which has been assessed from the time the Act, about Environmental Impact Assessment, entered into force (1994), is archived in [Documentary Centre](#) at Slovak Environmental Agency in Banska Bystrica and in MZP SR.



Fig.3 V1 NPP in Jaslovské Bohunice

REFERENCES

Bussell M J, C P Haigh, P J O'Sullivan, M Braeckveldt, S Vidaechea, J Ziegenhagen: Environmental Impact Assessment for the Decommissioning of Nuclear Installations. Final Report. [*Volume 1 Situation Report; Volume 2 – Guidance on Undertaking an EIA of Proposals to Decommission a Nuclear Power Plant*](#). EC Contract B4-3040/99/136035/MAR/C2. Cassiopee, The University of Wales, Aberystwyth, ECA Global, European Commission 2002.

[*EBRD Environmental Policy*](#), European Bank for Reconstruction and Development, London, U.K., 2003.

[*EBRD Public Information Policy*](#), European Bank for Reconstruction and Development, London, U.K., 2003.

[*Complex study of the V1 NPP Decommissioning*](#), STD/VYZ/VD/14-02, DECOM Slovakia, s.r.o., Trnava, 2002.

Slovak National Legislation

[*Act of NR SR No. 127/1994 Coll.*](#) on Environmental Impact Assessment.

[*Regulation of MŽP SR No. 52/1995 Coll.*](#) on List of Persons Professionally Qualified to Assess Environmental Impacts.

[*Act of NR SR No. 391/1994 Coll.*](#) amending and supplementing the Act of NR SR No. 127/1994 Coll. on Environmental Impact Assessment.

[*Act of NR SR No. 24/2006 Coll.*](#) on Environmental Impact Assessment and on Amendment and Supplementation of Some Acts.

[*Act of NR SR No. 541/2004 Coll.*](#) on Peaceful Use of Nuclear Energy (Atomic Act) and on Amendment and Supplementation of Some Acts.

[*Act of NR SR No. 211/2000 Coll.*](#) on Free Access to Information and on Amendment and Supplementation of Some Acts.

[*Act of NR SR No. 205/2004 Coll.*](#) on Collection, Storage and Distribution of Information on Environment.

[*Convention on Nuclear Safety*](#)

[*Announcement of MZV SR No. 205/2002 Coll.*](#) on ratification of the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management

European Union Legislation and International Conventions

[*Council Directive 85/337/EEC*](#) on Assessment of Environmental Impacts of Certain Public and Private Projects.

[Council Directive 97/11/EC](#), amending EU Directive 85/337/EEC on Assessment of Environmental Impacts of Certain Public and Private Projects.

[Directive 2001/42/EC](#) of the European Parliament and the Council on Assessment of Impacts of Certain Plans and Programmes on the Environment.

[UNO E/ECE/1250](#) Convention on the Environmental Impact Assessment in a Transboundary Context, (Espoo Convention).

[EEC UNO Convention](#) on Access to Information, Public Participation in Decision-making Process and Access to Justice in the Environmental Matters, (Aarhus Convention).

Web Links

www.ebrd.com

www.seas.sk

ABBREVIATIONS

BIDSF	Bohunice International Decommissioning Support Fund
EBRD	European Bank for Reconstruction and Development
EIA	Environmental Impact Assessment
EU	European Union
MZV SR	Ministry of Foreign Affairs of the Slovak Republic
MZP SR	Ministerstvo životného prostredia Slovenskej republiky
NR SR	National Council of the Slovak Republik
PMU	Project Management Unit - SE, a.s.
SE, a.s.	Slovenske Elektrarne, a.s.

ANNEX 1

MINISTERSTVO ZIVOTNEHO PROSTREDIA
SLOVENSKEJ REPUBLIKY
812 35 BRATISLAVA, NAMESTIE LUDOVITA STURA 1

Number: 3209/2002-4.3/hp
Bratislava, 4 Oct 2002

SCOPE OF ASSESSMENT,

specified pursuant to § 12 of NR SR³ Act 127/1994 Coll. on the Assessment of Environmental Impacts as amended by Act 391/2000 Coll., for the assessment of impacts of the proposed Project "**Complex Study of the V-1 NPP Decommissioning**"

Pursuant to § 7 of NR SR Act 127/1994 Coll. on the Assessment of Environmental Impacts (hereinafter referred to as "Act") as amended by NR SR Act 391/200 Coll., the Applicant (**Slovenské elektrárne, a.s., Hraničná 12, 827 36 Bratislava 212**) submitted to the Ministry of the Environment of the Slovak Republic intents of Project "**Complex Study of the V-1 NPP Decommissioning**" for assessment.

