

Indemnification of Damage in the Event of a Nuclear Accident

Workshop Proceedings
Bratislava, Slovak Republic
18–20 May 2005



Legal Affairs

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NUCLEAR ENERGY AGENCY
ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

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- to assist its member countries in maintaining and further developing, through international co-operation, the scientific, technological and legal bases required for a safe, environmentally friendly and economical use of nuclear energy for peaceful purposes, as well as
- to provide authoritative assessments and to forge common understandings on key issues, as input to government decisions on nuclear energy policy and to broader OECD policy analyses in areas such as energy and sustainable development.

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In these and related tasks, the NEA works in close collaboration with the International Atomic Energy Agency in Vienna, with which it has a Co-operation Agreement, as well as with other international organisations in the nuclear field.

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FOREWORD

In November 2001, the First International Workshop on the Indemnification of Nuclear Damage in the Event of a Nuclear Accident was held in Paris, France. This workshop, organised by the NEA in close co-operation with the French authorities, was actually a follow-up to the International Nuclear Emergency Exercise INEX 2000, a simulated nuclear accident which took place in May 2001 at the Gravelines nuclear power plant in France.

The purpose of the 2001 workshop was to integrate third party liability and compensation issues into an essentially technical emergency exercise. Interest in that objective stemmed from a desire on the part of the nuclear sector to assess the extent and effectiveness of indemnification measures that would be implemented, in both the accident State and in affected neighbouring states, should personal injury or property damage be suffered by third parties in the event of a nuclear accident. The objective was important for many reasons, not least of which because public authorities are not always sufficiently prepared to consider the needs of victims, largely due to their lack of practical experience with nuclear accidents, which in itself is fortunate.

The workshop attracted participants from more than 30 countries, of which the majority were OECD member countries and half were located in Western Europe. In light of the nature of that participation, emphasis was placed on the manner in which the Paris Convention on Third Party Liability in the Field of Nuclear Energy and the Brussels Convention Supplementary to the Paris Convention would apply to the indemnification of damage suffered by victims in those Convention countries as a result of the Gravelines accident scenario.

Shortly after this workshop, several members of the NEA Nuclear Law Committee suggested that it could be very useful to organise a second, similar workshop, this time focusing on an assessment of the indemnification measures that would be taken if a nuclear accident occurred in a State Party to the Vienna Convention on Civil Liability for Nuclear Damage (“Vienna Convention”) and more particularly, a State Party to both the Vienna Convention and the Joint Protocol Relating to the Application of the Vienna Convention and the Paris Convention (“Joint Protocol”). It was also proposed that for such a workshop, damage to third parties should be deemed to occur not only in the accident State but in several neighbouring states, some being Party to one or more of the international nuclear liability conventions, and others being Party to none at all. The authorities from the Slovak Republic very kindly offered to host the Second International Workshop on the Indemnification of Nuclear Damage on 18-20 May 2005 in Bratislava.

Given that there was no existing “accident scenario”, as was the case for the first workshop, and in an attempt to accommodate the desired objectives of members of and observers to the Nuclear Law Committee to the greatest extent possible, two fictitious scenarios were selected for this second workshop. The first involved a fire in a nuclear installation located in the Slovak Republic which resulted in the release of significant amounts of radioactive materials off-site; the second involved a fire on board a ship transporting enriched uranium hexafluoride along the Danube River which resulted in the release of both highly toxic chemicals and uranium oxide into the atmosphere.

The first scenario was designed to involve the greatest possible number of countries, while the second was restricted to those with a geographical proximity to the Danube River. Both scenarios, which were entirely hypothetical and perhaps even unrealistic, nevertheless aimed to test the implementation of various third party liability regimes, and to pose a number of questions in light of the recent revision of the international nuclear liability conventions.

A questionnaire was developed to allow delegates to best prepare for their participation in the workshop, which attracted 108 participants from 27 countries. The questionnaire is reproduced in the Introductory Section to these proceedings. Country responses to the questionnaire have been assembled in a compendium, which is available upon request from the NEA Secretariat. These proceedings contain the papers presented at the workshop, as well as reports on the discussion sessions held.

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INTRODUCTORY SECTION – WORKING DOCUMENTS

ACCIDENT SCENARIOS, METHODOLOGY AND QUESTIONNAIRE

Scenario 1 – Installation Accident

1. A fire takes place in a fuel storage facility at a nuclear installation on the territory of State A. An unshielded fuel element catches fire and it spreads rapidly, leading to an explosion. Fire-fighters require several hours to bring the fire under control. A sizeable quantity of radioactive materials is released into the atmosphere and on-site and off-site emergency plans are activated in State A.
2. The IAEA, the European Commission and neighbouring states are notified pursuant to State A's obligations under various international instruments. Neighbouring states which are affected by the accident are categorized as State B, C, D, E or F, depending upon their international nuclear liability convention status (see below under "Methodology").
3. State A organises an evacuation within a radius of 10 km of the installation (total of 5 000 persons evacuated). Sheltering is ordered and iodine is distributed within a further radius of between 10 and 20 km from the installation (a further total of 15 000 persons are concerned due to the situation of a small town at 15 km distance from the plant). As the installation in State A is located close to the border of State C, these evacuation and sheltering measures also concern persons and properties located within that part of State C falling within the 20 km radius and these areas have been pre-determined by the joint emergency plan.
4. As the release of radioactive materials could pose a severe risk to public health and the environment in States B, C, D, E and F, national emergency plans in each of those countries are activated without delay.
5. Extensive personal injuries are suffered only in State A, as follows:
 - a) two installation workers were killed immediately in the ensuing explosion and several others suffered severe burns and are highly contaminated;
 - b) during the emergency rescue operations, ten members of emergency personnel from outside of the installation were exposed to doses of 200 mSv, and 100 members of staff of the installation and 20 radiation workers from State C working at the plant that day were exposed to doses over 20 mSv; and
 - c) out of the 5 000 persons evacuated within the 10 km radius, approximately 1 000 received doses of between 5 and 10 mSv.
6. Extensive property damage, however, occurs within a contaminated zone comprising approximately 200 square km in each of States A, B, C, D, E and F, as follows:
 - a) as crops in the contaminated zone exceed commercial levels of contamination and are unfit for human consumption, orders for agricultural produce from countries in the contaminated zone are cancelled, as are orders for agricultural produce from the uncontaminated zones of those countries due to unfounded rumours that the entire national territory has suffered contamination;

- b) a number of industries in the contaminated zone suffer damage from cancellation of orders, in some cases because raw materials are actually contaminated and in others because of an unfounded fear of contaminated raw materials (such as a food processing factory using agricultural products which actually are contaminated and a furniture factory using wood products which are only feared to be contaminated);
- c) the tourism industry suffers serious losses as a result of both actual contamination and fear of contamination, since tourism in this zone has been based for many years on outdoor leisure pursuits in the surrounding woodlands, some of which has suffered radioactive contamination as a result of this accident;
- d) businesses serving the tourist industry (linen service, guided tours, sporting excursions etc.) suffer a huge decline in business due to the lack of tourists;
- e) the environment in the contaminated zone is damaged by radioactivity (death of fish, insects, birds) which is sufficient to warrant rehabilitation measures (removal of topsoil, ploughing to reduce contamination in remaining topsoil) in some areas and a high degree of environmental surveillance over the entire contaminated zone for several years;
- f) public and private transport services in the vicinity of the contaminated zone are severely affected, and although the international airports in State A remain open, some states order their national airlines not to fly into State A for safety reasons and many private airlines decide to do the same, even if their governments have recommended otherwise.

Scenario 1 – Methodology

An accident is deemed to have taken place in the Slovak Republic, the “Accident State”, and all other countries invited to participate in the Workshop are considered “Affected States”, irrespective of their geographic distance from the Slovak Republic. Damage is deemed to be caused in the Accident State and in all Affected States, the latter being classified according to their international nuclear liability convention status.¹ Thus, according to the classification below, a country which is Party to the Paris Convention and Joint Protocol will play the role of State D.

State A = VC/JP Accident State.

State B = RVC (whether or not JP); Affected State.

State C = VC (whether or not JP); Affected State.

State D = PC/JP; Affected State.

State E = PC (non JP); Affected State.

State F = NCS; Affected State.

It is anticipated that the following will be “Affected States”:

State B: Belarus, Latvia, Romania.

1. VC = Vienna Convention (original); RVC = Revised Vienna Convention; PC = Paris Convention; JP = Joint Protocol; NCS = non-Contracting State.

State C: Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Lithuania, Poland, Ukraine.

State D: Denmark, Finland, Germany, Greece, Italy, Netherlands, Norway, Slovenia, Sweden.

State E: Belgium, France, Portugal, Spain, Turkey, United Kingdom.

State F: Austria, Canada, Ireland, Japan, Korea, Luxembourg, Russian Federation, Switzerland, United States.

Scenario 2 – Transport Accident

1. In this scenario, an accident is deemed to have taken place on board a ship transporting low enriched uranium hexafluoride (a nuclear substance considered to come under the scope of application of both the Paris and Vienna Conventions) along the Danube River from Germany to Romania. The accident occurs while the ship is approaching a Hungarian port and is within Hungary's territorial jurisdiction, but it is a German nuclear operator which is liable for the resulting third party damage.
2. The ship is carrying 200 universal transport cylinders of low enriched uranium hexafluoride from a uranium enrichment facility in Germany to a fuel fabrication plant in Romania. The terms of the contract between the two installation operators specify that the operator of the German enrichment installation will be liable for all nuclear third party damage occurring as a result of an accident during the course of the transport until such time as the enriched uranium hexafluoride is unloaded at the designated port of entry in Romania. The German operator has complied with all of the required regulations concerning the financial security it must have in place to cover its liability for nuclear damage incurred by third parties as a result of an accident arising out of this shipment.
3. Just after passing through Budapest, a fire breaks out on the ship and rapidly spreads to other parts of the structure, including the cargo hold where the cylinders are located. Some of the cylinders are unable to withstand the high temperatures produced by the all-engulfing fire and begin to melt.
4. Uranium hexafluoride gas begins to leak out of the cylinders and chemically reacts with water vapor in the surface air outside the cargo hold, resulting in a mixture of corrosive hydrogen fluoride gas and uranium hexafluoride, both highly toxic chemicals. A significant amount of uranium oxide in the form of a fine particulate is also released. Several members of the ship's crew who are attempting to control the fire inhale the released gas and immediately die from acid burns. Others suffer severe skin, eye and respiratory chemical burns. The rest of the enriched uranium hexafluoride enters into a configuration which leads to a criticality excursion. Heat from the fire and the criticality release the fine particulate of uranium oxide high into the atmosphere.
5. The Hungarian authorities immediately take steps to contain the ship and remove the melting cylinders to prevent further contamination. They succeed in doing so, but at great human cost as five members of a private salvage crew eventually die from respiratory burns caused by the hydrogen fluoride. The salvage operation itself results in a staggering financial cost to the Hungarian Government.
6. With strong winds blowing both up and down the Danube River, the hydrogen fluoride gas spreads to a number of countries either bordering on or within a certain geographical proximity to the Danube River: Austria, Bulgaria, Croatia, the Czech Republic, France, Germany, Hungary, Romania, the Slovak Republic, Slovenia, Switzerland and Ukraine. Victims in all of these countries begin

inhaling the toxic hydrogen fluoride gas and they too suffer chemical burns of varying intensity to the skin, eyes and respiratory tract.

7. As radioactivity levels are very low, no evacuation is ordered in any of the countries where the uranium oxide particulate has landed, but small groups of people in each of those countries are exposed to it through inhalation and receive committed doses which are known carcinogens (leukemia and lung cancer) and those people are naturally very concerned about the negative health effects of that inhalation over the long term.

8. In the meantime, the uranium oxide which has been released high into the atmosphere eventually deposits itself haphazardly in cities, towns, fields, lakes and rivers located in those same countries. Crops which are covered with the uranium oxide are somewhat damaged but it is public fear of contaminated foods that effectively renders the marketing of all such crops impossible.

9. As a result of the chemical and radiological risks arising from the accident, the governments of countries bordering the Danube River (Austria, Bulgaria, Croatia, the Czech Republic, Germany, Hungary, Romania, Slovak Republic, Slovenia and Ukraine) order a three-week halt to all commercial fishing, tourist and recreational activities on the River.

Scenario 2 – Methodology

The following specific countries are invited to participate in this scenario based on the fact that they border the Danube River or are within relatively close geographical proximity to it: Austria, Bulgaria, Croatia, Czech Republic, France, Germany, Hungary, Romania, Slovak Republic, Slovenia, Switzerland and Ukraine.

For the purposes of this scenario, Switzerland is deemed to be a Contracting Party to the Paris Convention, the Brussels Supplementary Convention and the Joint Protocol. The other States are listed according to their actual treaty status: Austria (NCS); Bulgaria (VC/JP); Croatia (VC/JP); Czech Republic (VC/JP); France (PC/BSC²); Germany (PC/BSC/JP); Romania (RVC/JP); Slovak Republic (VC/JP); Slovenia (PC/BSC/JP); Switzerland (PC/BSC/JP) and Ukraine (VC/JP).

Note on the Impact of the Joint Protocol on the Brussels Supplementary Convention

Given that one of the objectives of this Workshop is to focus on the operation of the Joint Protocol, Scenario 2 is intended to illustrate certain impacts which the Joint Protocol may have on the operation of the Brussels Supplementary Convention.

First, since the accident is one for which a PC/JP State operator (German) is liable and damage is suffered in both PC/JP States and in VC/JP States, that German operator's financial security is likely to be used up more quickly than if the Joint Protocol did not exist. As a result, Germany, as a Party to the BSC, will likely wish to call for the mobilisation of international funds under that latter Convention sooner than it would have if the Joint Protocol did not exist. Since early mobilisation can occur only if the BSC States consent to it [Article 14(b) of the BSC], there may, in fact, be only a "partial" early mobilisation.

2. BSC = Brussels Supplementary Convention.

That is why, in 1992, the OECD Council recommended³ that the Contracting Parties to the BSC declare their intent, in advance, to consent to such an early mobilisation of funds and to confirm that consent to the Belgian Government as the Convention's depositary. All BSC States have declared their intent to consent but only three (Denmark, Finland, Norway) have confirmed it. For the purposes of this scenario, Switzerland is deemed to have declared its intent to consent but not to have confirmed it.

Secondly, prior to the existence of the Joint Protocol, if a PC/BSC State operator transported nuclear substances to a VC State operator and an accident occurred at the latter's installation before the substances were unloaded from the transport vehicle, the PC/BSC State operator would be liable for the resulting nuclear damage in all other PC States although the incident occurred in a non-Contracting State [Article 4(a)(iv) of the PC]. Furthermore, victims in all other BSC States could claim compensation from funds to be made available under that Convention.

However, if both States are Party to the Joint Protocol, the VC State is no longer considered as a "non-Contracting State" [Article IV of the Joint Protocol] and the two operators may make their own arrangements as to the transfer of third party liability from one to the other. If the VC State operator assumes such liability from the moment the nuclear substances enter its territory, it will be liable for the resulting nuclear damage. With no PC/BSC State operator liable, the BSC does not apply and victims in BSC States have no access to its supplementary funds.

To avoid this result, the OECD Council again recommended⁴ that each PC/BSC/JP State ensure that it is the PC/BSC State operator which assumes liability in all cases involving the transport of nuclear substances between it and a VC State. The nature of these measures is left to the discretion of each Contracting Party.

Finally, since the BSC provides that public funds need not be provided if there are private funds remaining from the operator's financial security [Article 9(c) of the BSC], Contracting Parties can refuse to provide the third tier of compensation where the operator's financial security is at SDRs 175 million or higher. Again, to avoid this result the OECD Council recommended⁵ that each PC/BSC/JP State waive its rights to refuse to provide public funds under such circumstances. The waiver is to be declared to the Belgian Government as the Convention's depositary. Belgium, Denmark, Finland, Germany, Netherlands and Norway have submitted such declarations and for the purposes of this scenario, Switzerland is deemed to be to have done the same.

3. OECD Council Recommendation C/92/166.

4. See footnote 8.

5. See footnote 8.

Questionnaire

Title I: Questions to be answered only by the Accident State or by the State of the Liable Operator (as indicated in the footnotes)

1. *Dissemination of Information about the Accident*⁶

- a) What is the applicable procedure, and what means are used, for disseminating information between the competent national and local authorities?
- b) Who is responsible for disseminating information to the public regarding:
 - preventive measures to be taken?
 - availability of emergency payments?
 - health care services for performing check-ups and for injured victims, etc?
 - how compensation claims can be made?
- c) How is information disseminated to Affected States?

2. *Emergency Response*⁷

- a) Who is responsible for making decisions in respect of preventive measures such as evacuation, sheltering, iodine distribution, etc.?
- b) How would these preventive measures be co-ordinated with those of State C for that part of State C falling within the 20 km radius of State A's installation?
- c) Who is responsible for making decisions in respect of restrictions on harvesting, production, marketing and consumption of food products? How would contaminated foodstuffs be withdrawn from the market and disposed of?
- d) Would the State claim a right of recourse against the operator in respect of costs incurred for the destruction or disposal of contaminated foodstuffs?

3. *Nuclear Insurer*⁸

- a) Who is responsible for informing the nuclear operator's insurer of the accident?
- b) Is the operator's insurer permanently on call?

6. Questions to be answered by the Accident State: Slovak Republic in Scenario 1, Hungary in Scenario 2.

7. Questions to be answered by the Accident State for Scenario 1 only: Slovak Republic.

8. Questions to be answered by the State of the liable operator: Slovak Republic in Scenario 1, Germany in Scenario 2.

- c) How does the operator's insurer mobilise its resources?
- d) Does the insurer liaise with insurers in Affected States if damage is suffered in those States?
- e) Are emergency assistance payments provided for? If so, how are such payments made to victims in the Accident State and to victims in Affected States?
- f) If such emergency assistance payments exist,
 - what expenses do they cover (medical, food, accommodation)?
 - is there a maximum amount per person?
 - what are the criteria for payment of such sums and how are they made?

4. *Claims Management*⁹

- a) How will you obtain comprehensive inventories of nuclear damage suffered:
 - on your national territory?
 - in Affected States whose victims are entitled to claim compensation pursuant to an applicable international third party liability regime?
- b) Who is responsible for handling compensation claims?
- c) Who is responsible for the costs of handling compensation claims?
- d) Do you have a system for making an initial assessment of the extent of the damage which would allow the operator, insurer, the competent court and the State to establish a rough estimate of the damage?
- e) What is the procedure for initiating compensation claims?
- f) What is the applicable time limitation for bringing compensation claims?
- g) Is there a priority system in the administration of claims?
- h) Is there a possibility of grouping compensation claims ("class actions") or of making claims directly against the operator's insurer?
- i) How will claims by State C's radiation workers working at the installation at the time of the accident (Scenario 1) or contract workers involved in salvaging the ship (in Scenario 2) be dealt with?

9. Questions to be answered by the Accident State in Scenario 1: Slovak Republic, and by the Accident State and the State of the liable operator together in Scenario 2: Hungary and Germany. We encourage the delegations of Hungary and Germany to liaise on the completion of this section.

- j) How would claims from the following victims be dealt with:
- a person originating from a non-Contracting State who is on holiday in the Accident State at the time of the accident and suffers personal injury and property loss? In particular, how would that person initiate and follow progress on their claim following their return to their home country?
 - a person who is a permanent resident in your State but who is on holiday in an Affected State which is a non-Contracting State at the time of the accident and suffers property loss there?

5. *Compensation of Claims*¹⁰

- a) If a compensation claim cannot be settled out of court, which court will have jurisdiction?
- b) Pursuant to the law which the competent court will apply, which of the following heads of damage (apart from personal injury/death and property damage) would be subject to compensation (see Title II, Section 3, for examples of each of the following heads of damage):
- decontamination expenses?
 - environmental damage?
 - economic loss/non-material damage?
 - preventive measures?
 - other damages?
- c) If the insurance coverage of the operator is insufficient to cover all the claims for damage, how will those funds be distributed:
- on a pro-rata basis?
 - on the basis of set amounts?
 - with intervention by the State?
- d) Are funds to be set aside to compensate damage which manifests itself in the medium and long term? If not, will the State provide funds for these damages?
- e) How will decisions of the competent court be notified to, and enforced in, foreign jurisdictions?

10. Questions to be answered by the Accident State in Scenario 1: Slovak Republic, and by the Accident State and the State of the liable operator together in Scenario 2: Hungary and Germany. We encourage the delegations of Hungary and Germany to liaise on the completion of this section.

Title II: Questions to be answered by all Affected States¹¹ for Scenarios 1 and 2

1. *Emergency Response*

- a) Your national emergency plan has been activated to deal with the consequences of this accident. Which are the competent bodies to make possible decisions on counter-measures in relation to agriculture, industrial activities, import/export?
- b) How do those authorities liaise with the competent authorities in the Accident State to obtain recent and reliable information on releases, contamination etc?
- c) How do those authorities liaise with the competent authorities in the Accident State to obtain recent and reliable information on releases, contamination etc?

2. *Dissemination of Information*

- a) How is information disseminated to the public on:
 - the accident which took place, its possible consequences in the Accident State and in your State?
 - the manner in which claims can be made against the operator liable for this accident?
- b) Would your State organise (at national level) an inventory of victims on your national territory and the injury or damage which each has suffered?
- c) Would your State assist such them in bringing their proceedings? How?

3. *Claims Management*

- a) How would the following claims be dealt with:
 - i. farmers, wholesalers and retailers who are unable to market their usual agricultural products because those products were proven contaminated and who therefore lose considerable revenue due to restrictions placed on the commercialisation of those products;
 - ii. farmers, wholesalers and retailers who are unable to market their usual agricultural products due to the public's fear that those products are contaminated, even though commercial contamination levels were not exceeded (rumour damage) and who lose considerable revenue as a result.
 - iii. industries in the contaminated area (e.g. food processing):

11. These questions do not need to be answered by the Accident State in Scenario 1: Slovak Republic, nor by the Accident State in Scenario 2: Hungary.

- which are obliged to stop production following the accident to determine the extent of the radioactive contamination, thereby losing income;
 - which suffer a loss of income in the short term after the accident due to the proven contamination of raw materials;
 - which suffer a loss of income from the cancellation of orders following the accident due to unfounded rumours of the continued contamination of its products;
- iv. personnel of the above-mentioned industries who claim compensation for having been released from employment following the accident;
- v. loss of income suffered by various businesses in the tourist and service industries as a result of tourists avoiding the entire region for several months, some on the basis of proven contamination, others on the basis of rumoured contamination only;
- b) The contaminated zone includes an extended area of forest in which live a number of endangered species. This extended area is owned by your State. How will your State:
- evaluate the cost of rehabilitating the environment in this extended area of forest?
 - claim compensation for such cost?
- c) Two airlines from your State cancelled all their flights to and from the principal airport in the Accident State for 24 hours, although that airport remained open. Could these airlines claim compensation for:
- loss of revenue due to cancellation of those flights?
 - reimbursement of compensation it was required to pay to passengers in respect of the cancelled flights ?
- d) Would the following persons be entitled to claim compensation for damage suffered:
- nationals of your State who are permanent residents of the Accident State at the time of the accident?
 - nationals of your State who are temporarily located in the Accident State at the time of the accident?
- e) If the answer to either part of (d) is “yes”, how would those persons enter claims? Would your State include them under its national inventory” for the purpose of compensating transboundary damage or would they be required to claim as if they were citizens of the Accident State?
- f) A certain number of victims in your State are either not sufficiently compensated for their claims or are not compensated at all. Would your State provide additional compensation under these circumstances?

Title III: Questions to be answered by Specific Affected States (as indicated in the headings)

1. Questions to be answered by State B (RVC) for Scenario 1; by Romania for Scenario 2

Both the Slovak Republic in Scenario 1 and Hungary in Scenario 2 are Contracting Parties to the Vienna Convention. Your State is a Contracting Party to the RVC and your national legislation implements its provisions. Please identify possible difficulties in organising compensation for victims in your State due to differences between the two Conventions with regard to:

- the definition of nuclear damage;
- their geographic scope of application;
- compensation amounts available;
- time limits for submitting claims for personal injury/death.

2. Questions to be answered by State C (VC) for Scenario 1 only

Pursuant to your State's joint emergency plan with State A, a certain part of your State's territory is covered by the evacuation radius and a further part is covered by the sheltering and iodine distribution radius.

- a) How were these preventive measures coordinated with State A?
- b) Who made the decision on when such preventive measures would be lifted?
- c) How would you respond to compensation claims by radiation workers from your State working at the installation at the time of the accident, who were exposed to radiation?

3. Questions to be answered by Joint Protocol States for both Scenarios 1 and 2

The Joint Protocol provides that in the case of a nuclear incident at a nuclear installation, the applicable Convention is the one to which the State, on whose territory the liable operator's installation is situated, is a Party. This means that for Scenario 1, the Vienna Convention will apply and the applicable national law will be that of the Slovak Republic.

The Joint Protocol also provides that if a nuclear incident occurs during transport, the applicable Convention is the one to which the State, on whose territory the liable operator's installation is situated, is a Party.¹² This means that for Scenario 2, the Paris Convention will apply but the applicable national law will be that of Hungary.

With respect to both scenarios, how would your State:

- obtain detailed information on the applicable legislative systems and the procedures to follow for making claims?

12. "Liable" in this sense means liable under either Article II.1 (b) or (c) of the Vienna Convention or under Article 4(a) or (b) of the Paris Convention.

- bring that information to the attention of people in your State who are likely to have suffered damage?
- compile an inventory of those having suffered damage?
- assist victims in the procedures for claiming compensation?
- monitor the progress of such claims?
- arrange for the recognition and enforcement of decisions of the competent court in your State?

4. *Questions to be answered by PC/BSC/JP States (Germany, Slovenia and Switzerland) for Scenario 2 only*

Since the German nuclear operator is liable for the damage caused in all Joint Protocol States, its financial security is likely to be exhausted more quickly than if it were not a Party to the Joint Protocol. As a result, it is conceivable that Germany will call for the early mobilisation of international funds under the Brussels Supplementary Convention.

In addition, since the German nuclear operator will likely have more than SDRs 175 million of financial security available, the other Contracting Parties to the BSC could refuse to provide the third tier of compensation.

Questions for Germany

- a) What steps would you take to initiate the early mobilisation of international funds under the third tier of the BSC and which other BSC Contracting Parties would you contact for that purpose?
- b) Given that your liable operator's financial security is likely to be more than SDRs 175 million, what steps would you take to initiate payment of the third tier of compensation under the BSC and which other BSC Contracting Parties would you contact for that purpose?

Questions for Slovenia and Switzerland

- c) What steps would you take in response to a request from Germany for the early mobilisation of international funds under the third tier and what, if any, conditions might you attach to the actual transfer of those funds?
- d) What steps would you take in response to a request from Germany for payment of the third tier of compensation under the BSC and what, if any, conditions might you attach to the actual transfer of those funds?

5. *Questions to be answered by State E (PC, non JP) for Scenario 1, France for Scenario 2*

Your State is not Party to the Joint Protocol which would permit compensation of victims in your State for damage caused by either of these accidents, both of which occur in a Vienna Convention State. Will your State provide compensation for such damage and if so, how would such compensation be organised?

6. *Questions to be answered by State F (NCS) for Scenario 1, Austria for Scenario 2*

As your State is not Party to any international nuclear liability convention, any claims will most likely be brought before your national courts and be determined according to your national law.

How will you ensure recognition and enforcement of such decisions in the State in whose territory the liable operator's installation is situated (Slovak Republic in Scenario 1; Germany in Scenario 2)?

FINAL PROGRAMME OF THE WORKSHOP

Wednesday 18 May

Opening Session

- 10.40 INEX – NEA’s Programme on Nuclear Emergency Matters [Mr. Brian Ahier, Radiation Protection and Radioactive Waste Management – OECD/NEA]
- 11.00 Coffee break
- 11.20 Presentation on Nuclear Emergency Management in the Slovak Republic [Mr. Eduard Metke, Director of Division of Emergency Preparedness, Informatic and Personnel Training – NRA; Mr. Vladimír Sládek, Division of Emergency Preparedness, Informatic and Personnel Training – NRA]

Scenario 1 – Installation Accident

- 11.45 Explanation of Scenario 1 and Methodology [Mrs. Fiona Geoffroy – OECD/NEA Secretariat]
- 12.00 Dissemination of Information and Emergency Response:
- how information is diffused;
 - preventive measures: iodine, sheltering, evacuation;
 - restrictions on marketing of foodstuffs etc.
- 13.00 Lunch break
- 14.30 Actions of the Nuclear Insurer and Claims Management:
- mobilisation of nuclear insurer;
 - existence, form, content of emergency payments;
 - inventories of damage/Estimates of damage;
 - procedure governing claims, time limitations, priority system etc.;
 - claims handling costs;
 - out-of-court settlement of claims.
- 16.00 Coffee break

- 16.20 Compensation of Claims:
- competent court, applicable law;
 - types of damage subject to compensation;
 - 1) death and personal injury,
 - 2) agricultural and industrial produce subject to (a) actual contamination and (b) rumour damage,
 - 3) tourism and service industries,
 - 4) environmental damage,
 - 5) losses incurred from cancellation of transport services,
 - specific questions relating to “persons in movement” i.e. nationals of Accident State temporarily located abroad, nationals of Affected States temporarily located in the Accident State.
- 18.00 Adjourn
- 18.15 Cocktail

Thursday 19 May

Scenario 1 (Cont’d)

- 9.30 Presentation on Gaps in the Nuclear Insurance Regime [Mr. Sebastiaan Reitsma, Manager – Swiss Nuclear Insurance Pool]
- 10.00 Questions Addressed to Specific Affected States (pursuant to Title III of the questionnaire)
- Romania: address the possibility of difficulties being encountered in organising compensation for victims in your State due to differences between the RVC and the VC;
 - JP States: examination of questions listed under Title III (3);
 - State E (PC States not Party to JP): address the question of whether your State will provide compensation for damage occurring in a VC State and how it would be organised.
- 11.00 Coffee break
- 11.20 State F (non-Contracting States): address the issue of how claims would be made in your country
- 12.15 Conclusions on Scenario 1 by Co-moderators
- 12.30 Lunch break

Scenario 2 – Transport Accident

- 14.00 Presentation on the Content and Operation of the Joint Protocol Relating to the Application of the Vienna Convention and the Paris Convention [Mr. Vladimir Boulanenkov – Consultant, IAEA Office of Legal Affairs] followed by Questions/Discussion
- 14.30 Explanation of Scenario 2 and Methodology [Mrs. Julia Schwartz, Head of Legal Affairs – OECD/NEA]
- Nuclear Emergency Response System in Hungary [Mr. Zoltán Szönyi, Senior Advisor – Hungarian Atomic Energy Authority]
- 14.45 Dissemination of Information
- 15.30 Coffee break
- 15.45 Actions of the Nuclear Insurer and Claims Procedure:
- mobilisation of nuclear insurer;
 - existence, form, content of emergency payments;
 - inventories of damage/Estimates of damage;
 - procedure governing claims, time limitations, priority system etc.;
 - claims handling costs.
- 17.00 Adjourn
- 17.30 Departure of bus from Holiday Inn for excursion

Friday 20 May

Scenario 2 (Cont'd)

- 9.30 Presentation on National Insurance Pools: Cross-border Claims Handling Co-operation [Mr. Petr Záruba, Manager – Slovak Nuclear Insurance Pool]
- 10.00 Compensation of Claims/Claims Management
- Joint Protocol-related Questions:
- presentation by German Delegation on interpretation of Joint Protocol in transport cases such as Scenario 2: determination of competent court and applicable law;
 - response by Hungary as Accident State, followed by general tour de table amongst other delegations.
- 11.15 Coffee break

- 11.30 Types of Damage Subject to Compensation:
- 1) death and personal injury;
 - 2) agricultural and industrial produce subject to (a) actual contamination and (b) rumour damage;
 - 3) tourism and service industries;
 - 4) environmental damage;
 - 5) losses incurred from cancellation of transport services.
 - specific questions relating to “persons in movement” i.e. nationals of Accident State temporarily located abroad, nationals of Affected States temporarily located in the Accident State.
- 13.00 Lunch break
- 14.00 Questions Addressed to Specific Affected States (pursuant to Title III of the questionnaire):
- JP States: examination of questions listed under Title III (3).
 - Germany/Slovenia/Switzerland: examination of questions listed under Title III (4) concerning early mobilisation of funds.
 - France: address the question of whether the French State will provide compensation for damage occurring in a VC state and how it would be organised.
 - Austria i.e. non-Contracting State: address issue of how claims would be made in your country.
- 15.30 Conclusions from Scenario 2 by Co-moderators
- 15.45 General Conclusions on Workshop [Mr. Håkan Rustand, Former Chairman of Paris Convention Revision Exercise]
- 16.00 Adjourn

OPENING SESSION

SUMMARY OF WELCOME ADDRESSES

Dr. Karol Janko, Vice-Chairman of the Nuclear Regulatory Authority of the Slovak Republic, welcomed all participants to Bratislava for this Second International Workshop on the Indemnification of Nuclear Damage. He expressed the high interest that the Slovak Republic holds for this type of exercise and noted that it was an honour for his authority to host the second workshop in this series. He referred to the tragic accident that took place in Chernobyl in April 1986 and expressed the conviction that in the future, international cooperation is necessary to ensure that damage ensuing from an accident such as this one is minimised. Although it may not be possible to entirely eliminate the consequences of a nuclear accident, they can be mitigated in the form of financial compensation. Central state authorities, local authorities, nuclear operators and scientific organisations should be associated with these efforts. Dr. Janko noted the high number of participants representing many different entities at this workshop and hoped that it would allow identification of reliable solutions for the future.

Dr. Gail Marcus, Deputy Director-General of the OECD Nuclear Energy Agency, expressed her thanks on behalf of the OECD/NEA to the Slovak Republic and in particular to the Nuclear Regulatory Authority for its central role in organising the workshop. She also thanked a number of organisations that had provided organisational or financial support, including Slovak state power firm *Slovenské Elektrárne* (SE), the Slovak and Czech nuclear insurance pools, Nuclear Risk Insurers Ltd and the International Atomic Energy Agency. She explained that this workshop represented the fruitful collaboration of two NEA Committees, the Nuclear Law Committee, whose mandate is to create sound national and international legal regimes for the use of nuclear energy, with a major focus on third party liability issues, and the Committee on Radiation Protection and Public Health, which works to assist member countries in developing and maintaining high standards of protection for workers and the public in the uses of ionising radiation.

Dr. Marcus noted that the Chernobyl accident resulted in the establishment of the NEA INEX Programme, which would be presented in greater detail by Brian Ahier at a later stage in the programme. She mentioned that in 2001, France hosted INEX 2000, a simulated nuclear emergency exercise at Gravelines Nuclear Power Plant, mobilising 55 countries and 5 international organisations. One objective of this exercise was to assess the measures that would be taken in terms of awarding compensation for damage suffered due to a nuclear accident. The first workshop organised to address this objective, which took place in November 2001, was considered to be very successful as it enabled countries to assess the effectiveness of their own mechanisms, and also revealed differences in mechanisms between countries, which could have political ramifications. The Nuclear Law Committee therefore decided to organise a second workshop, with a somewhat different focus, using two fictitious scenarios. She expressed the conviction that this workshop would assist in identifying further solutions for the improvement of the operation of the international third party liability regime, and wished participants success in their endeavours.

Dr. Milos Sujansky, General Director of Slovak state power firm *Slovenské Elektrárne* (SE), welcomed participants to this workshop. He mentioned that nuclear energy represents almost 80% of the Slovak Republic's total electricity production, and referred to the high importance which is

attached to the safety of nuclear installations in his country. He referred to the new policy on nuclear safety and radiation protection which is being implemented by SE's Board of Directors. *Slovenské Elektrárne* is the licensed operator of nuclear installations and in this regard is operator under the Vienna Convention and the Joint Protocol. The first insurance contract obtained with the Slovak Nuclear Insurance Pool in accordance with the 1998 Atomic Energy Act was for an amount of 2 billion Slovak crowns. New insurance contracts now cover 3 billion Slovak crowns which corresponds to approximately EUR 75 million. He noted that liability issues are intrinsically linked with emergency preparedness and require the active cooperation of the operator, the insurer and the public authorities. Given the presence of representatives of all such entities at this workshop, Dr. Sujansky was confident that progress would be made in the identification of solutions.

Ms. Elena Májeková, Chairperson of the Slovak Nuclear Insurance Pool, extended a warm welcome to participants on behalf of her organisation, and invited participants to attend a welcoming cocktail graciously offered by the pool later that evening.

Mr. Patrick Reyners, former Head of Legal Affairs at the OECD Nuclear Energy Agency, acted as Co-moderator at this workshop together with Mr. Martin Pospíšil, Director of the Legislative and Legal Affairs Department of the Slovak Nuclear Regulatory Authority. He encouraged participants to hold as lively and structured a discussion as possible, making full use of the documentation including the completed questionnaires submitted.

INEX – NEA’S PROGRAMME ON NUCLEAR EMERGENCY MATTERS

by Mr. Brian Ahier*

The OECD Nuclear Energy Agency has a long tradition of expertise in the area of nuclear emergency policy, planning, preparedness, and management. Through its standing technical programmes, the NEA offers its member countries unbiased assistance in the nuclear preparedness arena, with a view towards facilitating improvements in nuclear emergency preparedness strategies and nuclear emergency response at the international level.

The 1986 Chernobyl accident demonstrated that nuclear accidents may have consequences over wide geographical areas. It also highlighted the need for international cooperation, coordination and communication, revealing that shortcomings in these areas can impede the effectiveness of the response measures taken by authorities, and result in erosion of public confidence. From the beginning, the NEA’s focus of work has therefore been on improving the efficiency and effectiveness of international nuclear emergency planning, preparedness and management.

Within the structure of the NEA strategic arenas of work, nuclear emergency preparedness falls under the general umbrella of radiation protection and public health. This work is largely carried out within the programme of the NEA Committee on Radiation Protection and Public Health (CRPPH), whose role is to assist member countries in applying and further developing the system of radiation protection. The CRPPH is composed of senior radiation protection experts drawn from both the regulatory and research environments. Its programme of work includes:

- evolution of the system of radiological protection;
- stakeholder involvement processes;
- occupational exposure management; and
- international nuclear emergency preparedness.

The international nuclear emergency preparedness programme is carried out by the CRPPH Working Party on Nuclear Emergency Matters. The Working Party provides a forum for national emergency response experts from NEA member countries and international organisations to exchange information and address issues of common interest. It serves as a think-tank for identifying emergency management areas which could be usefully improved, and for developing and testing strategies to address these areas. A major mechanism for the latter has been the development, preparation and organisation of the International Nuclear Emergency Exercise (INEX) series. These international

* Mr. Brian Ahier is Administrator with the Radiation Protection and Radioactive Waste Management Division of the OECD Nuclear Energy Agency. The PowerPoint presentation which he used is reproduced herein.

exercises have provided a valuable and unique forum for testing and verifying existing as well as new arrangements and concepts for international nuclear emergency management, and have succeeded in establishing a recognised international nuclear emergency exercise culture.

The INEX series began in 1993 with the first international exercise, INEX 1, whose goal was to identify policy issues and areas where transboundary communications and coordination could be improved. The exercise was staged as a table-top simulation of a large release of radioactivity from a fictitious facility and country. It was specifically designed to explore processes for international alerting and communication, and decision-making for countermeasure implementation, particularly relating to foods and feeding-stuffs, and processes for identifying and requesting assistance.

Sixteen countries participated in INEX 1, conducting their exercises either individually or in coordination with another neighbouring country. Based on their collective evaluations, INEX 1 demonstrated the need for improved coordination and harmonisation in the areas of data exchange, intervention levels and short-term countermeasures between neighbouring countries, agricultural countermeasures, and criteria for import and export of foods and feedstuffs. The NEA staged three followup workshops to further investigate and facilitate improvements in short-term countermeasures, agricultural countermeasures, and emergency data management.

While INEX 1 provided the first opportunity for exercising in an international context, it also demonstrated the need for an international exercise that could provide an assessment of how actual national response systems worked under realistic conditions. The NEA Working Party responded by developing and staging a series of four command-post exercises, referred to as INEX 2. Conducted between 1996 and 1999 and involving the simultaneous play of some 30 countries and 4 international organisations, the four INEX 2 exercises were built upon pre-planned national level exercises at existing power plants in Switzerland (1996), Finland (1997), Hungary (1998) and Canada (1999). In addition to testing existing emergency management arrangements, procedures and communications in real-time, these exercises were intended to investigate processes for decision-making based on limited information, and the management of public and media information.

INEX 2 identified many important lessons for improving international and national emergency preparedness arrangements. Amongst these were the ongoing need to improve the coordination and harmonisation of local, national and international nuclear emergency management actions, particularly in the planning and implementation of countermeasures. A key finding identified early in the series was the need for a better definition of key data to support decision makers, and improved ways for its exchange between response authorities. There was also recognition of the need to streamline and improve bi-lateral and multi-lateral response arrangements and agreements, and to improve public and media information and interaction.

A significant outcome of INEX 2, and a major step forward in nuclear emergency management, was the development of a new communication and information exchange strategy. The objective of this strategy is to assist the decision-maker by improving the selection of the data transmitted (key emergency data), by encouraging the exchange of such data using modern communications and by better defining monitoring and modeling needs.

To test the validity of this approach, a fifth INEX 2-type exercise, referred to as INEX 2000, was developed based on a simulated accident in France. In addition to allowing an international test of the proposed data management strategies, the exercise was also the first exercise to be jointly organised by several international agencies through the Inter-Agency Committee on the Response to Nuclear Accidents (IACRANA), thereby demonstrating the increasing level of international coordination and cooperation. INEX 2000 was also the first international exercise designed to include

a post-accident objective, namely to investigate through a subsequent workshop the mechanisms for the implementation of the international third party liability regime following a nuclear emergency. In this way, INEX 2000 also served as a bridging exercise between INEX 2 and the next generation of international late-phase nuclear emergency exercises that would focus on longer-term issues.

Building on the momentum of the previous exercises, INEX 2000 involved about 55 participating countries and 5 international organisations. The exercise was successful in showing that significant improvements in response effectiveness could be achieved through improved data management, and resulted in increased efforts in this area within national emergency preparedness programs, recognising that work needs to be done to harmonise national and international efforts for secure internet-based information exchange. It also showed that there is still a need to improve efforts to coordinate information provided to the media and public, as conflicting information can cause public confusion and lead to a loss of confidence in decision makers. However, many countries confirmed that they had made significant progress in their emergency arrangements since INEX 2, and currently, the data management strategy is implemented in several NEA member countries as well as the international community in general.

In the area of compensation, INEX 2000 provided the first opportunity for the international community to look at implementation mechanisms for the third party liability regime based on actual outcomes and decisions from an emergency management exercise. These aspects were investigated in detail in the first workshop on Indemnification of Damage in the Event of a Nuclear Accident, organised by the NEA. A key observation from the workshop was the great value to both the emergency management and nuclear law communities in incorporating third party liability elements into the INEX programme, particularly for future exercises focused on later phases of a nuclear emergency.

INEX 1, INEX 2 and INEX 2000 were exercises that focused on emergency management arrangements and decision making in the early-phase of an emergency. The NEA has now developed its next generation of nuclear emergency exercises, INEX 3, to look at decision making in the later phases after an emergency event. This table-top exercise focuses on decision-making in the medium to late phase following the discovery of serious contamination within the participating countries that has resulted from one of two possible initiating scenarios. Exercise objectives include an investigation of decisions on agricultural countermeasures and food restrictions, soft countermeasures such as travel and trade, recovery management and public information. INEX 3 is being conducted by participating countries during 2005. Following the completion of the individual exercises, the NEA will host an international evaluation workshop in the spring of 2006 to examine the collective outcomes, lessons and implications of the exercise participants, and to consider areas for further investigation.