The objective of the Project is to develop a proposal for a complex optimal procedure of the V-1 NPP decommissioning beginning with preparatory operations, through dismantling up to safe radioactive waste disposal.

In the document, individual operations are specified that need to be performed during the V-1 NPP decommissioning as well as relevant environmental impacts.

In accordance with Appendix 1 to the Act, the proposed Project is ranked within Chapter 2 (Power industry), item 4 (Nuclear power plants and other facilities with nuclear reactors including their decommissioning and dismantling) and thence it is subject to mandatory assessment.

Pursuant to § 7, section 8 of the Act, the Project was submitted in its zero alternative and in another three alternatives that differ in their technical solutions and time schedules for completion of individual stages and the Project as a whole:

³ NR SR – National Council of the Slovak Republic

Alternative 0: Preservation of the V-1 NPP in the status existing at the end of plant operation and the beginning of decommissioning

Alternative 1: V-1 NPP decommissioning applying the approach of "closing with surveillance"

Alternative 2: V-1 NPP decommissioning applying the approach of "safe enclosure"

Alternative 3: Continual V-1 NPP decommissioning

After studying the submitted documents and taking into account also materials with relevant opinions, the Ministry of the Environment of the Slovak Republic, Department for Assessment of Environmental Impacts in co-operation with an authorised body (*Ministry of the Economy of the Slovak Republic, Department of Energy*), a relevant licensing body (*Regional Authority Trnava, Department of the Environment*) and after discussing it with the Applicant (*Slovenské elektrárne, a.s., Hraničná 12, 827 36 Bratislava 212*), in accordance with § 12, sections 2 and 3 of the Act, specified the following scope of assessment for the Project:

1 ALTERNATIVES FOR FURTHER ASSESSMENT

For further assessment of environmental impacts of the proposed Project "**Complex Study of the V-1 NPP Decommissioning**" it was decided, **in addition to Alternative 0**, to elaborate **all the three alternatives specified in the submitted document** and/or potential additional alternatives in accordance with the updated conceptual plan of decommissioning.

2 SCOPE OF ASSESSMENT FOR THE SPECIFIED ALTERNATIVES

2.1 Conceptual requirements

Based on the review of and comments on the Project, a necessity was raised, prior to the selection of any optimum alternative, to resolve the following conceptual requirements:

- 2.1.1 A conceptual document for nuclear facility sites shall be elaborated summing up developments in these sites taking into account all the relations and time schedules for individual stages and steps with regard to the principles of the national approach to radioactive waste and spent fuel management.
- 2.1.2 System issues related to the erection of radioactive waste interim storage sites and a final repository for high-level radioactive wastes (including spent fuel) shall be resolved pursuant to the Resolution 5/2001 of the Government of the Slovak Republic. With respect to undesirable loads on future generations, postponement is unacceptable.
- 2.1.3 Within the national system, an entity beyond the structures of the NPP Operator and Owner shall be established that would be responsible for radioactive waste and spent fuel management.
- 2.1.4 The responsibility for the quality of packed radioactive waste processing shall be ensured by its separation from the responsibilities for radioactive waste final disposal in order to preserve a continual pressure and supervision of the radioactive

waste repository operator over the organisation treating radioactive wastes (see article 21 of MZV SR⁴ Official Notice 125/2002 Coll.).

- 2.1.5 The issue of the necessity and duration of radioactivity monitoring in individual environmental components after the last nuclear facility in the site is decommissioned shall be resolved.

2.2 General requirements

- 2.2.1 With regard to the character and scope of the submitted Project and the site proposed for Project implementation, it is necessary that the assessment report should include all the items specified in Appendix 3 to the Act correspondingly to the character of the proposed Project.
- 2.2.2 For the assessment of the submitted Project, neither a time schedule nor specific requirements are imposed that might limit the time period encompassed by the assessment.
- 2.2.3 The Applicant shall deliver to the Ministry of the Environment, Department for Assessment of Environmental Impacts, 19 complete copies of the assessment report, 9 copies of final conclusions and at least 1 electronic copy of both the textual and graphical parts of the assessment report.