In conclusion, the NEA through its Working Party on Nuclear Emergency Matters has developed its exercise series over the last 15 years to facilitate a practical investigation of issues in nuclear emergency management within a unique international context. As the Working Party now looks forward in its ongoing programme of work, it is interested in moving towards a full-spectrum understanding of all relevant technical and social issues in emergency management, from response planning to rehabilitation. Collaborative work and joint undertakings between the NEA Committee on Radiation Protection and Public Health and the Nuclear Law Committee will play an important role in ongoing analysis of the link between emergency management decisions and long-term post-accident recovery, including issues of compensation. International exercises will continue to provide an important venue for investigating and testing such mechanisms in an interactive and international setting.

INEX – NEA's Programme on Nuclear Emergency Matters

Brian Ahier
OECD Nuclear Energy Agency
Radiation Protection and Waste Management Division

Second International Workshop on the Indemnification of Nuclear Damage
18 - 20 May 2005, Bratislava (Slovak Republic)

NEA Committee on Radiation Protection and Public Health (CRPPH)

- Role: Assist member countries in applying and further developing the system of radiation protection
- Composition: Senior Radiation Protection Experts (regulators and research)
- Liaison: Cooperation with the European Commission and the International Atomic Energy Agency
- CRPPH Programme includes:
 - Evolution of system of radiation protection
 - Stakeholder involvement processes
 - Occupational exposure management
 - International nuclear emergency preparedness and management

Why International Nuclear Emergency Preparedness and Management?



Why International Nuclear Emergency Preparedness and Management?

- Nuclear accidents may have consequences over wide geographical areas (eg, Chernobyl 1986)
- Arrangements for international information exchange to support national decisions
- Arrangements for international assistance to support national response
- Coordination, harmonisation of international response (travel, trade, etc)
- High public and media interest
- International events call for international response

NEA's Working Party on Nuclear Emergency Matters

- Forum for emergency response experts from designated responding orgs in NEA member states
- Think-tank for nuclear emergency planning, preparedness and management:
 - Identify areas which could be usefully improved
 - Develop and voluntarily test in innovative ideas, approaches and concepts for better emergency management
 - Develop follow-up strategies
 - Liaise, coordinate with international agencies (IACRNA, etc)
- Initiate, develop, prepare and organise International Nuclear Emergency Exercises (INEX 1, 2, 2000, 3...)

International Nuclear Emergency Exercises

Why do we exercise?

- Test, explore, and improve existing national and international aspects and arrangements for nuclear emergencies:
 - Response systems and mechanisms
 - Information exchange and communication
 - International assistance
 - International coordination and harmonisation
- Establish an international 'exercise culture'
- Test new concepts and arrangements

INEX 1 (1993) Overview

- Table-top exercise to identify policy issues and areas where transboundary communications, coordination could be improved
- Objectives: Explore
 - Process for alerting and communicating with neighbouring countries and the international community
 - Decision-making process for countermeasure implementation
 - Countermeasures related to import, export of food/feeding stuffs
 - Process for identifying the need for, and requesting of assistance to cope with radiological emergency
- Involved 16 participating countries

INEX 1 (1993) Lessons Learned

- Improve coordination in area of:
 - data exchanges techniques and formats
 - monitoring techniques and food/goods certification procedures
 - intervention levels and short-term countermeasures between neighbouring countries
 - Agricultural countermeasures
 - Movement of monitoring resources across national borders
- Improve planning for long-term countermeasures
- Harmonise import/export criteria for food, feeding stuffs

INEX 1 (1993) Follow-up

- Workshops:
 - Short-term Countermeasures (Stockholm 1994), updated 2003
 - Agricultural Aspects (Paris 1995)
 - Emergency Data Management (Zurich 1995)
- Need for a more realistic international emergency exercise

INEX 2 Series (1996-1999) Overview

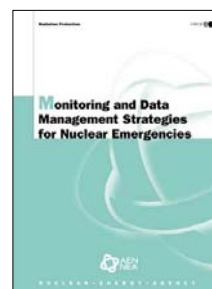
- Series of 4 command-post exercises
- Exercise existing procedures and arrangements
- Built on national exercises at existing power plants in Switzerland ('96), Finland ('97), Hungary ('98) and Canada ('99)
- Objectives:
 - Decision making based on limited or uncertain information
 - Use of real-time communications using existing systems
 - Public and media information
- Participation of some 30 countries and 4 international organisations

INEX 2 Series (1996-1999) Lessons Learned

- Develop strategies for rapid, targeted information and key data for decision makers
- Coordinate and harmonise
 - Nuclear emergency preparedness and management actions: local, national, regional, international
 - Planning and implementation of countermeasures
- Streamline bi/multi-lateral and international agreements
- Improve public and media information

INEX 2 Series (1996-1999) Follow-up

- Development of “Monitoring and Data Management Strategies for Nuclear Emergencies”
 - Better selection of data for exchange:
 - Key data
 - Better exchange of data:
 - Modern communications
 - Better definition of monitoring and modelling needs:
 - Why, what, when, where
- Testing of strategies in next international nuclear exercise...



INEX 2000 (2001) Overview

- INEX 2 type exercise, based on a simulated accident in France (Gravelines NPP)
- Jointly organised through the IACRNA
- Exercise in 2 parts:
 - INEX 2 type command post exercise
 - Workshop on Indemnification of Damage in the Event of a Nuclear Accident based on exercise outcomes
- First exercise with a post-accident objective
 - Bridge between INEX 2 and the next generation of international nuclear emergency exercises

INEX 2000 (2001) Lessons Learned

- Further development and implementation of monitoring and data management strategies
- Harmonise national and international efforts for web-based information exchange
- Improve efforts to coordinate information provide to public and media
- Outcomes of First Workshop on Indemnification of Damage in the Event of a Nuclear Accident (Workshop Proceedings, OECD 2003)
 - great value to incorporate third party liability elements into the INEX programme, especially if future INEX exercises focus on later phases of a nuclear accident

INEX 2000 (2001) Follow-up

- The INEX 2 lessons are valuable for improving state of readiness and management capabilities
- Many INEX 2 lessons remain to be acted upon
- Move beyond urgent emergency management to later phase and recovery

INEX 3 (2005) Overview

- Table-top consequence management exercise focusing on medium to late decision-making after an incident causing serious contamination
- Exercise objectives:
 - Agricultural countermeasures and food restrictions
 - Decision making on soft/light countermeasures
 - Recovery management and public information
- Exercise evaluation:
 - National evaluation by participating countries (2005)
 - International evaluation workshop (Spring 2006)
- 19 Participating countries to date

INEX 3 (2005) Conduct

- Table-top exercise with two phases
 - Phase 1: shortly after serious contamination has occurred / been identified
 - Phase 2: Three to four weeks after the initial event
- Contamination footprint scenario
- Exercise conduct:
 - National choice within “official” window (July-Nov. 2005)
 - Countries play individually or in country groups
- International Evaluation Workshop at NEA (2006)

INEX 3 (2005) Observations to Date

- Trend towards broader range of participants, stakeholders (government, industry, public)
- Role of formalised criteria, guidance
 - There will be compensation issues whether or not formalised intervention criteria are exceeded

Future Priorities of the Working Party

- Work towards a full-spectrum understanding of all relevant technical and social issues in emergency management, from response planning to the rehabilitation phase.
- Compensation issues and strengthening of links between NEA CRPPH and NLC.
 - Decisions in short-term will impact decision, actions, and outcomes in long-term. Compensation issues will likely be a big part of this.
 - Cooperation, coordination and joint undertakings strongly desired by CRPPH



SCENARIO 1 – INSTALLATION ACCIDENT

INFORMATION NOTE¹ ON NATIONAL EMERGENCY ORGANISATION IN THE SLOVAK REPUBLIC

I. National Emergency Organisation in the Slovak Republic

1. Introduction to Emergency Organisation

The probability of a nuclear accident occurring in a nuclear installation (NI), while extremely low, cannot be considered to be zero.

To manage emergency situations at NIs and their impact upon the surroundings, accident documentation has been developed setting out the procedures and organisation of work at the respective stages of emergency situations at various national emergency preparedness levels.

Emergency planning means a set of measures and procedures to identify and cope with incidents and accidents at NIs, and to identify, mitigate and eliminate the consequences of a release of radioactive substances into the environment during the management or shipment of radioactive material, radioactive waste or spent fuel. The emergency organisation put in place by *Slovenské Elektrárne*, a. s. (SE) is described in the On-site Emergency Plan for each site, a mandatory safety document which the Nuclear Regulatory Authority of the Slovak Republic (UJD) is required to review and approve.

The crisis organisation established by the public authorities, in close collaboration with SE, is described in an Off-site Emergency Plan drawn up specifically for each site. Off-site emergency plans for specified emergency zones have been developed at regional level, containing measures designed to protect the public, health, property and the environment as well as links to on-site emergency plan.

1.1 On-site Emergency Plan (OnEP)

The OnEP and related documentation are drawn up and implemented by the operator for each NI.

The OnEP sets out the organisation of emergency response and its implementation concerning the management of emergency situations and staff protection, including staff health protection in the traumatological plan. The traumatological plan, governing health measures, forms part of the documentation which is required to be maintained by persons responsible for the management of radioactive sources. It covers steps to be taken in the treatment of serious wounds, injuries, and disabilities and is approved by the Public Health Offices.

Additionally, operating procedures provide for identification and classification of an emergency situation according to international recommendations.

1. This Information Note has kindly been prepared by the Legal Service of the Slovak Nuclear Regulatory Authority (end January 2005).

The on-site emergency plan describes in particular:

- system of event classification;
- procedures to assess events and consequences thereof;
- emergency response organisation structure and responsibilities therein;
- public and NI staff notification and warning system;
- emergency response equipment and means;
- protective measures and the method of implementation thereof;
- plan for health measures;
- recovery principles;
- co-operating external organisations and bodies;
- staff and emergency response organisation member training system;
- method of informing the public.

The purpose of the OnEP is to ensure that NI staff is prepared for the implementation of planned measures in the case of an incident at a NI, and in particular to meet the following objectives:

- to lower risk or mitigate consequences of the NI incident on the installation itself, its staff and the public in the vicinity of the installation;
- to avoid severe health damage (e.g. death or serious injury);
- to lower the risk of the probability of stochastic effects on health (e.g. cancer and major inherited phenomena).

The OnEP provides for the emergency response organisation (ERO) activity, i.e. planning and preparation of organisational, personnel and technical means and measures to successfully handle crisis and emergency situations by the classified event. ERO at SE nuclear facilities consists of the following units:

- Emergency Management Centre (EMC);
- Technical Support Centre (TSC);
- Operational Support Centre (OSC);
- External Evaluation Centre (EEC);
- Information Centre (IC).

The information flow starts as early as an event occurs. It is reported to UJD (the Slovak Nuclear Regulatory Authority), Ministry of Interior, Slovak Load Dispatching Centre (SED), and subsequently to SE's emergency service.

Information during an emergency situation involves regulatory authorities (UJD, Public Health Authority of the Slovak Republic, Civil Protection Office of the Ministry of Interior), SE Headquarters, the Slovak Radiation Network Monitoring Centre (SÚRMS) and regional level emergency commissions (regional and district).

1.2 Off-site Emergency Plan (OffEP)

The aim of the OffEP is to:

- assess the impact of the accident on the population and the environment;
- specify the measures to be taken and deploy the required resources.

OffEPs for nuclear accidents are developed by regional and district offices located in an area at risk defined as a range of 30 km around NPP SE Jaslovské Bohunice (SE EBO) and 20 km around NPP SE Mochovce (SE EMO). Municipalities located in the areas at risk make copies of the OffEPs for a particular district or implementing documents to implement the measures planned. The above-mentioned OffEPs are connected with the corresponding OnEP. The NI operator is obliged to present the drafters of an OffEP with background emergency documents concerning the expected hazards in the event of an accident or a breakdown.

OffEPs are developed under co-ordination of the Office of Civil Protection of the Ministry of Interior of the Slovak Republic (UCO). They are reviewed by UJD and other state administration authorities and approved by the relevant Head of the Regional or Local Office, as nominated by UCO.

1.3 Emergency Transport Order

For the purposes of shipment of nuclear fuel, spent fuel, nuclear material and radioactive waste, the consignor shall prepare an Emergency Transport Order (ETO) pursuant to Act No. 541/2004 Coll. II. The ETO aims to establish preventive and protective measures in the event of a transport accident.

The Slovak Republic Railways (ZSR) also draws up emergency transport regulations for transport by rail on national territory. Following review by UJD and other authorities concerned, such emergency transport regulations are submitted to the Ministry of Transport, Posts and Telecommunications of the Slovak Republic for approval.

II. General Organisational Structure for Nuclear Emergency Response

2.1 General Information

Emergency organisation is designed to gain the control over the accident, i.e. to prevent it, in real time, from becoming more severe and to limit its impact in radiological terms.

At the local level, emergency organisation, which completely replaces normal site organisation, must be operational within one hour. At national level, national emergency organisation must be operational at its premises within less than two hours.

2.2 Measures to Protect the Population

General information

The services for civil protection provides for the protection of the population in the event of an accident at a NI connected with a release of radioactive materials through the continual readiness of the system of civil protection, elaboration of plans for the protection of the population and material provision of planned measures.

Measures for protection of the population are provided for within a radius of 30 km from the NPP in Jaslovské Bohunice and 20 km from the NPP in Mochovce. A smaller radius is sufficient for the Mochovce emergency zone considering the higher quality of on-site technologies ensuring the safety of operations.

The OffEPs are prepared in connection with OnEPs of the operator, where the emphasis is put on the early warning and notification of the population in the case of a radiation accident. The operator, in co-operation with the civil protection authorities, provides warning and notification to the population. The warning is carried out by a 2-minute unsteady tone of sirens. The notification is carried out by means of radio and television as a text broadcast, and specifies the character of the radiation hazard.

Further important measures connected with the protection of population are as follows:

- *Monitoring of the radiation situation*, which is carried out continuously by several independent monitoring systems, which ensure at the same time the control of NPP operation. In the event of a radiation accident, the monitoring and evaluation of the radiation situation on the territory of the Slovak Republic is carried out by the Slovak Center for Monitoring the Radiation Situation.
- *Iodine prophylaxis*, which involves the application of iodine preparations (e.g. potassium iodide–KI) aims to block the absorption of radioactive iodine by the thyroid gland. Such treatment should be administered immediately, but at the latest within two hours after population has received warning and notification of the occurrence of the radiation accident. The iodine preparations are provided by the operator for all inhabitants within a radius of 30 km (Bohunice) or 20 km (Mochovce) from the NPPs.
- *Sheltering*, which is carried out immediately after the warning and notification of the population about the radiation accident. Sheltering shall be carried out in houses, flats, administration buildings, social buildings and other spaces where it is possible to seal the building. Permanent and emergency shelters are also used for this purpose.
- *Evacuation*, from the areas endangered by the radiation gradient. This can be either short-term evacuation (for a period of 72 hours) or long-term evacuation (for a period longer than 72 hours). Evacuation is considered to be the most effective measure to protect the population and regulate the movement of persons, in order to prohibit access to the emergency zone for all

unauthorised persons, to redirect traffic and thus to help prevent spreading the consequences of the accident outside the emergency area.

Other important measures which are carried out in the aftermath of an incident are as follows:

- individual protection;
- personal hygienic cleaning;
- special cleaning of land, buildings and material;
- veterinary measures;
- healthcare service;
- restriction of consumption and use of unprotected food, feeding stuffs and water;
- measures to provide protection of workers, who are required to continue in their work in the emergency zone;
- elimination of escape of radioactive substances or eventually prevention from unchecked expansion.

Evacuation

Evacuation is the primary measure for collective protection of the population and is carried out in order to reduce to a minimum the amount of time that people spend in the emergency zone.

Pursuant to Act No. 42/1994 Coll. on Civil Protection of Population, § 3 Sec. 12, evacuation denotes moving persons, domestic animals, and/or material items exposed to risk out of a certain area. The Order of the Ministry of Interior of the Slovak Republic No. 75/1995 Coll. on Provision of Evacuation designates specific tasks and measures for all authorities, organisations, legal entities and individuals in relation to evacuation.

Evacuation takes place:

- a) in the area around the NI:
 1. within a radius of 5 km for the whole population in that area whenever an incident occurs;
 2. within a radius of 10 km for the directly endangered population (depending on the actual situation, weather forecast etc.);
 3. within a radius of 30 km from the source in Jaslovské Bohunice and within a radius of 20 km from the source in Mochovce for the endangered population (evaluated and considered whenever an incident occurs);

- b) on the territory endangered by the contamination from an accident or another emergency connected with the release of a harmful substance;
- c) on the territory where the consequences of a natural disaster or catastrophe, whether temporary or long-term, make it no longer suitable for persons or domestic animals to remain on this territory;
- d) on the territory endangered by an accident in relation to a water installation (water power plants, regulation installations, reservoirs etc.);
- e) on other territory selected for the needs of operational activities of the forces of the Slovak Republic Army during the military preparedness of the state.

2.3 *Players Involved in the Emergency Response System*

County and District Offices

When an emergency event having the characteristics of a radiation accident occurs, the measures resulting from the off-site emergency plan shall be organised by county offices, or eventually by district offices. For this purpose the county or district committees for radiation accidents are established. These committees are responsible for providing advisory, co-ordinating and management assistance to the Head of the County Office or District Office in relation to the uniform protection of population and property when a radiation accident occurs. When a radiation event occurs, the National Emergency Commission for Radiation Accidents (NECRA), which is the managing, advisory and co-ordinating body of the Slovak Republic Government in this field, continuously monitors regional level activities, supports the uniform arrangements for the preparation and implementations of measures, considers its efficiency and co-ordinates their activities using recommendations and conclusions from expert and supporting units.

Central Crisis Joint Staff (CCJS)

The Slovak Government established, pursuant to Act No. 387/2002 Coll., the Central Crisis Joint Staff (CCJS) as its executive body representing all the ministries and other central state administration authorities competent in this field. The CCJS coordinates activities performed by the state administration bodies, local governments and other organisations in relation to the handling of a crisis situation. In relation to UJD it would play an active role in tackling an accident at a NI or during shipment or radioactive materials.

National Emergency Commission for Radiation Accidents (NECRA)

In parallel, there exists a Commission on Radiation Accidents of the Slovak Republic Government (NECRA), which is an advisory and co-ordination body for uniform preparation and implementation of measures intended to protect the public and the environment from the consequences of emergencies involving radiological effects in the event of, or during the threat of, their occurrence inside and outside Slovak Republic territory.

NECRA's special and technical facilities include:

- *UJD's Emergency Response Centre (UJD ERC)* is a UJD technical support means to monitor NI operation and to evaluate the technical condition and the radiation situation in the event of a nuclear or radiation accident and to forecast accident developments. It provides technical support to the OCG (see below).
- *Operative-Control Group (OCG)* is an expert advisory body for NECRA established under NECRA's statutes and Regulation. The role of the OCG, following assessment of the situation in the event of a NI accident, is to draw up background documents and a unified common recommendation by all the ministries involved for decision-making on public protection measures at NECRA level. In making the recommendations, the OCG collaborates closely with the UJD ERC.
- *Slovak Radiation Network Monitoring Centre (SÚRMS)*, established under NECRA's statutes and Regulation, is a technical support body set up by the Slovak Ministry of Health, gathering centrally and evaluating data from the entire radiation situation monitoring systems in the Slovak Republic. In the event of a radiation event, the Centre is responsible for monitoring and evaluation of the radiological situation.

Slovenské elektrárne (SE) Failure Commission

The role of the SE Failure Commission is to organise and coordinate the assessment and elimination of consequences of any events involving equipment for the generation and distribution of electricity.

2.4 National Emergency Response Organisation (ERO)

In order to perform all necessary emergency measures and measures to protect the public and property in an accident affecting its emergency zone, the national emergency preparedness organisation is divided into a three-level structure:

Level 1 comprises nuclear installation emergency commissions whose principal functions include the management of activities and measures at the NI site to establish the status of technological equipment, and dealing with preventive measures to mitigate the consequences on the staff, the NI itself, the environment and the public.

Another function of this level is the dissemination of information concerning activities carried out by state administration authorities at regional and district levels, providing details on the status of the NI and the possible impact on the surroundings.

Level 2 is organised at regional level, consisting of regional and district crisis joint staff and their corresponding commissions for radiation accidents, where their territory is included in an emergency zone where measures are planned to protect the public. This territory comprises a radius of 30 km around the Bohunice NPP and 20 km around the Mochovce NPP.

Level 3 comprises at nation-wide level the Central Crisis Joint Staff (CCJS) and the National Emergency Commission for Radiation Accidents (NECRA) as described above, with their expert support units such as the UJD Emergency Response Centre (UJD ARC), the Operative-Control Group

(OCG) and the Slovak Radiation Monitoring Network Centre (SÚRMS). NECRA is responsible in particular for co-ordinating and managing the preparation of preventive measures against radiation if the regional level capacities are exceeded.

Also part of this level is the SE Failure Commission, also described above, closely working with UJD ERC.

2.5 Mobilisation in the Field

Upon the occurrence of an emergency classified as a NI radiation event, regional or local offices are in charge of implementing measures pursuant to the OffEPs. Such activities are carried out by the competent Crisis Joint Staff cooperating with NECRA. Simultaneously, the competent regional or district Commission for Radiation Accidents has to be established, to serve as an advisory, coordinating and control body to the Head of the competent Regional or Local Office. Activities by the said commissions fall within the competence of NECRA. To avoid the risk of delay in performing public protection-related duties, the respective commissions are included in the national emergency response organisation (ERO).

Upon the occurrence of a radiation event involving radioactive releases, the NI operator, acting pursuant to the OnEP in connection with the OffEP and following assessment of the situation in respect to technology, identification of the source term, teledosimetric system measurements, the first measurements of the radiation situation at the NI emergency zone and the meteorological situation, ensures that for Level 3 events, the public are warned promptly and, for Level 2 and 3 events, that the competent authorities and organisations in the area at risk are notified. Thereafter, state administration authorities, local state administration and municipalities take further urgent and follow-up action including in particular distribution of iodine prophylaxis, sheltering and evacuation. These measures are implemented in areas affected by the consequences of the radiation event, including those which may be affected in the aftermath of the event.