2.3 Specific requirements

Based on the comments received during the process of reviewing, a requirement was raised to treat in more detail the following project-related issues in the assessment report:

- 2.3.1 When selecting an optimum alternative for the V-1 NPP decommissioning, technological and financial potentials as well as needs in relation to the other nuclear facilities in Jaslovské Bohunice and Mochovce sites shall be taken into account. The capacity and the technological potential of radioactive waste management shall be analysed, availability of technologies and funds needed for all the works shall be assessed in time relation to operations being performed at the other nuclear facilities in the given site.
- 2.3.2 In individual decommissioning alternatives, requirements imposed upon the existence and capacity of radioactive waste management facilities shall be stated without which meeting the time schedules for the V-1 NPP decommissioning could be considered unrealistic.
- 2.3.3 The solutions to basic safety and industrial safety issues shall be described in accordance with NR SR⁵ Act 330/1996 Coll. on Industrial Safety as amended by Acts 95/2000 and 158/2001 Coll.
- 2.3.4 Reliable monitoring of potential non-radioactive and radioactive pollution of the concerned area shall be continued with stress being placed on thorough monitoring of groundwater and surface water; this monitoring will be used as a basis for a more precise specification of potential environmental impacts of the V-1 decommissioning enabling thus to adopt relevant measures.

⁴ MZV SR – Ministry of Foreign Affairs of the Slovak Republic

⁵ NR SR – National Council of the Slovak Republic

- 2.3.5 A thorough analysis of all the other comments issuing from the positions of individual participants of the review process shall be performed and the reasonable ones shall be taken into account in the assessment report.
- 2.3.6 In the assessment report, the position of non-governmental organisations **Energia 2000** (Energy 2000) and **Energia tretieho tisícročia** (Energy of the Third Millenium) shall be taken into account in which they propose to elaborate in detail only one alternative - Alternative 3, i.e. "**Continual decommissioning**". This Alternative shall be compared with Alternative 0 in all indicators.

For the Alternative of continual decommissioning, they propose:

- To elaborate a detailed realistic time schedule for the V-1 NPP continual decommissioning specifying at the same time specific decommissioning operations to be performed in each year and in the following relations:
 - To give realistic financial specifications for all operations to be performed within the decommissioning per each year until the decommissioning is completed;
 - To compare the funds needed for Alternative 3 with those provided for the decommissioning of the Greifswald NPP, Germany, and at least another three similar decommissioned NPPs with light-water reactors in the world;
 - To include in the financial specifications also anticipated inflation and to submit financial risk analysis;
 - To compare the aforementioned time schedules and financial specifications with Alternative 0.
- To specify in detail, on a time axis, two stages of the time schedule of the continual decommissioning for specified equipment groups. Decommissioning of each group shall be described as follows:
 - To indicate anticipated expenses for each decommissioning operation;
 - To describe in detail individual operations and technological procedures that will be performed in the process of decommissioning of individual equipment groups;
 - To give the results of building and equipment tests (for individual groups) as far as radioactive leakage to the environment is concerned;
 - To give a detailed list of equipment with defective barriers preventing from radioactive leakage or with reduced functionality and to propose efficient measures to prevent radioactive leakage to the environment;
 - To specify the procedure of technological equipment dismantling (in each group) and to describe in detail dismantling procedures and possibilities of equipment reuse.
- To specify the following balances of the total amounts of:
 - Materials resulting from the decommissioning (in tons);
 - Materials left under the ground level after the decommissioning (in tons);
 - Non-radioactive materials for unrestricted release (in tons);
 - Radioactive materials designed for further processing (in tons).
- In case of radioactive materials, the following amounts shall be stated:

- Amount of materials from demolition of buildings (in tons) specifying also a detailed procedure of further handling;
- Amount of concrete (in tons) specifying also a detailed procedure of further handling;
- Amount of radioactive materials resulting from equipment dismantling (in tons) specifying also a detailed procedure of further handling.
- For all kinds of radioactive wastes, balances as to their classification shall be stated taking into account the following:
 - Unrestricted release (in tons);
 - Utilisation as non-radioactive materials in a specified way (in tons);
 - Placement in conventional waste storage sites (in tons);
 - Storage with a view to reduce activity (in tons). The site and duration of storage shall be specified;
 - Controlled reuse in nuclear facilities (in tons). Waste inventory (total radioactivity, distribution of radionuclides, half-life) shall be specified precisely as well as the relevant nuclear facility and the way of material utilisation in the facility.
 - Placement in radioactive waste storage sites (in tons). Waste inventory (total radioactivity, distribution of radionuclides, half-life) shall be specified precisely as well as the storage site and its location and total duration of radioactive waste placement.
- To specify financial expenses for handling of materials from decommissioning including expenses for their placement in storage sites and repositories that will be included in total decommissioning expenses as separate items. Financial risk analysis shall be performed.
- To develop a radioactivity atlas with the following data:
 - Total radioactivity of plant inventory after defuelling (in activity units);
 - Total activity of individual equipment groups in individual buildings (catalogue of contamination);
 - The catalogue of contamination shall include a detailed list of buildings, technological equipment and their total activity. It shall include a list of radionuclides that induced contamination; estimate of total activity shall be specified for each equipment item separately.
 - Total eliminable surface contamination and the way contamination has been estimated or the procedure of calculation.
- To prepare a detailed list of radioactive substances released to the environment during the decommissioning and a list of materials treated as radioactive wastes specifying also their total activity and to state:
 - Released amounts of radioactive substances per year for the whole period of decommissioning (in activity units);
 - All sources of releases and their location on the plant map;
 - Balances of radioactive substances released to the environment from each source separately (in activity units) per year for the whole period of decommissioning;
 - Amounts of radioactive wastes in tons that will be treated into forms suitable for placement in storage sites per year for the whole period of decommissioning.

Distribution of radionuclides in radioactive wastes and their specific activity shall be specified.

- Storage sites for both processed and unprocessed radioactive wastes and the amounts of processed radioactive waste (in tons) per year for the whole period of decommissioning.
- To specify the impacts on the population in such way to enable assessment of the impacts induced by decommissioning operations as well as the cumulative impacts induced by operations of all the nuclear facilities situated at the plant site.

The data shall not be taken over from SE EBO and SE VYZ Safety Analysis Reports (as stated on page 64 of the study) since they cannot be verified. They do not include calculation procedures used to calculate the values of population and staff irradiation. They are not independent as they are provided directly by the polluter and are not available to the public.

- As far as impacts on the population health in the relevant location are concerned:
 - To specify effective dose equivalents for the population of all towns and villages within 10 km for the past 15 years;
 - To specify the calculation procedure and all the input data used for the calculation;
 - To evaluate the impact of the V-1 NPP decommissioning on dose equivalents for the population of all towns and villages within 10 km per each year of decommissioning until its completion;
 - To develop an epidemiological study for the period of past 20 years for each town or village within 30 km which will include:
 - Men and women death rate stating also the age;
 - Men and women death rate due to malignant tumours in accordance with international classification and for each category separately;
 - Incidence of malignant tumours (according to individual diagnoses) in men and women (for individual age categories with an interval of 5 years);
 - Incidence of chronic lungs disorder and tuberculosis.
- To elaborate part of the study evaluating environmental impacts of the V-1 NPP decommissioning so to enable a separate evaluation of environmental impacts of the V-1 NPP decommissioning neglecting the effects of the other nuclear facilities at the site; and to evaluate impacts of all the nuclear facilities situated in Jaslovské Bohunice site. Within the scope of assessments of environmental impacts of the V-1 NPP decommissioning, it is proposed:
 - To provide a complex assessment of decommissioning impacts on all the environmental components and all ecosystems encountered within 10 km (threatened zone 2):
 - For all environmental components, the impacts of the V-1 NPP decommissioning shall be specified separately (without the impacts of the other nuclear facilities) as well as with the impacts of the other nuclear facilities;
 - Impacts of the other nuclear facilities on all environmental components shall be assessed for each facility separately and then their global impact shall be assessed as a sum of individual impacts;

- Contamination of environmental components and ecosystems by radioactive and non-radioactive substances shall be assessed through a separate evaluation of the impacts of the V-1 NPP decommissioning and a separate evaluation of the impacts of all the other nuclear facilities per individual years until the decommissioning is completed;
 - Contamination by radioactive substances shall be assessed for each released radionuclide separately.
- To provide a complex assessment:
 - Detailed results of activity measurements in environmental components (performed before the decommissioning is initiated) shall be given in terms of measuring sheets; specification of the highest and lowest measured values is insufficient;
 - In the measuring sheets, values of all measurements and/or determinations shall be given including locations of sampling points and dates of sampling and determination;
 - The way of radionuclide measurement or determination in environmental components shall be given as well as detection limit of the method applied and its precision;
- To describe the whole system of environmental monitoring including graphical specification of the locations for monitoring stations:
 - To describe their hardware, purpose of application and monitoring method;
 - To specify monitored parameters, their detection limits, and frequency of measurements per a time unit;
 - To provide a detailed description of instrumentation used to measure gas radioactive substances in stack releases, used methods of determination, their precision, means of calibration;
 - To specify exactly the current way of radionuclide balancing for all radionuclides in plant stack releases;
 - To specify the way of balancing of gas releases and aerosols per year during the process of decommissioning.
- As to groundwater, to submit protocols on groundwater monitoring for the period of past 10 years in accordance with EKOSUR company monitoring programme.
 - To submit separately results (measuring sheets) of monitoring the drinking water and irrigation water sources;
 - To provide results of measurements of all radionuclides determined in the soil (the whole profile) of drainage channels from the Jaslovské Bohunice facility site for the past 10 years;
 - To evaluate the impacts of the V-1 NPP decommissioning on sediments (the whole profile) in the channels in time segments of 1 year until the decommissioning is completed.
- To assess the impacts of initiating events as stated on page 85 of the study and to evaluate in detail their impacts on all environmental components and the population in accordance with items 4 and 5.

3 NOTICE

Pursuant to § 12, section 5 of the Act, the Applicant is obliged, without undue delays, in co-operation with the concerned town/village to inform in an appropriate way the public on the prescribed scope of the assessment.

Ing. Viera Husková

Head of Department for
Assessment of Environmental Impacts

To be delivered to: Slovenské elektrárne, a.s., Hraničná 12, 827 35 Bratislava 212

ANNEX 2

MINUTES OF BOHUNICE INFORMATION MEETING

Project: B6.2: "The Environmental Impact Assessment Report of V1 NPP Decommissioning"

Place and date of the meeting: Jaslovské Bohunice, 16th February 2006

Type of meeting: Information

Participants: according to list of participants

Scope of the meeting: Evaluation of current Environmental Impact Assessment of NPP V1 Decommissioning process according to the Act No. 127/1994 Coll. on Environmental Impact Assessment as amended by Act No 391/2000 Coll. and disclosure information about approach and progress of proponent in Environmental Impact Assessment Report NPP V1 Decommissioning development with public, affected municipalities representatives and state authorities participation.

Program:

1. Opening
2. Provision of Environmental Impact Assessment Report elaboration
3. Presentation of environmental impact assessment process
4. Discussion
5. Conclusion

1. Opening

Mrs. E. Senčáková (project manager) welcomed meeting participants. She informed participants about the program and explained them the purpose and possibility of public participation in environmental impact assessment process

2. Provision of Environmental Impact Assessment Report elaboration

Mgr. E. Senčáková (SE, a.s.) introduced in the opening speech general information about the project, Environmental Impact Assessment Report consultant, basic milestones of the process, approval and hearing of EIA-Report.

3. Presentation of environmental impact assessment process

Mr. I. Matejovič (from consortium EWN – STM POWER) presented information about scope and extent of EIA-Report, the development and assessment process, and about participation and rights of all stakeholders including public in next steps of the assessment process.

4. Discussion

- Mayor of Jaslovské Bohunice Mr. P. Ryška spoke on behalf of all affected municipalities. He welcomed meeting participants, he also appreciated the interest of the European Bank for Reconstruction and Development in public involvement in this environmental impact assessment and public consultation process.