Public protection measures are adopted and implemented across all management levels of local state administration and of the ministries involved. Where the radiation event consequences go beyond the territory of a single district, public protection measures are co-ordinated by the appropriate Regional Office. Where the scope of a radiation event goes beyond the territory of a single region, the Slovak Government declares and recalls an emergency for the relevant territory to mitigate the accident implications. This activity is already provided for under the new legislation by NECRA.

Where a radiation event arises, NECRA continuously monitors regional level activities, takes decisions in respect of necessary action under the OffEP, establishes conditions for its implementation, considers its efficiency and co-ordinates the activities of regional commissions. Similarly, the regional commission co-ordinates the activities of district commissions falling under its competence. For this, NECRA uses the conclusions and recommendations from expert and supporting units such as OCG, UJD ERC, SÚRMS, which as a rule work closely also with the relevant regions.

III. Indemnification

The Obligations of the Nuclear Operator

The third party liability of Slovak nuclear operators is governed by the Vienna Convention on Civil Liability for Nuclear Damage (1963), the Joint Protocol Relating to the Application of the

Vienna Convention and the Paris Convention (1988) as well as the Slovak Act No. 541/2004 Coll. II. which establishes the absolute and objective third party liability of the nuclear operator.

These instruments oblige licence-holders to be liable for nuclear damage up to:

- EUR 75 million for a nuclear installation used for energy purposes;
- EUR 50 million for a nuclear installation not used for energy purposes or for transport of radioactive material.

The licence-holder is obliged to have coverage (insurance or other financial guarantee) of his potential liability for nuclear damage. Such coverage must be maintained during the whole period of validity of the licence and for at least 20 years after a nuclear event.

IV. Relevant Legal Instruments for the Workshop

International Conventions

- Convention on Early Notification of a Nuclear Accident – 1986.
- Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency – 1986.
- Convention on Nuclear Safety – 1994.
- Convention of the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (Basle) – 1989.
- Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management – 1997.
- Vienna Convention on Civil Liability for Nuclear Damage – 1963.
- Paris Convention on Third Party Liability in the Field of Nuclear Energy – 1960.
- Brussels Convention Supplementary to the Paris Convention – 1963.
- Protocol to Amend the 1963 Vienna Convention on Civil Liability for Nuclear Damage – 1997.
- Convention on Supplementary Compensation for Nuclear Damage – 1997.
- Joint Protocol Relating to the Application of the Vienna Convention and the Paris Convention – 1988.
- Convention on Physical Protection of Nuclear Material – 1980.

IAEA Codes

- Code of Practice on the International Transboundary Movement of Radioactive Waste – 1990.

- Regulations for the Safe Transport of Radioactive Material, 1996 Edition (As Amended 2003) Requirements.

EC Legislation

- Council Directive 96/29/Euratom of 13 May 1996 laying down basic safety standards for the protection of the health of workers and the general public against the dangers arising from ionizing radiation.
- Council Directive 92/3/Euratom of 3 February 1992 on the supervision and control of shipments of radioactive waste between Member States and into and out of the Community.
- Council Decision 87/600/Euratom of 14 December 1987 on Community arrangements for the early exchange of information in the event of a radiological emergency.
- Council Regulation (Euratom) No. 1493/93 of 8 June 1993 on shipments of radioactive substances between Member States.
- Council Directive 89/618/Euratom of 27 November 1989 on informing the general public about health protection measures to be applied and steps to be taken in the event of a radiological emergency.
- Commission Regulation (Euratom) No. 770/90 of 29 March 1990 laying down maximum permitted levels of radioactive contamination of feedingstuffs following a nuclear accident or any other case of radiological emergency.
- Council Regulation (Euratom) No. 3954/87 of 22 December 1987 laying down maximum permitted levels of radioactive contamination of foodstuffs and of feedingstuffs following a nuclear accident or any other case of radiological emergency.
- Council Regulation (Euratom) No. 2218/89 of 18 July 1989 amending Regulation (Euratom) No. 3954/87 laying down maximum permitted levels of radioactive contamination of foodstuffs and of feedingstuffs following a nuclear accident or any other case of radiological emergency.
- Council Regulation No. 2219/89 of 18 July 1989 on the special conditions for exporting foodstuffs and feedingstuffs following a nuclear accident or any other case of radiological emergency.

Bilateral Agreements concluded by Slovakia with Neighbouring Countries on Information Exchange and Assistance in the Event of a Nuclear Accident

Pursuant to these agreements, Slovakia is obliged to notify the neighbouring countries of any planned nuclear installations, and of the expected schedules of operation of nuclear installations.

Pursuant to Article 9 of the Convention on Early Notification of Nuclear Accidents, the Slovak Republic has succeeded to or concluded bilateral agreements on the early notification of nuclear accidents, and on exchange of information and co-operation. The respective agreements define the format, method and extent of information to be provided, and identify contact site coordinators. The purpose of such agreements is to contribute to the minimisation of risk and consequences of nuclear

accidents as well as to set up a framework for bilateral co-operation and information exchange in areas of mutual interests in connection with the peaceful uses of nuclear energy and protection against radiation.

- Agreement between the Government of the Czechoslovak Socialist Republic and the Government of the Republic of Austria Regarding Issues of Common Interest in Connection with Nuclear Safety and Radiation Protection (Vienna, October 25, 1989).
- Agreement between the Government of the Czech and Slovak Federal Republic and the Government of the Republic of Hungary on Exchange of Information and Cooperation in the Field of Nuclear Safety and Radiation Protection (Vienna, September 20, 1990).
- Agreement between the Government of the Slovak Republic and the Government of the Czech Republic on Cooperation in the Field of State Supervision of Nuclear Safety of Nuclear Installations and on State Supervision of Nuclear Materials (Bratislava, March 8, 1996).
- Agreement Between the Government of the Slovak Republic and the Government of the Republic of Poland on Early Notification of Nuclear Accident on Exchange of Information and Cooperation in the Field of Nuclear Safety and Radiation Protection (Bratislava, September 17, 1996).
- Agreement between the Government of the Slovak Republic and the Cabinet of Ministers of Ukraine on Early Notification of Nuclear Accidents, on Exchange of Information and Cooperation in the Field of Nuclear Safety and Radiation Protection.

In addition to agreements signed with its neighbouring countries, the Slovak Republic also has signed co-operation agreements in the field of peaceful uses of nuclear energy:

- Agreement between the Government of the Czech and Slovak Federal Republic and the Government of the Federal Republic of Germany Regarding Issues of Common Interest in Connection with Nuclear Safety and Radiation Protection (Prague, May 30, 1990).

V. List of the Internet Sites of the Main Bodies and Organisations Active in the Nuclear Sector in Slovakia

- Ministry of Economy of the Slovak Republic: www.economy.gov.sk (English version available).
- Nuclear Regulatory Authority of the Slovak Republic: www.ujd.gov.sk (English version available).
- Office of Civil Protection of the Ministry of Interior of the Slovak Republic: www.uco.sk (English version available).
- Public Health Authority of the Slovak Republic: www.uvzsr.sk (English version partially available).
- National Safe Work Inspection: www.safework.gov.sk.
- *Slovenské elektrárne*, a. s.: www.seas.sk (English/Deutsch version available).

- VUJE, a. s.: www.vuje.sk (English version available).

VI. Dose Limits and Intervention Levels in the European Union

1. *Council Directive 96/29/Euratom of 13 May 1996 Laying Down Basic Safety Standards for the Protection of the Health of Workers and the General Public Against the Dangers Arising from Ionising Radiation*

Article 9

Dose limits for exposed workers

1. The limit on effective dose for exposed workers shall be 100 millisieverts (mSv) in a consecutive five-year period, subject to a maximum effective dose of 50 mSv in any single year. Member States may decide an annual amount.
2. Without prejudice to paragraph 1:
 - a) the limit on equivalent dose for the lens of the eye shall be 150 mSv in a year;
 - b) the limit on equivalent dose for the skin shall be 500 mSv in a year. This limit shall apply to the dose averaged over any area of 1 cm², regardless of the area exposed;
 - c) the limit on equivalent dose for the hands, forearms, feet and ankles shall be 500 mSv in a year.

Article 13

Dose limits for members of the public

1. Without prejudice to Article 14, the dose limits for members of the public shall be as laid down in paragraphs 2 and 3.
2. The limit for effective dose shall be 1 mSv in a year. However, in special circumstances, a higher effective dose may be authorized in a single year, provided that the average over five consecutive years does not exceed 1 mSv per year.
3. Without prejudice to paragraph 2:
 - a) the limit on equivalent dose for the lens of the eye shall be 15 mSv in a year;
 - b) the limit on equivalent dose for the skin shall be 50 mSv in a year averaged over any 1 cm² area of skin, regardless of the area exposed.

2. ***Council Regulation (Euratom) No. 3954/87 of 22 December 1987 Laying Down Maximum Permitted Levels of Radioactive Contamination of Foodstuffs and of Feedingstuffs Following a Nuclear Accident or any Other Case of Radiological Emergency, as Modified by Council Regulation (Euratom) No. 2218/89 of July 1989***

Article 6

1. Foodstuffs or feedingstuffs not in compliance with the maximum permitted levels laid down in a Regulation adopted in accordance with Articles 2 or 3 shall not be placed on the market. For the purposes of applying this Regulation, foodstuffs or feedingstuffs imported from third countries shall be considered to be placed on the market if, on the customs territory of the Community, they undergo a customs procedure other than a transit procedure.

3. ***Slovak Legislation in the Field of Radiation Protection and its Implementation***

The following legal regulations lay down basic principles for the radiation protection:

- Act No. 272/1994 Coll. on public health protection, as amended;
- Regulation No. 12/2001 Coll. on requirements on radiation protection assurance.

They are based on the philosophy of the ICRP Recommendation 60 of 1990, International Basic Safety Standards, SS No. 115 of 1996, and take account also of the provisions of EC Council directives and regulations in the field of radiation protection.

Implementation of Radiation Protection Legislation by Slovenské Elektrárne (SE)

Within SE's quality assurance system the implementation of applicable laws is reflected in the "Basic Directive" on radiation safety. The branch plants have both the national legislation and recommendations from international commissions (ICRP and IAEA) incorporated into directives and work procedures and the established individual exposure limits and the limits for radioactive discharges into the air and water.

Staff dose and exposure limits are established for quarterly and annual periods, with the established intervention levels being lower than those established by law. Beyond these intervention levels, it is necessary to evaluate and justify additional exposure. In all work the principles of radiation safety, in particular the ALARA principle and the dose and risk limitation principle, are applied. Regulatory authorities approve the environmental radioactive discharge limits. Their purpose is to ensure that they do not cause effective doses fixed by the national legislation and international recommendations to be exceeded for a member of the public under normal as well as emergency conditions.

Monitoring of Radiation Situation by the Authorities

Monitoring of environment components in the event of an emergency connected with the leakage of radioactive substances on the territory of the Slovak Republic is organised by the Slovak Radiation Monitoring Network Centre (SÚRMS) which is a standing executive component of KRH.

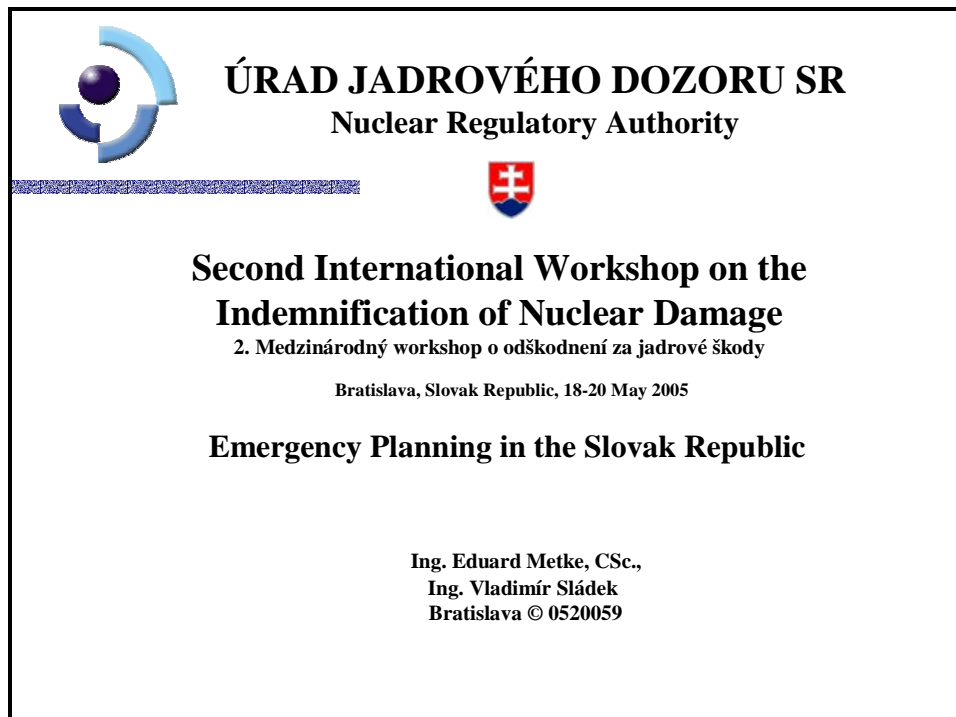
SÚRMS is comprised of the following units that take part in the monitoring of radiation situation in Slovakia:

- Slovak Institute of Hydrometeorology's monitoring system;
- monitoring system of the Army of the Slovak Republic;
- monitoring system of the Office of Civil Protection of the Ministry of Interior of the Slovak Republic;
- monitoring system of the Public Health Authority of the Slovak Republic;
- monitoring systems of NPPs.

The Public Health Authority carries out monitoring of dose rates, airborne particle activity, surface contamination and other special measurements. It carries out monitoring of integral doses in the vicinity of nuclear installations using the TLD method and discontinuous dose rate measurements in the system of monitoring points, monitoring of corrosion and fission product activity in fallout, airborne particles, drinking, surface and ground waters, soil, sediments, agricultural products and food components produced around the nuclear installation. Also, the Authority conducts on an irregular basis parallel analyses of emission airborne particles and wastewater samples.

NUCLEAR EMERGENCY MANAGEMENT IN THE SLOVAK REPUBLIC

by Mr. Eduard Metke and Mr. Vladimír Sládek*



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Relevant Legal Regulation Linked with UJD SR and International Commitments

- 1. SR**
 - Law No. 541/2004 on peaceful use of atomic energy
Proposal of a new decree on Emergency Planning
- 2. EU**
 - 87/600 Euratom: Council Decision on Community arrangements for the early exchange of information in the event of a radiological emergency
 - 89/618 Euratom: Council Directive on informing the general public about health protection measures to be applied and steps to be taken in the event of a radiological emergency
- 3. IAEA**
 - Convention on Early Notification of a Nuclear Accident, 18.11.1986
 - Convention on Assistance in the Case of a Nuclear or Radiological Emergency, 18.11.1986
 - Convention on Nuclear Safety, 05.07.1999



Relevant Legal Regulation Linked with UJD SR and International Commitments (1/2)

- 1. SR**
 - Law No. 42/1994 on Civil Protection
 - Decree No. 300/1996 on Public Protection during Production, Transport, Storage and Treatment of Hazardous Materials
 - Decree No. 348/1998 on Notification and Warning
 - Decree No. 75/1999 on Evacuation
 - Decree No. 297/1994 on Sheltering
 - Law No. 272/1994 on Public Health Protection
 - Decree No. 12/2001 on Requirements for Radiation Protection Assurance
 - Law No. 291/2002 on Integrated Rescue System
 - Law No. 387/2002 on State Emergency Management



Relevant Legal Regulation Linked with UJD SR and International Commitments (2/2)

2. EU

- Council Directive No. 97/43 Euratom
- Commission Order No. 944/89
- Commission Order No. 770/90
- Commission Order No. 2219/89
- Commission Order No. 2218/89
- Draft Directive “on Nuclear Safety”



Relevant Legal Regulation Linked with UJD SR and International Commitments

3. IAEA

- TECDOC 953 – Method for the development of emergency response preparedness for nuclear or radiological accidents
- TECDOC 955 – Generic assessment procedures for determining protective actions during a reactor accident
- SS 50 SG 06 – Preparedness of operator organization for emergency at the NPP
- SS 50 SG G6 – Preparedness of state authorities for emergency at the NPP
- SS 109 – Criteria for intervention in the case of a nuclear or radiation emergency
- GR S 2 – Preparedness and response for a nuclear or radiological emergency
- INES system – Action plan for strengthening international emergency preparedness



Law No. 541/2004 Z.z. (AL) (1/2)

UJD SR

- Performs state supervision upon nuclear safety of NPPs; In frame of emergency planning approves the EPZ (NEW!!!)
- Executes function of Contact Point of SR (NWP, NCA-A, NCA-D)
- Provides information on events for states as well as for public
- Approves and reviews emergency plans
- Examines contents, up date and exercising of emergency plans as well as relevant training



Law No. 541/2004 Z.z. (AL) (2/2)

27 AL

- Operational events and events during the shipment (NEW!!!)
 - Failure
 - Incident
 - Accident

28 AL

- Types of Emergency Plans:
 - Preliminary On-site emergency plan
 - On-site emergency plan
 - Off-site emergency plan
 - Emergency transport order



Licence Holder:

1. – Emergency Response Organization
 - Emergency Support Centre
2. On-site EP regularly updated 5-year period
(Off-site EP similarly)
3. NEW!!! – duty to provide cost-free data for UJD SR

Penalties

- Not informing on matters important for EP or violation of nuclear safety linked with emergency planning can be fined from

SKK 500 000 to SKK 30 million



New Decree on EP No (old) 245/2005

Is divided into six parts

- General part
- Preliminary on-site EP
- On-site EP
- Off-site EP
- Emergency transport order
- Common provisions

Regulates

- Contents
- Classification importance levels of emergency
- Activities
- Informing
- Monitoring
- Training, drills, exercises, update
- Emergency planning zone



New Decree on EP No (old) 245/2005

Important!

- Unifies structure and contents of all kinds of emergency plans
- Provides possibility and criteria to change the size of EPZ
- Determines terms of submission of EP
- Documentation
- Sets down the duty to provide data



Classification of Events according to their Importance and Notification

Level 1 (alert) – Relevant units of emergency response organization on site are notified

Level 2 (on-site emergency) – Activation ERO, notification according to off-site EP, preparation of public warning

Level 3 (off-site emergency) – All protective measures are taken in the NPP surroundings



Accident Time Sequence

Threat period

- Event is classified by level 1 importance

Early phase

- Start and duration of radioactive material release from NPP
- External irradiation from the cloud and deposit and inhalation
- Introduction of urgent protective measures

Intermediate phase

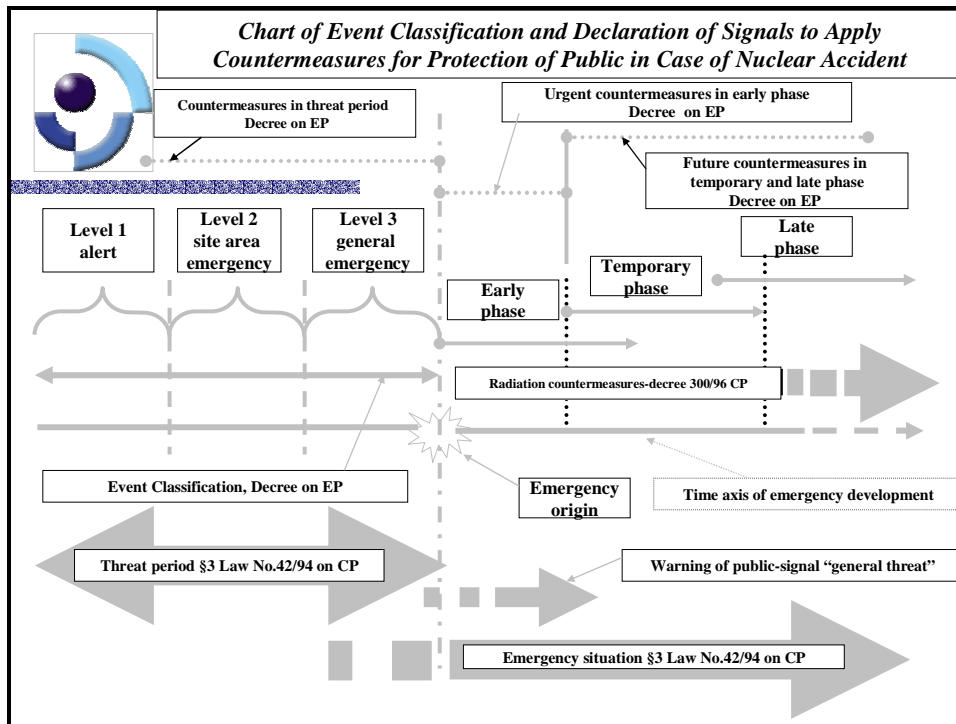
- End of release
- External irradiation from deposit and internal irradiation from the contaminated food and water
- Introduction of consequent protective measures