In addition, he presented several critical comments concerning general form of public involvement in EIA process, as well as other suggestions not related to this project, for example:

- Legal process is often formal and recommendations are not always realized,
 - He reminded the impacts of NPP A1 accident,
 - *Complex Study of NPP V1 Decommissioning (2002)* accepted by Ministry of the Environment of the Slovak Republic as Intention did not fulfil all formal requirements,
 - Act on *State Fund of Decommissioning of Nuclear Instalations and Spent Fuel and Radioactive Waste Management* under preparation is not good (actually in force),
 - Hosting municipalities are negative affected due to presence of nuclear facilities and legislation gives them insufficient support for compensation of negative impacts
 - Loss of amenities and decrease of realty value due to negative perception of nuclear facilities presence,
 - Payment for radioactive waste storage, he considers, it would be effective in decreasing of their production.
- Mrs. E. Senčáková – answered some questions and comments of Mr. P. Ryška
 - *Complex study of NPP V1 Decommissioning* was accepted as intention, because it was fully in accordance to Act No. 127/1994 Coll.
 - Provision of Act No. 127/1994 Coll. does not solve compensation for hosting municipalities.
 - Ing. J. Hutta (director of NPP V1) – answered to some questions and comments
 - Mr. Hutta participated in all previous negotiations and procedures related to shutdown of NPP V1 and he is well informed with all above mentioned facts and problems. However it is not possible to solve all requirements of affected municipalities for compensation at this meeting and, only within this planning activity which finally lead to improvement of environment and reduction of potential risks in affected area,
 - NPPs operator has always be endeavoured to help the hosting municipalities to solve some sensitive problems. Progress can occur by bilateral communication and co-operation only.
 - From the legal and practical points of view the environmental impact assessment by no means is a formal process and the competent authorities consider to them seriously with full respect.

5. Conclusion

Mgr. E. Senčáková thanked to all participants for their attention and active participation. After elaboration, Environmental Impact Assessment Report will be disclosure to public to comment. According to timetable, EIA-Report will be subjected to public hearing in September 2006.

Written by P. Hiža from SE, a.s. - PMU

Project: B6.2- EIA Report of V1 NPP Decommissioning

Place and date of the meeting: RKC J. Bohunice, dated 16 February 2006, 5:00 p.m.

Type of meeting: Information meeting

Scope of the meeting: EIA of V1 NPP Decommissioning

List of attendance

Name	Organization	Signature
EVA ŠENČÁKOVÁ	SE, a.s.	[Signature]
Ladislav KONEČNÝ	ÚSO SR	[Signature]
Miroslav DEBŤOŠ	ÚSO SR	[Signature]
Štefan Gregušovič	diagnostická spoločnosť SIT#	[Signature]
Igor Matejovič	STM POWER	[Signature]
DANĽO Alexander	STM POWER	[Signature]
STANISLAV KIZALIK	STM POWER	[Signature]
JOZEF PRITRSTÝ	STM Power	[Signature]
Lehel Peter Pristický	SE, a.s.	[Signature]
Lutz Werner Blank	ERB	[Signature]
Václav Kedeľár	ERB	[Signature]
LAZARO E. POMIER	DMU	[Signature]
Peter HLBOČEK	SE a.s.	[Signature]
JOZEF HUTTA	SE a.s.	[Signature]
STANISLAV DOBŤOŠ	SG	[Signature]
PIOTR ROSTISLAV	MTI na osideľ noviny	[Signature]
Jiřía Ouháková	TA PR	[Signature]
Peter RYŠKÁ	OBEC JASLOVSKÉ BOHUNICE	[Signature]
Soboľa Viliam	Očú Radošovec	[Signature]
Miroslav Remenár	Očú Radošovec	[Signature]
VIERA JAKÁ BOVIČOVÁ	nový Malčeniec	[Signature]
PONECOVÁ HELENN	MŽP SR DPV	[Signature]
TRČKA TOBIAS	MŽP SR OMER	[Signature]
Pavel MĚA	SE - TRM	[Signature]
Axel Bärken	EW N GmbH	[Signature]

Prepared for Slovenske Elektrarne, a.s., Bratislava (client) by consortium EWN – STM
POWER (consultant)
Author: Igor Matejovic
Graphics: Jozef Pritrsky and Stanislav Kralik