Accident Time Sequence

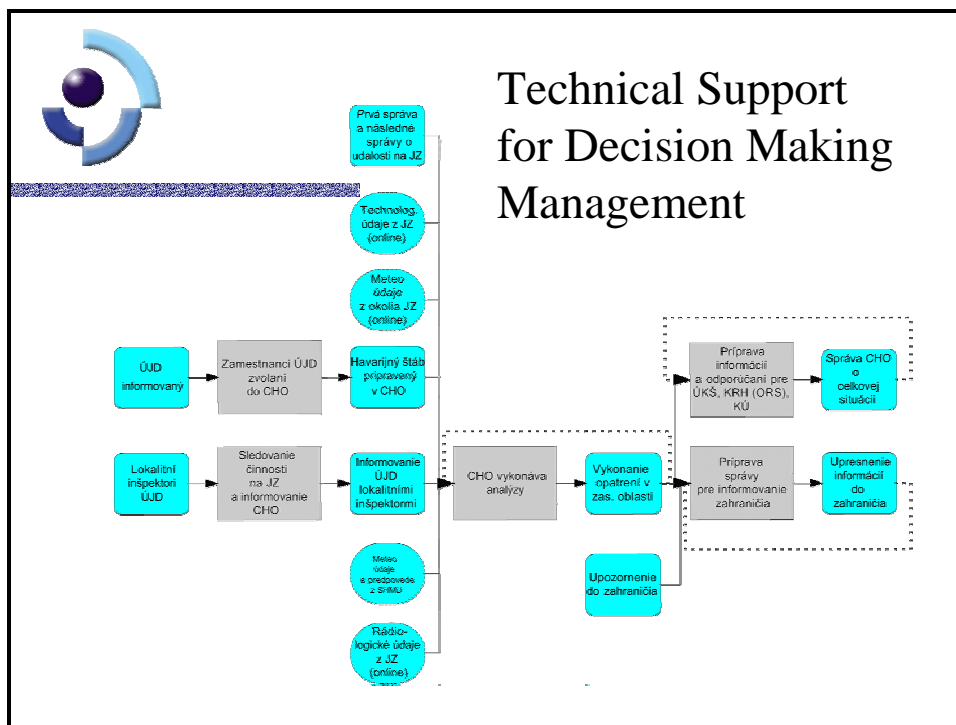
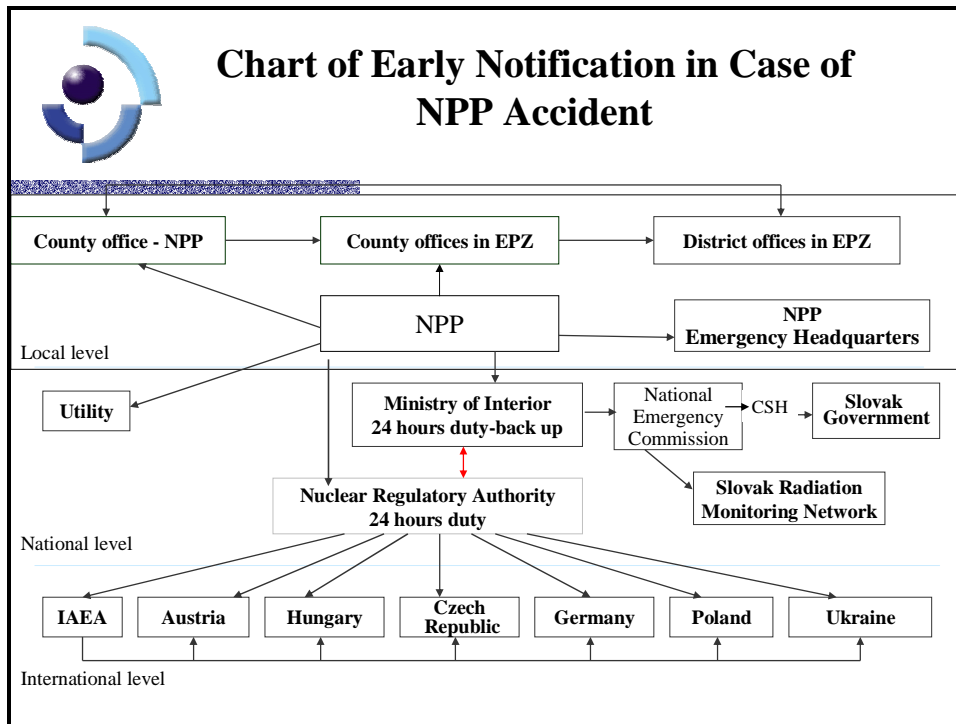
Late phase

- Potential irradiation similarly as in intermediate phase
- Introduction of consequent protective measures
- Characterised also by consequent abrogation of protective measures and resume of current life



National Emergency Response Plan NREP

- Describes existing relations and organizational links and declares that the Slovak Republic has such means and forces that will be ready at any time to cope with any kind of incidents or accidents, which create directly or indirectly the potential risk of irradiation of public
- NREP has been prepared for National Emergency Commission for Radiation Accidents (NECRA)
- NREP was required by several missions of EU and IAEA
- NREP, in principle describes also links to Central State Headquarters; NECRA becomes a part of it.



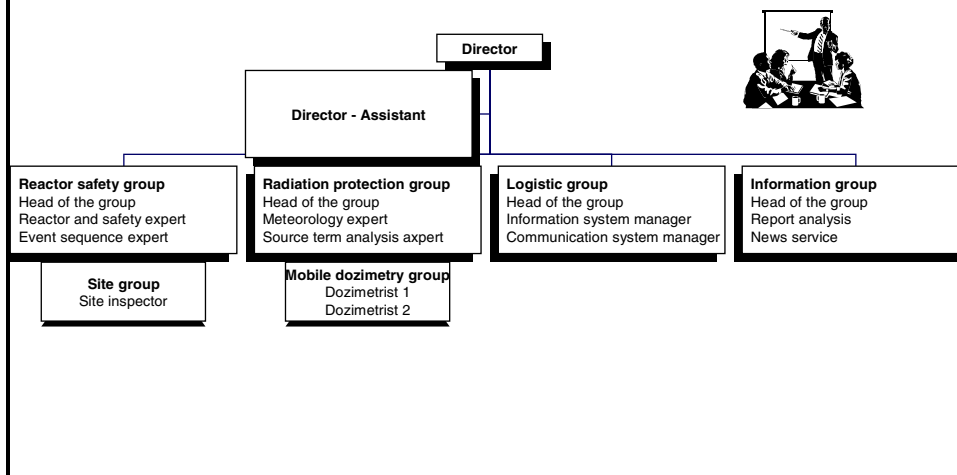


Emergency Response Centre of UJD SR (ERC)

- Serves as a technical support centre UJD to cope with the extraordinary events at NPP.
- In case of radiation incident or accident ERC would submit to CSH, NECRA outputs from code packages which are determined to support decision making, to make prognosis of possible consequences, analyses of current situation and recommendations of measures to protect public.



Emergency Response Centre of UJD





Emergency Procedures

- I. Part – Administration
- II. Part – Emergency organization
- III. Part – Reactor safety
- IV. Part – Source term
- V. Part – Irradiation and protection of public
- VI. Part – Monitoring
- VII. Part – Communication



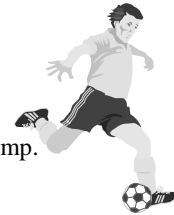
Emergency Procedures

- VIII. Part – Testing and maintenance of ERC equipment
- IX. Part – ERC activities in case of radiation events but NPPs on territory of Slovakia
- X. Part – ERC activities in case of event outside of Slovak territory
- XI. Part – Activities of Information group
- XII. Part – Activities of Logistic group
- XIII. Part – Education and training of Headquarters Members
- XIV. Part – RODOS



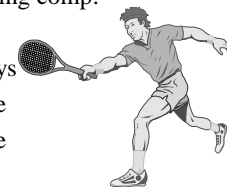
Emergency Exercises UJD SR

September 1995	Internal exercise ÚJD SR
February 1996	Set of mini exercises
March 1996	Exercise with NPP Bohunice
June 1996	Exercise with Slovak Army
October 1997	National exercise "October 97"
September 1998	Exercise with NPP Bohunice
May 1999	Exercise with NPP Mochovce
September 1999	Exercise with NPP Bohunice
March 2000	Exercise with Decommissioning comp.
May 2000	Exercise with NPP Mochovce
September 2000	Exercise with NPP Bohunice
November 2000	Exercise with Slovak Railways
June 2001	Exercise with NPP Mochovce
May 2002	Exercise with NPP Bohunice



Emergency Exercises UJD SR

October 2002	Exercise with SE-VYZ
October 2002	Exercise with Slovak Railways
November 2002	Exercise with NPP Mochovce
September 2003	Exercise with ŽSR & NPP Mochovce
October 2003	Exercise "Albatros" with NPP Bohunice
October 2003	Exercise with Decommissioning comp.
October 2004	Exercise with NPP Bohunice
October 2004	Exercise with Slovak Railways
November 2004	Exercise with NPP Mochovce
March 2005	Exercise with NPP Mochovce





International Exercises

September 1996	VIRIBUS UNITUS
November 1996	INEX 2 CH (OECD NEA)
April 1997	INEX 2 FIN (OECD NEA)
June 1997	HEXAGRANT
November 1998	INEX 2 HU (OECD NEA)
April 1999	INEX 2 CANATEX (OECD NEA)
June 2000	IAEA – WMO
April 2001	Exercise RODOS
May 2001	JINEX 1 (IAEA+OECD NEA)
October 2002	DEKO regional exercise together with RODOS
February 2002	1 st DSSNET RODOS exercise
May 2002	2 nd DSSNET RODOS exercise
November 2002	DEKO regional exercise
May 2003	3 rd DSSNET RODOS exercise
February 2004	IAEA – Emercon
May 2004	EÚ – ECURIE level 1
August 2004	4 th DSSNET RODOS exercise
May 2005	Convex 3 IAEA exercise



Emergency Planning Quality Increasing in SR & EU via International Projects

IAEA

- Increasing of emergency planning quality in the region
- Response to malevolent acts connected with radioactive materials and misuse of radioactive materials



EU

- Review of emergency management effectiveness based on use of RODOS system introduction of appropriate unified platform and introduction of verified procedures – EURANOS

OECD

- INEX exercises, legal matters



SUMMARY OF DISCUSSIONS*

Mr. Patrick Reyners, Co-moderator, introduced the subject-matter of Scenario 1 as outlined in the document entitled “Accident Scenarios, Methodology and Questionnaire” (reproduced under Introductory Section – Working Documents *supra*).

The first section of the questionnaire deals with emergency response, communication and coordination. The Moderator noted that the general tendency is for States to have a centralised system, controlled by government authorities to carry out these activities. He noted that France has recently developed new plans in relation to nuclear emergency management and invited the French delegation to provide some further information.

Ms. Marianne Lavergne, of the French Nuclear Safety Authority, noted that the new Interministerial Directive of 7 April 2005 on the measures to be taken by the authorities in the event of an incident involving a radiological emergency, provides that the Prime Minister shall ensure interministerial co-ordination. She further explained that this new Directive reflects the role of the new safety organisation in France and in particular that of the Nuclear Safety Authority. She pointed out that events resulting from terrorist activities are now included under this regime, which was not the case previously.

This Directive does not deal with the post-accidental phase, which is to be dealt with separately and in relation to which a special Committee has been established.

In the event of an incident, the alert centre of the Ministry of Foreign Affairs will forward the notification to the Nuclear Safety Authority for action and to the Prime Minister for information. The Nuclear Safety Authority will activate crisis organisation in France, in particular by informing the Minister of the Interior. The emergency response organisation system is not centralised. At the local level, the Prefect, who is the state representative, is primarily responsible for rescue actions at local level and at the central level the Prime Minister will convene a specialised committee competent for emergency crises. He may assign specific decisions to be taken by the ministries concerned. The Ministry for the Interior is responsible for rescue actions, organising and monitoring, whereas the Nuclear Safety Authority will act as a technical advisor at local and central level, assisted by the radiation protection authorities and the meteorological bodies.

In response to an invitation from the Moderator to describe the situation in Italy, Mr. Fabrizio Nocera, from ENEA in Italy, pointed out that the competent decision-making body is the Prime Minister, or the person delegated by him, assisted by an operational Committee for Civil Protection. Within this Committee, all of the various administrations involved in the emergency are represented. The Prefects of the Provinces and the Presidents of the Regions are also locally competent to take immediate actions in the case of an emergency. Decision making is supported by the technical advice

* This text has been prepared by the NEA Secretariat based on the recordings of discussions at this workshop.

of CEVAD (the Centre for Data Evaluation) coordinated by APAT (the Agency for Environmental Protection and Technical Services).

Dr. Norbert Pelzer of Germany wondered, in relation to both France and Italy, whether the emergency organisations have any institutional link or obligation to cooperate with the operator liable and the insurer concerned. Ms. Lavergne from France noted that nothing has been formalised in this respect, but that it is most likely that an interministerial circular would be issued to address this topic. She further noted that this question would probably be referred to the above-mentioned Committee on the post-accidental phase. Mr. Nocera from Italy pointed out that there are no nuclear installations in operation which could be the source of a nuclear accident and neither are there nuclear insurers in this country.

Ms. Volha Piotukh of Belarus noted that, like Italy, her country does not have any NPPs on its territory, and neither does it have any system of nuclear insurance in place. She considered that the link between emergency preparedness and response and liability has been under-evaluated for some time, and the importance of this link is only now starting to be recognised in Belarus.

In response to an invitation to comment on the situation in Canada, Mr. Dave McCauley pointed out that in Canada, responsibility for on-site emergencies is with the operator. If it is expected that there may be an off-site impact, local municipal and provincial governments become involved. The province takes decisions on the deployment of emergency workers, the assessment of hazards, monitoring of samples and appropriateness of protective actions. Each province has its own plan. The federal government becomes involved at the request of the province. In such a case, it falls to Health Canada (HC), the federal department responsible for implementing the national emergency plan. HC has a support structure with an executive committee, an operations committee, a technical support committee and a public relations committee. It would take the lead on informing other countries and international organisations and agencies. In response to Dr. Pelzer's question, he considered that the operator and insurer would of course be intrinsically involved in the management of the accident.

The importance of regional cooperation in the field of dissemination of information and coordination of responses (including countermeasures) was demonstrated by Ms. Li Wallén, from the Swedish delegation, who referred to various different forms of cooperation in Nordic circles, both formal and informal, on nuclear power plants and any form of radiological release. She noted in particular that the Nordic countries have concluded formal agreements to harmonise the intervention criteria in the event of a radiological emergency and are obliged to provide each other with information on countermeasures taken in the event of an accident. Such co-operation can be carried out directly through the countries responsible for national rescue operations. She referred in particular to the NEP (Nordic Emergency Preparedness Group) and the NKS (Nordic Nuclear Safety Research), details of which are provided in the Swedish response to the questionnaire.

Mr. Yrjö Sahrakorpi from the Finnish delegation noted that it is the role of STUK (the Radiation and Nuclear Safety Authority) to send written information about the situation to other countries with which bilateral agreements have been concluded (including the other Nordic countries and the Russian Federation), also to the IAEA, the EU and the WHO.

Mr. Dejan Skanata from Croatia referred in particular to the question on the coordination of countermeasures between States A and C and wondered whether there are any real examples of countries having joint emergency plans for installations located near the border.

Mr. Brian Ahier of the NEA Secretariat, noted the existence of the Canada-US Joint Radiological Emergency Response plan which provides for the exchange of information and liaison

officers between those two countries. He further confirmed that the two countries are working at present on firming up arrangements on the type of information that would be exchanged. Mr. Ahier also noted that with regard to other countries, he believed that there would at least be some informal arrangements in place on the coordination of countermeasures. Within INEX 3, some countries are using this structure to test their joint arrangements.

In the absence of a representative from Ireland, the Moderator pointed out its response to the questionnaire in relation to bilateral cooperation with the UK. A bilateral agreement was concluded in December 2004 and provides for the exchange of information between the UK and Ireland, including direct access for Ireland, through its Radiological Protection Institute, to the UK's radiation monitoring system (RIMNET).

Dr. Pelzer from Germany pointed out that Germany has concluded 25 bilateral agreements on the exchange of information and experience in the field of nuclear safety, including all neighbouring countries. There is active cooperation, including working groups that meet on a yearly basis.

Mr. Martin Baggenstos from Switzerland made reference to the NPP which is directly on the border with Germany (*Leipstadt*). He noted that in an accident situation, the Swiss contact point would alert the German site authority at the same time and with the same messages as those destined to the Swiss authority. However, there would not be the same countermeasures as in Switzerland, preference is given to shelter whereas the principal counter-measure in Germany is evacuation. He noted the existence of bilateral agreements with France and Austria also; however in the absence of any installations near those borders, such agreements do not have the same importance for emergency planning.

Ms. Sonia Gravier from the French delegation noted that her country has NPPs on the border with Germany, Luxembourg and Belgium. France has bilateral agreements with all neighbouring countries (including the United Kingdom with regard to the Channel Islands). There is an exchange of information between local authorities in each country on the basis of these bilaterals. There are also coordination meetings on a regular basis to better understand and to coordinate public information, combined with mutual representation in national emergency exercises.

The Moderator opened a discussion on the question of how the occurrence of a nuclear accident is brought to the attention of the general public. He concluded, having studied the questionnaires submitted, that a large majority of countries organise this communication through a centralised system under state supervision, which may or may not imply involvement of the local authorities. Often making use of the nuclear regulatory agency, the communication takes place through a variety of means, essentially using the mass media. Mr. Elk, from South Africa, noted that in his country, the responsibility to communicate this occurrence lies with the operator, which is done primarily using the mass media. One of the requirements, which is to obtain the names of persons in the vicinity at the time of the accident, is carried out by publication of a notice in the Official Gazette.

Mr. Sebastiaan Reitsma, Manager of the Swiss Nuclear Insurance Pool, provided confirmation that a convention has been concluded between the Swiss government and the insurance pool. This file comprises a number of documents, commencing with a checklist of what to do in the event of a nuclear accident. From the very outset, insurers will be included in the dissemination of information to the public. The file contains names, addresses etc. of insurers who can be contacted, along with pre-drafted claims handling forms which can be filled out immediately by victims. It comprises guidelines for anticipated payments, and a detailed contract governing claims handling. It provides that the insurers enter into an obligation of claims regulation activities on behalf of the government. Although liability in Switzerland is unlimited, financial cover is obviously limited. The operator's private

financial coverage is supplemented by government coverage up to the current limit of CHF 1 billion. However, the government could decide in the case of a major accident to provide supplementary funds. Finally, there has also been a detailed arrangement on the amount of compensation to be paid by government to the victims involved.

Professor Park from the Republic of Korea was invited to elaborate on the special arrangements which have been developed over the years with Japan to deal with the specific case of nuclear emergency. He explained that although China, Japan and the Republic of Korea are all Party to the 1986 Early Notification and Assistance Conventions, regional agreements and cooperation in relation to nuclear emergency situations remain very important. He noted that there are two framework conventions between the Republic of Korea and Japan on this subject. He further noted that as the Republic of Korea is one of the most developed countries in terms of information technology, the most efficient type of communication is through internet and cellular telephones rather than through radio and television, and therefore a multi-direction communication system is used.

Participants then commented on the existence of emergency payments made by the nuclear insurer in the immediate aftermath of a nuclear emergency. Mr. Sládek from the Slovak Nuclear Regulatory Authority confirmed that in his country, such emergency payments are not within the realm of the nuclear insurer who has no obligations in that regard, but rather would be provided through the National Emergency Commission for Radiation Accidents under the authority of the National Emergency Headquarters. The first payments would therefore be made from the reserve of the Ministry of Finance. The Moderator wondered whether the costs of such preventive measures would be recoverable against the operator, but Mr. Pospíšil noted that this issue is not clearly defined in Slovak legislation. He mentioned that these payments could be perceived to be consequential measures or clean-up measures rather than preventive measures.

Mr. Gary Uricchio of American Nuclear Insurers pointed out that within 24 hours of the Three Mile Island in the USA in 1979, his company had an office set up making payments by cheque for evacuation, gas money, hotel accommodation etc. He considered that this helped the overall claims activity as a demonstration of good faith which was well recognised by the government and the public.

Dr. Pelzer pointed out that it is important to distinguish between an actual nuclear incident or just a threat of a nuclear incident. Under the existing nuclear liability conventions (unrevised) there is no cover for preventive measures taken prior to a nuclear incident. In that case, the state would have a claim against the operator for recourse only if there is an incident. Mr. Mark Tetley of British Nuclear Insurers noted the necessity for there to be nuclear damage in order to make any payment, to ensure that claims are valid and not spurious in any way.

Messrs Marc Léger, from the CEA in France, and Gomez del Campo, from Nuclear Risk Insurers in Spain, confirmed that emergency payments could be decided upon and administered by state authorities; however there would be no right of recourse against the operator or the insurer in the absence of a nuclear incident.

Mr. Sebastiaan Reitsma from the Swiss Nuclear Insurance Pool noted that the Swiss nuclear liability legislation contains a provision stating that such measures ordered by the competent authorities can be charged to the liable operator. The insurance pool has therefore agreed to limited cover for such types of measures. The amount of the sub-limit for this cover is CHF 5 million, i.e. EUR 3.5 million as compared to EUR 1 billion. Advance payments are regarded as part settlement of future claims whose legitimacy is acknowledged.

The Moderator also invited comments on whether states would assist victims in bringing proceedings, in the form of guidance, legal representation or diplomatic protection. He noted that a large number of countries had responded to the questionnaire in the negative. Ms. Marianne Lavergne of the French Nuclear Safety Authority noted that if the accident were to take place on French territory, then victims would be assisted by the local Prefect. If it were abroad, she speculated that the centralised authorities would provide assistance but noted that there is no specific regulation prescribing such help.

Dr. Norbert Pelzer considered that if there were a denial of justice in the incident state, then there would be recourse under public international law in the form of diplomatic protection. It would depend on the national legal system whether such assistance would be provided or not.

Mr. Fabrizio Nocera noted that one of the problems is indeed that individual citizens have no legal personality to act vis-à-vis another state. He pointed out that under Article 18 of the 1986 Italian law establishing the Ministry of the Environment, environmental associations have legal capacity to bring suit or to act in court. Also, pursuant to recent case-law in Italy, other entities, whether national or local, may be entitled to bring suit in court provided that they are not temporary in nature.

Both Mr. Marc Léger from France and Mr. Stephen Griffiths from the UK noted in passing that as their respective countries are not Party to the Joint Protocol, there is no legal link between their country and the Slovak Republic and therefore victims in their countries would not be indemnified under the convention system.

Mr. Marc Léger from France pointed out that when his country becomes a Party to the revised Paris Convention, French victims could claim if two conditions are satisfied: (a) the Slovak Republic becomes a Contracting Party to the Revised Vienna Convention and (b) the Slovak Republic would not exclude from its legislation non-Contracting Parties having operational nuclear installations on their territory.

Mr. Stephen Griffiths from the UK considered that as UK victims would not be covered by the convention system, Council Regulation (EC) No. 44/2001 of 22 December 2000 on jurisdiction and the recognition and enforcement of judgements in civil and commercial matters (“the Brussels Regulation”) would apply and farmers, wholesalers or retailers would be required to sue the Slovak Republic under Regulation 44 either in the UK or Slovakia. The general rule in the Brussels Regulation is that one must sue the defendant where he/she is domiciled subject to a proviso that it is possible to sue where the damage occurred. If the farmers, wholesalers and retailers were to sue in the UK, the court would decide under Part 3 of the Private International Law (Miscellaneous Provisions) Act 1995 whether UK or Slovakian law applied to the claim. The general rule in Section 11 of that Act is that for a claim in respect of damage to property, the law which applies is the law of the country where the property is located when it was damaged, i.e. in this case the UK.

Mr. Dave McCauley from Canada noted some similarity in the manner in which such claims would be dealt with in Canada, another non-convention country. Actions for damages by Canadian citizens would be through civil proceedings in the Canadian courts. The Canadian government might take action against a foreign state where there has been damage to Canadian victims, although this would only take place if the individual has exhausted local remedies in the foreign state and also is a Canadian national.

Mr. Sebastiaan Reitsma pointed to a provision in Swiss law which provides that if a person suffers loss in Switzerland following an accident abroad, and that person cannot gain satisfaction under Swiss legislation, then he/she can address his/her request to the government which will then

look into the claim and which can always decide to grant compensation which is not based on civil law.

Mr. Reyners pointed out that each country responded in the negative to whether there would be legal grounds to claim for compensation for economic loss deriving from rumour. Ms. Volha Piotukh from Belarus noted that radiation monitoring at nationwide level may help in reducing the extent of such rumour damage, decreasing adverse effects and increasing public confidence.

Ms. Li Wallén of Sweden noted that in her country the distinction between property damage and pure economic loss is unsolved so far. Legislation on the matter is unclear, and case-law is not sufficient to make affirmative statements. The main rule under Swedish law is that only a person directly suffering damage to person or property is entitled to compensation. The owner of damaged material would be compensated, but if it were a factory for example which does not own the material but just uses it in its production, then the answer is unclear. Losses resulting from unfounded rumour would be considered as pure economic loss and would not be compensation. However, the case-law is not consistent. Supreme Court judges have had different opinions on the matter, but there is a majority opinion that there must be ownership in the property. The diverging opinion states that a direct interest in the property in question (short of ownership) would suffice. Mr. Sahrakorpi of Finland pointed out that the Finnish courts have a similar record in terms of defining and recognising pure economic loss.

Mr. Håkan Rustand also of Sweden pointed out that the only body with any real experience in defining pure economic loss is the International Oil Pollution Compensation Funds (IOPC Funds). He pointed, in particular, to an oil spill off the coast of the United Kingdom which had affected the salmon fishing industry. He noted that the cost of advertising in the Times newspaper to reassure the public and re-establish public confidence was considered to be within the scope of acceptable measures.

Mr. Thomas Augustin of Austria stated that the Austrian general civil law could not compensate pure economic loss unless specific provisions provide expressly for this. He noted that there are such specific rules for pure economic loss in some areas in the Atomic Liability Act but there is no general liability in these areas.

Dr. Norbert Pelzer indicated that tourism losses based on actual contamination would not be compensated in Germany. They would be regarded simply as loss of turnover and the operator of a nuclear installation is not required to guarantee the turnover of businessmen. Turnover can only be compensated if linked to personal injury or property damage.

In relation to this issue, Mr. Håkan Rustand of Sweden referred again to the experience of the IOPC Funds and noted that the problem is where to draw the line. For example, in the case of a beach where an oil spill takes place, if tourists fail to visit the following summer, then what would be the situation with regard to cancelled orders for local hotel suppliers? Under present Swedish law, there is some scope for compensating the hotel owner but it is unlikely that any further compensation would be provided, for example to the suppliers. Under the revised Paris Convention, there would be the loss of income deriving from use or enjoyment of the environment, and therefore that would be covered. The rumour cases, on the other hand, would not be compensated under either the existing convention or the revised convention.

The Moderator then turned to the question of environmental damage, noting that answers to this question were generally positive. He further pointed out that certain countries made a distinction between damage to property and damage to the non-patrimonial environment.

Ms. Li Wallén of Sweden stated that there was new legislation in Sweden pursuant to the Environmental Code. According to Swedish law, damage to the environment could be compensable under the Environmental Code but for the fact that damage caused by ionising radiation is expressly excluded from regulations under that Code. The question as to whether compensation would be available would therefore depend on who the owner is. If property is privately owned, damage to it would most probably be regarded as property damage and would therefore be compensable. If such property is not privately owned, then no compensation would be available.

Prof. Ki-gab Park from the Republic of Korea stated that in the Korean Liability Act, there is no mention of damage to the environment. However, where elements of the environment are damaged by a nuclear incident, whether such elements are owned by the state or are not owned by anyone, such damage should be compensated by the state responsible for the nuclear incident.

Mr. Renato Tami from Switzerland noted that the Swiss legislation in force since 1984 provides for unlimited liability with coverage of EUR 700 million. However, there is no obligation to cover environmental damage. With the revision of the Paris and Brussels Supplementary Conventions in 2004 and the express provision for states with unlimited liability, Switzerland decided to prepare a complete revision of the 1984 Act with a view to ratifying the revised Paris and Brussels Supplementary Conventions. This ratification by Switzerland will bring several advantages, one of which will be the obligation to cover environmental damage. Mr. Tami also pointed to the existence of a provision [Article 16] of the existing Nuclear Liability Act which provides that the Confederation will indemnify a victim in Switzerland where an accident happens abroad in a nuclear power plant and it is impossible for the victim to obtain compensation. The new draft legislation will maintain this provision. This applies not only to Swiss nationals but also to persons who are resident in Switzerland at the time of the accident.

Ms. Piotukh from Belarus and Ms. Ozolina from Latvia both mentioned the possibility of having special laws enacted (such as was the case in relation to the Chernobyl accident) to cover national victims where they have not obtained satisfaction abroad. Dr. Norbert Pelzer confirmed that when German victims cannot obtain compensation abroad or when it is too low, the federal state shall provide additional compensation up to EUR 2.5 million [Article 38 of the Atomic Energy Act]. He also noted that after Chernobyl, the German government awarded compensation *ex gratia* to those who did not satisfy the criteria set out in Article 38 in order to avoid hardship.

Mr. Fabrizio Nocera from Italy referred to the Directive 2004/35/CE of the European Parliament and of the Council of 21 April 2004 with regard to the prevention and remedying of environmental damage. Although this Directive does not cover nuclear risk, it will be interesting to see how and to what extent the prevention and remediation of environmental damage will come about in Member States when they are required to implement it. This Directive may also have an impact on the legal and institutional systems in EU countries including Italy.

In response to a question from the Moderator as to whether a distinction would be made between permanent residents and nationals of affected states who just happen to be in the accident state at the time of the accident, Professor Park from Korea noted that as Korea is a non-Contracting State, private international law principles should be applied, providing for the application of the principle *lex loci delicti*. However, recently judges have a tendency to distinguish between permanent and temporary residence when an accident occurs abroad. Where someone is a permanent resident, then the *lex loci delicti* will be retained. However, in the case of temporary travel, then they would choose the law which is more favourable to the victim. Therefore if Korean citizens were victims of an accident abroad, and that state provided for only a limited amount of compensation, in that case the Korean judge would apply the Korean Nuclear Liability Act.

Discussions moved to the analysis of responses to Title III.3 of the questionnaire, addressed to Joint Protocol States. These questions focus on how the victim state would obtain detailed information on the applicable legislation systems and the procedures to follow for making claims, bring that information to the attention of victims, compile an inventory of damage suffered, assist victims in the bringing of proceedings, monitor progress of such claims and arrange for the recognition and enforcement of judgements of the competent court in the victim state.

Mr. Igor Sirc from Slovenia noted that his country does not at the moment have a legally binding arrangement in this regard. However, the state body and the nuclear insurance pool realise that there is a certain need to assist Slovenian victims in settling their compensation claims abroad and he believes that the nuclear insurance pool would distribute information to the public. Mr. Renato Frelih added, on behalf of the Slovenian pool, that action would be based on standard rules and procedures regulating the action between the pool and the reinsurance pool.

With regard to the question of Paris Convention States that are not Party to the Joint Protocol, and in particular whether such States would provide compensation for damage occurring in a Vienna Convention State, Mr. Roland Dussart-Desart from Belgium mentioned that, as in Spain, there is no specific legislation that would offer satisfaction to Belgian victims in the case of an accident such as this. It would be necessary to introduce a special solidarity mechanism. He noted, however, that the 1994 Act on Radiation Protection of the Public and the Environment gives the power to the King to adopt decrees or other measures to address dangers resulting from contamination. In the case of a serious nuclear incident with all types of economic effects which cannot be defined as nuclear damage (as they are not caused by radiation), there could be speculation on the price or availability of goods. In such circumstances, there is an Act from 1945 which could be applied to prevent speculation and restore the stability to the economy.

SCENARIO 2 – TRANSPORT ACCIDENT

NUCLEAR EMERGENCY RESPONSE SYSTEM IN HUNGARY*

by Mr. Zoltán Szönyi**

The National Emergency Response System in Hungary is based on a number of legal instruments. These include:

- Act CXVI of 1996 on Atomic Energy, and the executive Government Decree of the Atomic Law No. 89/2005 and 114/2003;
- Act LXXIV of 1999 on Emergency Preparedness for Catastrophes and Severe Accidents, and the executive Government Decree of the Law on Protection against Disasters No. 197/1999;
- Government Decree 248/1997 on the National Nuclear Emergency Preparedness System as modified by the Government Decree 40/2000;
- Government Decree 165/2003 on Public Information;
- National, Central, Sectorial, Regional and Local Emergency Response Plans.

The National Emergency Response Plan is based on the IAEA GS-R-2 Preparedness and Response for a Nuclear or Radiological Emergency, IAEA TECDOC-953, TECDOC-955, EU radiation protection laws and relevant nuclear safety regulations and guidelines. It covers the basis concept of emergency planning, the organisation of the National Emergency Response System and the division of responsibilities amongst them, operational methods during emergency situations and preparedness for a nuclear accident.

The Appendices to the National Emergency Response Plan consist of the following:

- distribution list;
- critical tasks;
- responsibility and sources of the ministries and the organisations with nation-wide competence;
- contact addresses of the ministries and the organisations with nation-wide competence;

* This text has been prepared by the NEA Secretariat based on the presentation delivered by Mr. Szönyi at this workshop. The PowerPoint presentation which he used is reproduced herein.

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- the role of the Paks NPP and of the spent fuel interim storage facility;
- national intervention and action levels;
- emergency planning zones in Hungary;
- the system of the Emergency Response Plans;
- facilities and special radiation sources;
- substantial requirements for the urgent protective actions;
- substantial requirements for the late-phase protective actions.

There are a number of different organisations involved in the National Emergency Response Plan, under the supervision of the Government. The most important organ is the Governmental Coordination Committee (GCC), supported by its Secretariat and the Defense Committee.

The GCC is operated by the Ministry of the Interior and is not a permanent organ. It is chaired by the Minister, and in the case of nuclear emergencies the vice-chair would automatically be the Director General of the Hungarian Atomic Energy Authority. It is responsible for the management of nuclear emergency preparedness and response. To this end, it presents proposals to the government for decision, it makes decisions on preventive measures and coordinates the overall operation of the National Emergency Response Plan. The Secretariat of the GCC is a permanent body which carries out intersectional tasks and provides support services to the GCC.

The Defence Committee is also operated by the Ministry of the Interior and is involved in the preparation and conduct of training programmes and exercises. It provides support in the decision-making process and is responsible for the development of countermeasures. It also carries out informational tasks via its Public Information Group (PIG). There also exists an Expert Panel of the Defence Committee which is operated by the Hungarian Atomic Energy Authority and which assesses the nuclear, meteorological and radiological situation, and proposes preventive measures. The Operative Staff is responsible for the execution of decision and carries out central management of emergency response until the Defence Committee is called into operation.

Other institutions carry out specific roles in relation to the National Emergency Response System: the Technical Scientific Council monitors danger and is responsible for establishing the intermediate term technical research and development plan, and the Nuclear Emergency Centre (of the National Emergency Directorate) coordinates the National Radiation Monitoring and Alarm System.

The Hungarian Atomic Energy Authority (HAEA) has a primordial role to play in the event of a nuclear emergency, both with regard to the preparation and planning phase and also if an emergency situation actually occurs. Professionals from the HAEA staff participate in the review of the National Emergency Response Plan and the HAEA serves as International Contact Point and Competent Authority. In the event of a nuclear emergency, the HAEA receives notifications and alerts, and assists with facility diagnosis and prognosis depending on the type of situation involved. It evaluates the radiological situation and prepares reports and communications for the International Atomic Energy Agency (IAEA), the ECURIE system, and for bilateral contacts. It also provides assistance in the decision-making process and informs the public of latest developments.

Within the HAEA, the Emergency Response Organisation (HAEA ERO) consists of inspectors selected from the HAEA staff based on their expertise, and three persons nominated by the National Meteorological Service. The HAEA ERO establishes its emergency response plan, covering planning zones, planning categories and emergency classification, and sets out details concerning the operation and responsibility of the HAEA in the event of an emergency situation.

The Centre for Emergency Response Training and Analysis (CERTA) provides valuable support in the form of modern computer and communication tools, guaranteed power supply, a sophisticated alarm system, and its fully equipped Training Centre.

National Emergency Response System

Hungarian Atomic Energy Authority
Zoltán Szőnyi

Content

- Legal basis
- The Hungarian Nuclear Emergency Response System
- The responsibilities and tasks of the HAEA
- The Emergency Response Organization of the HAEA

Legal Background, Relevant Documents

- Act CXVI of 1996 on Atomic Energy
 - The executive Gov. Dec. of the Atomic Law No. 89/2005 and 114/2003
- Act LXXIV of 1999 on Emergency Preparedness for Catastrophes and Severe Accidents
 - The executive Gov. Dec. of the Law on Protection against Disasters No. 197/1999
- Gov. Decree 248/1997 on the National Nuclear Emergency Preparedness System modified by the 40/2000 Gov. Dec.
- 165/2003 Gov. Dec. on Public Information
- The National, Central, Sectorial, Regional and Local Emergency Response Plans

National Emergency Response Plan (1/2)

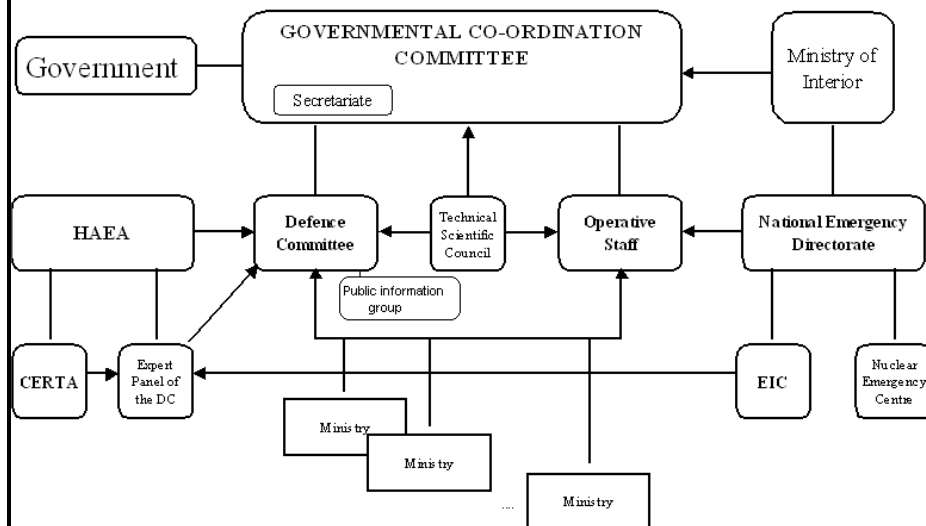
- **Basis:**
 - IAEA GS-R-2 Preparedness and Response for a Nuclear or Radiological Emergency
 - IAEA TECDOC-953, TECDOC-955
 - EU Radiation Protection laws
 - Relevant Nuclear Safety Regulations and Guidelines
- **Content**
 - Introduction
 - Basic concept of emergency planning
 - The organisations of the National Emergency Response System, and their responsibilities
 - Methods for the operation during emergency situations
 - Tasks of the preparedness activity

National Emergency Response Plan (2/2)

- **Appendices**

- Distribution list
- Critical tasks
- Responsibility and sources of the ministries and the organisations with nation-wide competence
- Contact address of the ministries and the organisations with nation-wide competence
- The role of the Paks NPP, and of the Spent Fuel Interim Storage Facility
- National intervention and action levels
- Emergency planning zones in Hungary
- The system of the Emergency Response Plans
- Facilities and special radiation sources
- Substantial requirements for the urgent protective actions
- Substantial requirements for the late phase protective actions

Structure of the NERS



NERS Organisations and their Tasks (1/2)

- **Government**
- **GCC**
 - Operated by the Ministry of Interior, not a permanent organ
 - Chairman: Minister of Interior, Deputy: Director General of the HAEA (in nuclear emergencies)
 - Management of nuclear emergency preparedness and response
 - Preparation of proposals for the governmental decision
 - Making decisions on the protective actions
 - Co-ordination of the operation of the NERS
- **Secretariat of GCC**
 - Permanent body, intersectional tasks
 - Harmonization of off-site tasks
 - Supports the operation of the GCC
- **Defense Committee**
 - Operated by the Ministry of Interior
 - Preparation and conduct of training programs and exercises
 - Decision support, development of countermeasures
 - Informational tasks (Public Information Group – PIG)

NERS Organisations and their Tasks (2/2)

- **Expert Panel of the Defense Committee**
 - Operated by the HAEA
 - Assessment of the nuclear, meteorological and radiological situation
 - Suggestions on protective actions based on the evaluation of the CERTA and EIC
- **Operative Staff**
 - Execution of decisions
 - Decision support, central management of emergency response until the operation of the DC
- **Technical Scientific Council**
 - Establishment of technical and scientific background
 - Monitoring the danger
 - Elaboration of intermediate technical research and development plan
- **DGNEM Emergency Center**
 - Co-ordination of the National Radiation Monitoring and Alarming System
 - RODOS calculations, evaluation of the radiological situation
 - Gathering and analysis of information
- **Sectors**
 - Harmonization and management within a section

Role and Tasks of the HAEA (1/2)

During preparation and planning phase:

- Professionals from the staff of the HAEA:
 - Deputy chairman of the GCC (Director General of the HAEA)
 - Professional deputy of the head of the DC
 - Head of the Expert Panel of the DC and two other members
 - A member of the PIG
 - A member of the Operative Staff
 - Deputy chairman of the Scientific Council and one member
- Participation in the review of the National ERP
- International Contact Point and Competent Authority
- Regulatory tasks in nuclear safety matter
- Coordination of international projects concerning nuclear safety
- Maintenance of its own preparedness

Role and Tasks of the HAEA (2/2)

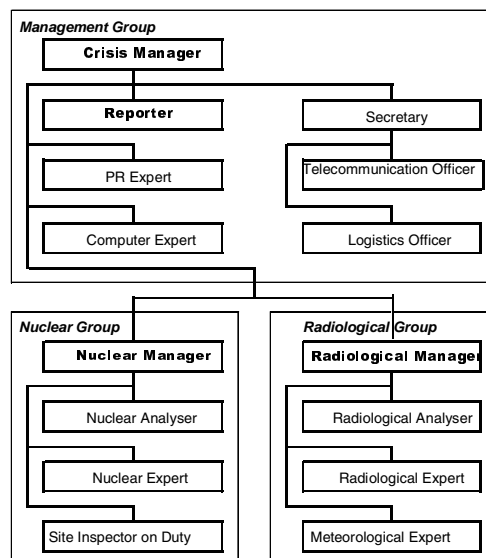
II. In case of an emergency:

- Receipt of notifications and alerts
- Alerting of the HAEA ERO
- Facility diagnosis and prognosis
- Evaluation of the radiological situation and prognosis of consequences
- Preparation of reports and communication
 - IAEA, ECURIE, bilateral countries
- Decision support (to DC)
- Public information

Performing the Emergency Tasks

- HAEA Emergency Response Organization (HAEA ERO)
 - Inspectors selected from the staff of the HAEA based on expertise
 - 62 persons from the HAEA
 - 3 persons delegated by the National Meteorological Service
 - 15 roles (4 persons/role as average)
 - Key roles (officers on duty)

Structure of the HAEA ERO



Emergency Response Plan of the HAEA

1. Introduction
2. Establishing the emergency response capability
 - Planning zones
 - Planning categories
 - Emergency classification
3. The responsibility of the HAEA
4. Operation during nuclear emergencies
5. The tasks of emergency preparedness
6. Appendices

The CERTA and the Training Center

- **CERTA – Center for Emergency Response Training and Analysis**
 - Single, spacious room for the crisis centre
 - Specialised work places
 - Modern computer and communication tools
 - Uninterrupted and safety power supply
 - Auxiliary rooms available
 - Alarming system (penetrations and smoke detectors)
 - On level -1 in the HAEA Headquarters
- **CERTA Training Center**
 - Separated from the crisis centre, but on the same level
 - Suitable for cca. 30 persons
 - Equipped with the necessary furniture and devices
 - Auxiliary rooms for operation in crisis situation

JOINT PROTOCOL RELATING TO THE APPLICATION OF THE VIENNA CONVENTION AND THE PARIS CONVENTION

by Mr. Vladimir Boulanenkov*

Background

1. Awareness of potential hazards resulting from a nuclear accident led to an early recognition of the need to complement the necessary preventive measures with liability rules specifically designed to address the radiation risks which cannot be adequately dealt with through ordinary civil law remedies. While the elaboration of national legislation was underway, it became evident that domestic measures were insufficient and that problems arising from a nuclear accident, especially in view of likely trans-boundary effects, could not be resolved in a comprehensive way without establishing a uniform liability regime at the international level.

2. In 1960, the **Convention on Third Party Liability in the Field of Nuclear Energy** (Paris Convention) was concluded within the framework of OECD. At present, 15 European States participate in this regional instrument.¹ In 1963, the Vienna Convention on Civil Liability for Nuclear Damage (Vienna Convention), was negotiated under the auspices of the IAEA. Unlike the Paris Convention, it is a treaty of universal character, i.e. open for adherence by any State. The Vienna Convention entered into force in 1977 and currently has 33 Parties.

3. The two instruments, while differing in some specific provisions, are practically identical as regards the substance of major liability rules. Both instruments enunciated the same fundamental principles which form the basis of the existing international regime of nuclear liability, namely: absolute (strict, no-fault) liability channeled exclusively to the operator of a nuclear installation; limitation of liability in amount and compulsory financial coverage of liability; limitation of liability in time; unity of jurisdiction and enforcement of judgments, and non-discrimination based on nationality, domicile or residence. These principles apply both to incidents at a nuclear installation and during transport of nuclear material. The above-mentioned differences existing between the two conventions do not affect their fundamental common principles.

4. Notwithstanding the close similarity, for years the Vienna Convention and Paris Convention operated in parallel without an established interconnection with each other. Given the drawbacks of such separated existence of the two basic liability instruments (e.g. restricted extent of liability coverage due to the distinction between Contracting and non-Contracting States, potential conflict of law arising from possible application of both conventions to the same incident) the issue of relationship between them became topical. Discussion on finding a solution to this problem was

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1. Subsequently, it was supplemented by the Brussels Supplementary Convention which establishes, also at the regional level, a system of State compensation where the damage exceeds the operator liability.

underway already in 1970s. Following the Chernobyl accident, it was re-activated as a priority matter in the context of the comprehensive review of nuclear liability undertaken by the IAEA in cooperation with the OECD NEA. A group of governmental experts set up by them prepared a draft text of a relationship instrument.² In 1988, the combined effort of the two organizations resulted in the adoption by a diplomatic conference convened under the IAEA auspices of the **Joint Protocol Relating to the Application of the Vienna Convention and the Paris Convention** (Joint Protocol). It entered into force in 1992 and now has 24 Parties, nine of them being Parties to the Paris Convention.

Joint Protocol: Content and Operation

5. The Joint Protocol is a full-scale instrument: it has a preamble, an article on definitions, three operative articles and seven procedural articles (final clauses). The preamble refers to the Vienna Convention and Paris Convention, points out their similarity in substance and that no State is Party to both, underscores that adherence to either convention by Parties to the other convention may lead to difficulties resulting from their simultaneous application to the same incident. And finally, it defines the objectives of the Joint Protocol, namely: (1) to establish a link between the Vienna Convention and the Paris Convention by mutually extending the benefit of the special regime of civil liability for nuclear damage set forth under each convention; (2) to eliminate conflicts arising from the simultaneous applications of both Conventions to a nuclear incident.

6. As stated above, one of the objectives which the Joint Protocol aims to achieve is to establish a link between the Vienna Convention and the Paris Convention. In the absence of interconnection, States participating in one convention were non-Contracting States under the other convention. Given the geographical scope of application³ of the Vienna Convention and the Paris Convention and their rules on the transfer of liability between operators of non-Contracting States, this entails the following consequences: (i) neither instrument, as a general rule, applies to damage suffered in the territory of a State Party to the other instrument (especially relevant in the cases involving land-based installations); (ii) neither instrument applies to incidents occurring, in a State Party to the other convention (especially relevant to transport cases); (iii) both instruments apply to incidents occurring and damage suffered on or above the high seas which may result in their simultaneous application. Therefore, persons suffering nuclear damage in non-Contracting States would have to claim compensation not under the nuclear liability instruments but rather under the general law of torts or transport conventions.

2. Some other options, e.g., simultaneous adherence to both conventions, adoption of a new instrument, termination of one instrument to the benefit of the other were abandoned for various practical, legal and political reasons.

3. The Paris Convention provides, as a general principle, that it does not apply to damage or incidents in the territory of a non-Contracting State, but allows Contracting Parties to extend its coverage to such cases by national legislation with respect to their own operators. The NEA Steering Committee recommended the extension of coverage to: incidents occurring and damage suffered on the high seas [NE/M(68)1]: damage in a Contracting State or on the high seas on board a ship registered in a Contracting State even if the incident has occurred in a non-Contracting State [NE/M/(71)1]. The Vienna Convention has no provision regarding its geographical scope of application. In 1964, the IAEA Standing Committee for that Convention expressed the view that the Convention applies to nuclear damage suffered in the territory of Contracting States and on or over the high seas even if the incident occurred in a non-Contracting State or on the high seas, but it does not apply to nuclear damage in the territory of a non-Contracting State wherever the nuclear incident occurs.

7. The following examples⁴ illustrate the legal situation that obtains in the absence of a link between the Vienna Convention and Paris Convention.

- a) An incident occurs at a nuclear installation in a State Party to the Paris Convention and causes damage in the territory of a State Party to the Vienna Convention. The Paris Convention would not be applicable as the damage occurs in a non-Contracting State. The legal situation would be the same in the opposite case;
- b) Nuclear material is sent by an operator in a State Party to the Paris Convention to an operator in the State Party to the Vienna Convention with the written agreement of the latter. A nuclear incident occurs in the State Party to the Vienna Convention before the material is unloaded from the means of transport and causes damage in the State Party to the Paris Convention. In this case, neither convention would apply: the Paris Convention does not apply (as a general rule) since the incident occurred in a non-Contracting State; the Vienna Convention does not apply either since the damage is suffered in a non-Contracting State;
- c) If in the above case the incident occurs in the State Party to the Paris Convention and the damage is suffered in its territory and also in the State Party to the Vienna Convention, the Paris Convention would apply to the damage in the State Party to it [the operator being liable pursuant to Article 4(a)(iv) of that convention]. The receiving operator in the State Party to the Vienna Convention would be liable for the damage occurring in that State pursuant to Article II.1(c)(iv);
- d) In case a nuclear incident occurs on or over the high seas and the damage is caused there, the Paris Convention would apply in accordance to the NEA Steering Committee's recommendation [NE/M(68)1], the operator being liable pursuant to Article 4(a)(iv). Following the above-mentioned interpretation by the IAEA Standing Committee, the Vienna Convention would also apply, the operator in the State Party to it being liable under Article II.1(c)(iv). The courts in the State Party to the Paris Convention [Article 13(b)], as well as the courts of the State Party to the Vienna Convention would have jurisdiction for the same incident and damage [Article XI.2].

8. The objective of linking the two conventions is achieved by the provisions of Article II of the Joint Protocol which establish liability of the operator in a Contracting Party to one Convention for nuclear damage suffered in the territory of a Party to the other Convention. The liability is determined in accordance with the convention adhered to by the Installation State of the liable operator. Thus, the territorial scope of the two conventions is mutually extended to cover damage suffered in the territories of States Parties to the other convention and on or over the high seas: the maximum amount of the operator liability is determined by his Installation State's legislation pursuant to the convention to which it is Party and is distributed to compensate damage suffered in States Party to the Vienna/Paris Convention and the Joint Protocol without discrimination. The provisions of Article II do not mention the place of the incident that causes damage. It is understood that this issue is to be governed by the national legislation implementing the relevant convention (the clause that the operator is liable "in accordance with that Convention" means to include the implementing national legislation of the Installation State). Thus, where a State Party to one convention and the Joint Protocol has extended the coverage of the convention to the damage suffered in other Contracting Parties to that convention even if the incident causing the damage has occurred in the territory of a non-Contracting

4. LEG/DOC(87)3.

State, the operator of the said State Party will also be liable in such a case for the damage suffered in States Party to the other convention and the Joint Protocol (e.g., the case of a State Party to the Paris Convention and the Joint Protocol which has implemented the relevant recommendation of the Steering Committee).

9. The establishment of a relationship between the Vienna Convention and Paris Convention may lead to the increase of the number of victims entitled to compensation which may negatively affect the position of victims in Contracting Parties of either convention. However, this consequence is inherent in the two conventions as such and the Joint Protocol does not bring in something new in this regard. In particular, under the Paris Convention, Contracting Parties are allowed, without consent of other Parties, to extend by the national legislation the application of the convention in respect of their own operators to the damage suffered in the territories of non-Contracting States. While the Vienna Convention does not contain a specific provision in that regard, it is assumed that such extension is also allowed. The fact that no State Party to the Vienna Convention which has not adhered to the Joint Protocol has objected to its expanded coverage confirms that this understanding is correct.

10. The second objective of the Joint Protocol, i.e. to eliminate conflicts due to possible simultaneous application of the Vienna Convention and the Paris Convention, is accomplished by the provisions of Article III. It sets forth the principle that only one convention should apply to the same incident to the exclusion of the other. In order to achieve this, two choice of law rules are established the thrust of which is that the applicable convention should be that to which the Installation State of the liable operator is Party, i.e. the convention which corresponds to his national law.

11. The first conflict rule applies in the case of an incident occurring in a nuclear installation. It proceeds from the territorial factor: the applicable convention is that to which a State is Party in whose territory the installation is situated. The second conflict rule relates to incidents during transport of nuclear material. In this case the applicable convention will be that to which the Installation State is Party whose operator is liable pursuant to the specified (identical) provisions of the two conventions, namely: Article II.1(b) and (c) of the Vienna Convention or Article 4(a) and (b) of the Paris Convention. Pursuant to Article IV of the Joint Protocol the said provisions are applied “in the same manner as between Parties” to either convention, which allows the determination of the liable operator to be made in accordance with the rules applicable in the case of operators of States Parties to either convention. Thus, if nuclear material is sent from an operator of a State Party to both the Paris Convention and the Joint Protocol to an operator of a State Party to the Vienna Convention and the Joint Protocol, and the incident occurs in the latter State, the liable operator will be determined by the above-mentioned identical provisions of both conventions relating to Contracting Parties, i.e. by the terms of a contract or actual taking charge of the material. Further, under both conventions, jurisdiction in this case will lie with the courts of the State Party to the Vienna Convention, while the law of the Installation State of the liable operator will determine the amount of liability. In transport cases the competent court may have to apply foreign law (national law implementing the convention to which the Installation State of the liable operator is Party), but this mainly concerns the amount of compensation, while under both conventions the nature, form and extent of the compensation as well as the equitable distribution thereof are governed by the law of the competent court [Article VIII of the Vienna Convention and Article 11 of the Paris Convention].

12. Article IV of the Joint Protocol specifies the applicable operative articles of the Vienna Convention [Articles I to XV] and the Paris Convention [Articles 1 to 14] and states that they are applied “in the same manner as between the Parties” to either convention. Actually, it is this provision that brings about the link” between the two instruments. Thus, Parties to either convention no longer treat each other as non-Contracting States, which enables victims suffering damage in a State Party to one Convention to claim compensation for damage caused by an incident covered by the other

convention on an equal footing with victims in States Party to the latter. As the mutual application of the operative articles should be “as between Parties” the principle of equal treatment and non-discrimination come into play (e.g., Parties to one convention cannot limit the amount of compensation available under their legislation to the amount available in the Parties to the other convention).

13. Since under the Joint Protocol, Parties to the Vienna Convention and Paris Convention do not mutually treat each other as non-Contracting States as regards either convention, it may be said that the Joint Protocol abolishes the application of the notion of non-Contracting State with respect to its Parties. This does not, however, result in conferring on Parties to one convention the status of Parties to the other convention. This is emphasized by the above-mentioned clause in Article IV that the two conventions are mutually applied “in the same manner as between Parties”. Also, the procedural articles (final clauses) of both conventions which set forth the rules for becoming a Party are excluded from the application in the context of the Joint Protocol.

14. For the purposes of the Joint Protocol, the Vienna Convention and Paris Convention are defined to include “any amendment thereto which is in force for a Contracting Party to this Protocol” [Article I]. It means that Parties to the Joint Protocol which will adhere to the revised Vienna Convention (1997) or revised Paris Convention (2004) will have, upon their entry into force, to apply those instruments in respect of other Parties to the Joint Protocol.

15. Only Contracting Parties to the Vienna Convention and Paris Convention may adhere to the Joint Protocol. It ceases to apply to a Contracting Party which has terminated the application of either convention.

Conclusion

16. The Joint Protocol has linked the Vienna Convention and Paris Convention into one expanded regime which substantially improves the liability protection of victims of nuclear accidents. While it has not established a uniform global regime (a number of States with large-scale nuclear programs remain outside the system), it is an important step towards that goal.

**NOTE BY THE OECD/NEA SECRETARIAT – ISSUES CONCERNING THE
INTERPRETATION OF THE JOINT PROTOCOL RELATING TO THE APPLICATION OF
THE VIENNA CONVENTION AND THE PARIS CONVENTION**

1. The purpose of this Note is to bring to the attention of workshop participants certain issues concerning the interpretation of the Joint Protocol which have been raised by Dr. Norbert Pelzer, representative of Germany on the Nuclear Law Committee.
2. Dr. Pelzer's comments refer specifically to the second scenario being used for this workshop, namely a transport accident taking place on board a ship along the Danube during transport from Germany to Romania. The accident occurs within Hungarian territorial jurisdiction but a German nuclear operator is liable for the damage that occurs. Further information on this scenario is available in the document entitled "Accident Scenarios, Methodology and Questionnaire" which was circulated on 25 February 2005.
3. We reproduce here extracts of correspondence sent by Dr. Pelzer to the NEA Secretariat which outline the issues under consideration:

"Thank you for sending the scenarios for the Bratislava workshop. I took a first glance and think that everything is well prepared and organised. However, I have a little problem with your interpretation of the concept of "non-Contracting State" under the Joint Protocol (JP) (last paragraph of p. 8 of the English version of the accident scenarios). You state that since both States are Parties to the JP, the VC State is no longer considered as a non-Contracting State to the PC [Article IV JP], and the two operators may make their own arrangements as to the transfer... I have doubts as to whether Article IV actually makes a PC State a Contracting Party to the VC and vice versa. You may remember that during the negotiations of the JP, there was general consensus that the JP would not make a Contracting Party to one Convention a Contracting Party also to the other one. The JP only aims at mutual extension of the benefits of each of the Conventions.

It is true that Article IV of the JP stipulates that the operative parts of each Convention shall be applied as between Contracting Parties of the respective Convention. Nevertheless, it does not mean that a VC State becomes a Contracting Party to the PC and vice versa. This will be quite obvious if we take the following scenario:

There is a transportation from the Czech Republic via Germany to France. The sending Czech operator assumes liability. In the territory of Germany, there is a nuclear accident. Which court is competent? Since the Czech operator is liable, the VC is applicable to the case [Article III paragraph 3 JP]. According to Article XI paragraph 1 of the VC, jurisdiction over actions shall lie with the courts of a Contracting Party within whose territory the nuclear incident occurred. That would mean that the German court would be competent – if we assume that the JP makes Germany a Contracting Party to the VC.

If this interpretation is correct, it would result in two courts competent for the case: the German court in relation to VC/JP States based on Article XI paragraph 1 VC/Article IV JP, and the Czech court vis-à-vis VC States that are not Parties to the JP based on Article XI paragraph 2 VC. The fathers of the JP certainly never aimed at establishing two competent courts for the same nuclear incident. According to my view, this case can only be satisfactorily solved if we do not assume that the JP makes Germany a Contracting Party to the VC. In that case, Article XI, paragraph 2 VC would apply, which would lead to the exclusive competence of the Czech court. I think only this result is in line with the concept of the liability conventions. I admit that the language of Article IV of the JP is a little misleading because it makes the entire operative part of the respective Convention applicable, and people could very well conclude that Article XI paragraph 1 VC or the respective provision in the Paris Convention would also apply to transport cases in a JP State. I also think that the operators involved in the transportation are free to make their own arrangements on the transfer of liability irrespective of whether they are Parties to the same basic Convention. That can be concluded from Article III paragraph 3 JP.”

4. The NEA Secretariat responded to these comments by confirming that in its view, adherence to the JP does not result in making a country a Contracting Party to the “other” Convention in the meaning of general treaty law. However, the Secretariat indicated that the JP clearly eliminates the distinction between Contracting Parties and non-Contracting Parties in respect of the “functional” relations among PC/VC countries which are also Party to the JP as far as the operative provisions of both Conventions listed in JP Article IV are concerned (and this of course includes the provisions on jurisdictional competence). The Secretariat therefore drew the conclusion that in respect of an accident involving only PC/VC countries that are also Party to the JP, the rules giving competence to the courts of the accident State should apply. On the other hand, to the extent that non-JP States would be involved because of damage suffered in their respective territories, there may be a problem if they object to the designation of the competent court under the rules of the JP.

5. Dr. Pelzer responded again and we reproduce here the most relevant excerpts:

“According to your view, in the 2nd Bratislava scenario the Hungarian court would be competent. This follows from Article IV JP which according to your interpretation does away with the distinction between Contracting Party and non-Contracting State. This interpretation entails the following legal situation:

- Victims from PC/JP and from VC/JP States: The PC applies [Article III(3) JP]. The Hungarian Court is competent [Article IV JP, Article 13(a) PC]. The Hungarian Court applies the PC as implemented by German law. The BSC will not be applied [Article 2 BSC];
- Victims from VC States not Party to the JP (e.g. Russia): The VC applies. The Hungarian Court is competent [Article XI(1) VC]. It applies the VC and implementing Hungarian law. However, I think there is no liability of the German operator under either the old or new Vienna Convention without the JP;
- Victims from PC States not Party to the JP (e.g. Belgium, France, UK): The PC applies. The German Court is competent [Article 13(b) PC]. It applies the PC and implementing German law. The BSC does not apply because the incident occurred entirely in the territory of a non-Contracting State to the BSC [Article 2 BSC].

If you follow my interpretation, we have the following situation:

- Victims from PC/JP and from VC/JP States: The PC applies [Article III(3) JP]. The German Court is competent [Article 13(b) PC]. It applies the PC as implemented by German law. The BSC will not be applied [Article 2 BSC];
- Victims from VC States not Party to the JP: The German law does not apply [Article 2 old PC]. Victims from Vienna States may bring their claim at the German Court. The PC as implemented by German law applies. The BSC does not apply [Article 2 BSC];
- Victims from PC States not Party to the JP: The PC applies. The German Court is competent [Article 13(b) PC]. It applies the PC as implemented by German law. The BSC does not apply [Article 2 BSC].

There are two disadvantages to your interpretation. It provides for two competent courts for the same incident. It obliges the Hungarian Court to apply German law. As far as I can see, the concept of non-Contracting State is only used in the provisions on the territorial scope, on transport and on jurisdiction (perhaps I overlooked another operative provision). In those provisions the concept makes sense. If one follows your interpretation, Articles 4(a)(iv) and (b)(iv) PC and II(1)(b)(iv) and (c)(iv) VC would be meaningless among JP States. I have my doubts as to whether that is correct. And finally, Article 2 of the revised PC expressly refers to VC/JP States as “non-Contracting States”, and I think that is exactly what they are. The same applies to the provisions on jurisdiction. Article IV JP does not change the status of the JP States in relation to that liability convention to which they are not a Contracting Party.

The floor is open. Have fun!”

6. The NEA Secretariat felt it would be useful to draw this exchange of views to the attention of Workshop Participants in advance to allow them to further reflect on the interpretation of the Joint Protocol. Participants are also directed towards the article by Otto von Busekist entitled “A Bridge Between two Conventions on Civil Liability for Nuclear Damage: the Joint Protocol Relating to the Application of the Vienna Convention and the Paris Convention published in *Nuclear Law Bulletin* No. 43, available at www.nea.fr/html/law/nlb/NLB-43-EN.pdf, from pages 10 to 39.

INTERPRETATION OF THE JOINT PROTOCOL IN TRANSPORT CASES – THE GERMAN POSITION*

by Dr. Norbert Pelzer**

The Joint Protocol is an instrument which has been highly appreciated from its inception, but it is also rather an “unknown” instrument. There are very few articles that have been written on the Joint Protocol, with the notable exception of the Otto von Busekist article entitled “A Bridge Between two Conventions on Civil Liability for Nuclear Damage: the Joint Protocol Relating to the Application of the Vienna Convention and the Paris Convention” which was published in *Nuclear Law Bulletin* No. 43. Mr. von Busekist took part in the negotiations that led to the adoption of this instrument and was referred to as the father of the Joint Protocol.

The second scenario for our workshop is a transport one, involving a nuclear incident in the territory of a Vienna Convention/Joint Protocol State (Hungary), with the liable operator situated in a Paris Convention/Joint Protocol State (Germany). This case provides the opportunity to put the “unknown” Protocol to the test.

The relevant Article of the Joint Protocol to determine which Convention is applicable to our scenario is Article III. Let us take a closer look at that Article. Paragraph 1, providing that either the Vienna Convention or the Paris Convention shall apply to a nuclear incident to the exclusion of the other, poses no problem. Paragraph 2, which provides that in the case of a nuclear incident occurring in a nuclear installation, the applicable convention shall be that to which the State is a Party within whose territory that installation is situated, is simple and convincing. Paragraph 3 deals with our case to hand, namely transport. It provides that in the case of a nuclear incident during transport, the applicable Convention shall be that to which the State is a Party within whose territory the nuclear installation is situated whose operator is liable pursuant to the Vienna or Paris Convention.

Otto von Busekist states that the conflict rule in transport cases was perhaps the most disputed one during the negotiations, not so much because of its substance, but because of its wording. The final result is a deviation from the usual drafting of conflict rules. Normally, the choice of law is made on the basis of domicile, nationality or the place where the incident took place. Article III paragraph 3 of the Joint Protocol, on the other hand, refers to a legal provision or even to a legal consequence. Conflict rules are designed to enable the judge to find the applicable law. Here, the provision offers a result for legal consequences but not for legal interpretation.

In the second scenario, it is stated that the German operator has assumed liability and therefore, in accordance with Article III paragraph 3 of the Joint Protocol, the Paris Convention is the basis of liability. It follows that the competent court has to apply the Paris Convention. From the point of view

* This text has been prepared by the NEA Secretariat based on the presentation delivered by Dr. Pelzer at this workshop.

** Dr. Norbert Pelzer is a Retired Academic from Göttingen University.

of the law of conflict, this is a strange starting point, and triggers a question: Is it desirable or acceptable that the court of a Vienna Convention/Joint Protocol State will be obliged to apply the Paris Convention and, as a consequence, the domestic legislation of another State implementing the Paris Convention? In other words: Is it acceptable that the court will be obliged to entirely apply foreign law to the case? Otto von Busekist points out that the application of the foreign law should be limited to the amount of liability, while the nature, form and extent of the compensation should be governed by the law of the competent court. This is a simplified interpretation, and there are many more issues than the liability amount governed by the foreign operator's law. Both the Paris and Vienna Conventions establish imperfect regimes which require the assistance of domestic law to implement them.

Let us turn to the question of the competent court in the second scenario. The Article to be applied is Article IV of the Joint Protocol. Since the operator liable is German, the operative Articles of the Paris Convention shall be applied [Article IV paragraph 2]. Article 13 of the Paris Convention determines jurisdiction. Paragraph (a) deals with incidents occurring in a nuclear installation. Paragraph (b) deals with incidents taking place outside the territory of the Contracting Parties. So, which part of Article 13 is in fact applicable to the second scenario? The NEA Secretariat feels that Article IV of the Joint Protocol does away with the concept of non-Contracting State. This is in line with the von Busekist article explaining the abolition of the distinction between Contracting Parties and non-Contracting States. In this context, Otto von Busekist refers to the jurisdiction provisions in both conventions. Consequently, the Secretariat concludes that the rules giving competence to the court of the accident State should apply, which leads to the competence of the courts of Hungary in accordance with Article 13(a) of the Paris Convention and in accordance with Article XI paragraph 1 of the Vienna Convention.

I come to another conclusion, namely the competence of the German courts. The Joint Protocol does not abolish the distinction between Contracting Parties and non-Contracting States, it only mutually extends the benefits of one Convention to the victims in the territory of the other Convention. Vienna States are not made Paris States and vice versa. Hence, Article 13(b) of the Paris Convention is the provision to determine the competent court. Article XI of the Vienna Convention may not be applied because its application would be in contradiction to Article III paragraph 3 of the Joint Protocol.

Since a German operator has assumed liability, the Paris Convention applies. I have said that the Paris and Vienna Conventions require implementation at domestic level. If a Hungarian court were competent to deal with the matter, the Hungarian court would have to apply the Paris Convention as implemented by German law. Is this a reasonable solution? Hungary is a Party to the Vienna Convention and its national legislation is designed to implement the Vienna Convention. Therefore, Hungary could by no means apply its national law to implement the Paris Convention. It would have to apply the German law, a solution which I do not believe would facilitate the bringing of claims.

However, there is an even more important reason which supports my view.

The interpretation that the Joint Protocol abolishes the distinction between Contracting Parties and non-Contracting States entails that the courts of two countries will be competent. In relation to Paris Convention States which are not Party to the Joint Protocol, as, e.g., Belgium, France, the United Kingdom, we would have to base the definition of the competent court on Article 13(b) of the Paris Convention. The German court would be competent. However, it would be necessary to apply Article 13(a) of the Paris Convention in respect of Paris Convention/Joint Protocol States and of Vienna Convention/Joint Protocol States which would determine the Hungarian court. That means two courts would be competent to hear claims based on the very same nuclear incident. Did the fathers of the Joint Protocol really intend this result?

One of the main objectives of the international third party liability regime is to channel claims to one operator and to one court. The above interpretation would be in conflict with this basic legal rule. However, we need to look more closely into the concept of non-Contracting State in Article 13(b). In principle, where the NEA Secretariat states that the Joint Protocol does not make Contracting Parties to one convention Contracting Parties to the other, this is also accepted by Otto von Busekist. Consequently, the mutual recognition is only a limited one and does not extend to the procedural provisions etc.

Article IV paragraph 2 requires Vienna Convention victims to be treated in the same manner as Paris Convention victims. *Vis-à-vis* Paris States victims, Article 13(b) without any doubt, is applicable and points at the German courts. If we would not apply Article 13(b) to Hungarian victims, we would do exactly what is not allowed under the Joint Protocol, namely we would not treat Hungarian victims in the same manner as Paris State victims. If we follow this simple interpretation, there will be no differentiation. In both cases, Hungary is a non-Contracting State and the competent court will be determined in accordance with Article 13(b) of the Paris Convention, resulting in the competence of the German court. The German court is the only court competent.

My interpretation is confirmed by the revised Paris Convention, and in particular by its revised Article 2. There is a clear differentiation between Contracting Parties to the Paris Convention and non-Contracting States which are at the same time Parties to the Vienna Convention and the Joint Protocol. If the Joint Protocol were really abolishing that distinction, this article would be superfluous or at least should have been drafted in a different way.

I understand that we may not be able to find and agree upon a solution to this issue within this forum, so I suggest that we do a little more in-depth investigation within the OECD Nuclear Law Committee and the respective committee of the IAEA, or perhaps a joint task force established by the two Agencies could look into this issue.

SUMMARY OF DISCUSSIONS*

Following Mr. Vladimir Boulanenkov's presentation on the Joint Protocol, a number of questions were raised concerning the interpretation of that instrument, in light of the Note prepared by the Secretariat and circulated in advance of the Workshop.

Professor Vanda Lamm of Hungary noted that a clear difference should be made between Contracting Parties and non-Contracting Parties to an instrument. It would be completely wrong to say that the Joint Protocol establishes a system whereby the Contracting Parties to one become Contracting Parties to the other. It is normal under international treaty law that non-Contracting Parties, i.e. third Parties, can have some rights and obligations pursuant to an instrument concluded by others, as is the case here.

Mr. Boulanenkov agreed with the comments made by Professor Lamm but noted that relevant provisions could apply in the same manner as between Parties.

Professor Vanda Lamm also thanked Dr. Pelzer for his very interesting presentation. She expressed some doubts about the competence of the Hungarian court. It seems to be unacceptable in terms of constitutionality that the Hungarian court would apply the Paris Convention. In this scenario, the German court should have jurisdiction and should apply the Paris Convention as implemented by German law. She also stated that if the other interpretation were to be retained, i.e. that the Hungarian court would be competent, then there could be a complaint lodged with the constitutional court on the grounds that the Joint Protocol could result in the application of an international treaty to which Hungary is not a Party. She suggested that an international seminar or conference be organised to address these issues.

Mr. Roland Dussart-Desart from Belgium stated that at first glance, he shared the views expressed by the NEA Secretariat. However, he considered that the presentation made by Dr. Pelzer did not contain any breach of logic and therefore could also be defended as a plausible interpretation of the Joint Protocol. He noted that the fact that the Hungarian court should apply the law implementing the Paris Convention is not a problem in itself as in Belgium, for example, the courts are used to applying foreign law. He suggested that it is necessary to organise an authoritative interpretation on this issue which would avoid further contestation.

Mr. Håkan Rustand from Sweden considered that the only argument against the German interpretation is that it seems to be very impractical and unfair to ask Hungarian victims living in the vicinity of the place of the incident to go to a court or insurer in Germany to present their claims. He noted that especially during this period of harmonisation of the international nuclear liability regimes, there are few differences between the revised Vienna Convention and the revised Paris Convention, and that therefore perhaps the Hungarian court could apply its own domestic legislation (which implements the Vienna Convention) with the exception of the amount.

* This text has been prepared by the NEA Secretariat based on the recordings of discussions at this workshop.

Mr. Marc Léger from France confirmed that his delegation's interpretation was similar to that of Dr. Pelzer, and noted that if any court other than the German court could be competent due to the operation of the Joint Protocol, then this would indeed be a very good reason not to ratify that instrument.

Professor Park from the Republic of Korea addressed a question to Professor Lamm from Hungary in relation to the constitutionality of the Joint Protocol and the requirement to have implementing legislation in order to apply the Joint Protocol in Hungary.

Professor Lamm replied that Article 7 of the Hungarian constitution contains provisions concerning the relationship between international and domestic law. She explained that the Joint Protocol is of course part of the Hungarian legal system, but that it may not be applied if, in so doing, it would lead to a conflict with the Constitution. If there is an interpretation of the Joint Protocol according to which the Hungarian courts should apply the Paris Convention, an international treaty to which Hungary is not a Party, this would be in conflict with the Hungarian constitution. Professor Lamm also noted that under the Hungarian Atomic Energy Act, if there is not enough funding available for compensation, the government can also decide on a *pro rata* distribution.

Mr. Omer Brown from the USA reminded participants at this workshop that one solution to this problem of interpretation of the Joint Protocol would be ratification of the Convention on Supplementary Compensation. He noted that only 72 nuclear power reactors are covered by the Joint Protocol, whereas 232 power reactors are not covered by any convention. Precedence should therefore be given to the global solution over the regional solution.

The Moderator echoed the comments made by others that this matter should be discussed in an appropriate forum, including those countries which are preparing to adhere to the Joint Protocol. He noted that the OECD Nuclear Law Committee is one possibility as it includes Paris Convention countries but also many Europe-based Vienna Convention countries. He added, however, that the Nuclear Law Committee would have no authority from an institutional point of view to express any view on the Joint Protocol. He wondered whether the INLEX group could examine this issue, or whether a meeting of the Contracting Parties to the Joint Protocol could be organised in order to address this important question.

Mr. Anthony Wetherall of the IAEA Secretariat agreed that this subject is important. He further noted that the Joint Protocol does not contain a mechanism for the resolution of disputes. He confirmed that the IAEA Standing Committee on Nuclear Liability is dormant, and that the INLEX group could be an appropriate forum within which this instrument could be examined, although its membership is not inclusive of all interested Parties. He suggested that this issue be added to the agenda of the next meeting of this group, scheduled for July 2005.

Mr. Bruno Sladonja from Croatia referred to Article 9 of the Joint Protocol and wondered whether a State, that had withdrawn from the Vienna Convention and acceded to the Paris Convention, should commence again with regard to the Joint Protocol and request accession for a second time. Mr. Boulanenkov considered that a strict reading of the text means that there would be a lapse of time between termination of one convention and application of the other. In this case, where there is a lapse, it would be necessary to re-request accession. However, if there were no lapse of time, this could be different.

The Moderator pointed to the only example in this respect which is Slovenia. Slovenia was already a Party to the Paris Convention when it notified its withdrawal from the Vienna regime. In

such circumstances there was no gap in the system and therefore the provisions of Article 9 need not apply.

The Moderator suggested that the discussion should focus on the part of the questionnaire which related to actions of the nuclear insurer and the claims procedure.

Mr. Dirk Harbrücker from the German Nuclear Insurance Pool referred to the fact that the pools are currently working out detailed rules on how to support each other in the case of cross-border claims, and that this would be presented in greater detail by Mr. Petr Záruba later on in the programme. There are at present no contractual obligations apart from the general obligation to assist one another. Subsidiary insurance companies in the respective countries would be asked to help. One problem that would exist is in identifying which law will be applicable for indemnifying victims abroad. In the event of a nuclear incident at an installation in Germany, insurance partners abroad would simply collect the claims and translate them, whilst following of course German law. In the case of a transport accident, this might be somewhat more difficult to handle.

Mr. Harbrücker also provided some further information with regard to emergency payments in Germany. First, there must be an obvious claim where there is no question about the liability of the operator and the existence of damage. Such payments would be limited in amount. Identification and signature of the victim would be necessary. The amount of such payments would be approximately EUR 500.

Dr. Norbert Pelzer, in response to a question from the Moderator, pointed out that there is no system for the prioritisation of claims in force in Germany. If there were to be a major accident with extensive damage, and the EUR 2.5 billion financial coverage were insufficient, then Section 35 of the Atomic Energy Act requires Parliament to issue a law to establish certain criteria for compensation. There is also a mechanism for test cases, where there are a number of cases which are similar, and only one person claims. Once judgement has been rendered, then all such similar claims will receive the same treatment.

Mr. Dave McCauley from Canada noted that when it is in the public interest to do so, the government has the authority to establish an administrative quasi-judicial tribunal, made up of retired members of the judiciary. The operator ceases to be liable and all the claims go to that tribunal for settlement. This procedure would only be used in cases where it is likely that the maximum liability of the operator would be exceeded.

Mr. Håkan Rustand from Sweden wondered whether in countries like Germany, where there is a first come, first served system, if the operator would continue to settle claims while unsatisfied victims pursue their challenges in respect of negative decisions before the courts. In Sweden, where it is obvious that there will not be sufficient funding to cover all claims, the government will issue a decree stating that all claims have to be reduced on a *pro rata* basis.

Mr. Stephen Griffiths from the United Kingdom noted that compensation would also be attributed on a first come, first served basis, but there is also the power to allocate extra funds when the operator funds are exhausted, and it is likely therefore that the government would make such funds available.

SPECIAL PRESENTATIONS ON INSURANCE

GAPS IN THE NUCLEAR INSURANCE REGIME*

by Mr. Sebastiaan Reitsma**

Insurers actively contributed to the negotiations to revise both the Vienna Convention on Civil Liability for Nuclear Damage (concluded in Vienna in September 1997) and the Paris Convention on Third Party Liability for Nuclear Damage (concluded in Paris in February 2004). We were invited to point out issues that could raise difficulties in respect of insurance coverage. For the purposes of this presentation, I shall refer most extensively to input provided by insurers in respect of the Paris Convention negotiations.

The objective of the Paris Convention is to provide financial protection to victims of a nuclear accident. I presume that most of you are aware of the existence of the international nuclear insurance pool structure which we use to obtain as much capacity as possible to cover this risk. The consequence of using insurance as the tool to provide financial security is its limited available capacity. The highest amount currently available is in Switzerland (EUR 634 million). When the Protocol to amend the Paris Convention comes into force, nuclear operators in all Paris Convention States will be required to obtain financial cover for their increased liability amount of EUR 750 million. Generally speaking, this amount is a realistic estimate of what the insurance industry in most countries can provide.

There are of course other aspects that might impinge on the availability of insurance. The original conventions do not comprise a specific definition of damage. The revised conventions, on the other hand, comprise a definition of damage which includes, *inter alia*, damage to the environment and preventive measures. Preventive measures taken by any person would not be considered an insurable risk in many countries, especially where such measures are taken before the accident actually takes place. In some countries, for example Switzerland, there may be a very limited amount of compensation available for such measures taken and ordered by the authorities, but as a rule I would say that there will be no such compensation. It would result in many practical and judicial uncertainties, not to mention speculative claims.

With regard to prescription periods, the extension for bodily injury claims to 30 years could cause problems in relation to proof of causality. Cancers usually manifest themselves years after exposure to radiation has occurred and it could be difficult to distinguish them from non-radiation-induced cancers. This 30-year period could also result in speculative claims, such as those which were made in the wake of the Three-Mile-Island accident in the United States. Also, insurers may encounter difficulties in compensating damage as a result of releases which have taken place within authorised radiation limits, and yet courts might argue that the ALARA principle requires that such compensation be paid. I would say that no insurance cover for periods exceeding 10 years will be available, and

* This text has been prepared by the NEA Secretariat based on the presentation delivered by Mr. Reitsma at this workshop. The PowerPoint presentation which he used is reproduced herein.

** Mr. Sebastiaan Reitsma is General Manager of the Swiss Nuclear Insurance Pool.

where national legislation has introduced a 30-year period, the national authorities accept that insurers limit their exposure to 10 years in this respect.

With regard to exonerations from liability, following a corresponding amendment to the Vienna Convention, the revised Paris Convention will no longer allow an operator to be exonerated from liability for nuclear damage caused by a nuclear incident directly due to a grave natural disaster of an exceptional character. As regards claims handling expenses, one of the underlying principles of the international pooling mechanism is that insurers make available more capacity than for conventional industrial risks, but on the basis that they will not have to pay more than they make available to their national insurance pool. As the liability limits established within the conventions are exclusive of claims handling costs, this is in conflict with the pooling mechanism's principles.

The events of 11 September 2001 cost between USD 30 and 40 billion alone. This figure might help put the whole terrorism question into perspective. Although this subject was discussed during the Paris Convention revision exercise, the Contracting Parties were not prepared to provide for a solution and therefore there is no exoneration for liability for third party damage resulting from an incident caused by a terrorist act in the conventions. Most countries still impose liability on their operators for such damage up to the full statutory limit, which results in an increased premium amount. In some countries, insurers provide only limited coverage, usually those which are perceived as being more exposed to terrorism e.g. the United States and the United Kingdom, and also in countries like Switzerland where there is a high limit. We have entered into consultations with our government and have come to a solution whereby insurers are only asked to cover half of what they cover for normal nuclear exposures. In one country, operators have no coverage as the national insurance industry does not provide coverage for terrorism in any field. This situation is likely to change.

By way of conclusion, I would say that the current trend towards higher compensation limits, as confirmed in the revisions of both the Vienna and Paris Conventions, leads to increased surveillance of private capital exposure and thereby poses a challenge to governments to provide alternative solutions.

Resume of Discussions following Mr. Reitsma's Presentation

Mr. Håkan Rustand, former Chairman of the Paris Convention revision negotiations, voiced a comment related to the concerns of insurers as regards preventive measures. He would have thought, from an insurer's point of view, that preventive measures would be welcome as they would serve to minimise damage that otherwise would have to be covered by insurance. In relation to the notion of "reasonable measures", he reminded participants that these are measures that are found under the law of the competent court to be proportionate. Mr. Rustand expressed understanding in relation to the comments made by Mr. Reitsma concerning terrorism, and noted that states have made a deliberate decision that it is in fact up to each state to take note of insurers' concerns and provide any necessary additional protection.

In response to Mr. Rustand's comment on environmental damage, Mr. Reitsma considered that as long as someone can prove possession of an element of the environment, e.g. a tree, and it is possible to prove that a loss has occurred, then there would be a compensable loss under the insurance policy. He noted for example that state forests are government property and would be compensated as such. However, a claim in relation to the general environment which is not owned by anybody would not be compensable.

Mr. Dirk Harbrücker, Manager of the German Nuclear Insurance Pool, noted in relation to claims handling costs that insurers are required to handle their exposure, and therefore are very

reluctant to provide unlimited liability in motor insurance and other classes of business. He noted that after 11 September 2001, capacity was reduced, and that Mr. Reitsma referred to the fact that in Switzerland, where the highest limit is available, the market was unavailable to provide full capacity including terrorism. He noted that in some national schemes, insurers and their clients have imposed certain limits on claims handling costs. By way of example, in the case of Three Mile Island, where there was no substantial release of radiation, it took a number of years to handle the claims, and at least 50% of the amounts awarded consisted of claims handling costs such as legal fees etc. He noted that as the revised Paris Convention is providing for an operator liability level of EUR 700 million in the future, he would anticipate that claims handling costs could be as high as EUR 300 or 400 million.

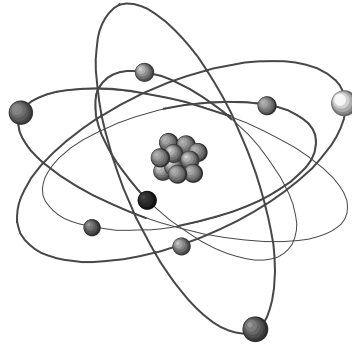
Mr. Roland Dussart-Desart, former Chairman of the Brussels revision exercise, expressed concern in relation to the comments made by Mr. Reitsma on the subject of the risk posed by releases of radiation within the legal limits. He noted that this subject has been raised several times before the NEA Nuclear Law Committee, where it was always concluded that this risk is covered by the Conventions. Mr. Marc Beyens, Legal Adviser of Electrabel, Belgium, expressed similar concerns.

Mr. Reitsma, in response, noted that one of the major principles of insurance coverage is that there has to be a loss that has been caused suddenly and accidentally. Insurers would have some difficulty therefore in covering damage which was caused by gradual contamination.

Mr. Gary Uricchio, of American Nuclear Insurers, noted that after the Three Mile Island accident, approximately USD 70 million was paid to the public over approximately 20 years. Fifty per cent of this represented claims handling costs. He noted that the non-meritorious claims must be defended in order to defend the integrity of the insurance. He confirmed that under the Price-Anderson Act, claims handling costs are included within the limit of liability for compensation, and that therefore this is not an issue for American insurers, but he appreciated the concerns expressed by other insurers in relation to this type of exposure.

Mr. Omer Brown, Attorney, noted that insurers are not public utilities; they are private entities and have no obligation to provide coverage. He stated that either the operator or the government would have to make up the difference.

Nuclear Liability Conventions: Challenges for Insurers



Introduction

Convention Objective :

Financial protection to victims of nuclear incident

Role of Insurers:

Provision of capacity to cover protection of victims

Consequence of Insurance:

Limits of insurability

Conventions and Insurance

Indemnity Limits

Conventions:

Minimum amount

Practice:

Different statutory insurance limits per country
(highest ca. € 634 M)

Convention Revisions:

Increased liability limits

Insurance Capacity Conditions

Conventions and Insurance

Concept of Nuclear Damage

Definition in revised Conventions

Impairment of the Environment

- Likelihood of causation problems
- Sudden, fortuitous and unforeseen damage
- Impingement on compensation for death/injury

Preventive Measures

- Practical and judicial uncertainties
- Speculative claims

Insurability Problems to Insurers unlikely

Conventions and Insurance

Prescription Periods

Conventions extend to 30 years for Bodily Injury:

- Proof of causality
- Speculative claims
- Authorised radiation limits

No Insurance Cover for Periods exceeding 10 years

Conventions and Insurance

Exonerations

Option to extend to grave national disasters deleted in Conventions

Insurance availability depends on national practice

Conventions and Insurance

Claims Handling Expenses

**Principle of International Nuclear Pools' Mechanism:
Known Finite Exposure Limit**

**Conventions' Limits are exclusive of
Claims Handling Costs**



Conflict with Pools' Mechanism Principle

Limitation of Claims Handling Expenses on National Level

Conventions and Insurance

Terrorism

No Exoneration in Conventions

Impact on Insurability

Present Situation:

- **Covered up to full statutory limit**
- **Limited coverage**
 - Particularly exposed countries
 - Countries with very high limit
- **No coverage**

Conventions and Insurance

Conclusions

**Convention Trend:
Higher Compensation Limits**

**Higher Limits > Increased Surveillance
of Private Capital Exposure**

Challenge to Governments

Conventions and Insurance

NATIONAL INSURANCE POOLS: CROSS-BORDERS CLAIMS HANDLING CO-OPERATION*

by Mr. Petr Záruba**

This presentation benefits from the input of the Finnish, Swedish, Belgian, French and Czech pools, with a special mention for the Swiss pool which made an important contribution. I invite you to examine Slide No. 2 which demonstrates a picture of the operating and active national nuclear insurance pools. Almost all of Europe is covered. Slide No. 3 shows the same picture in the rest of the world.

Slide 6 shows what we mean by claims handling. One area is domestic activity, with claims handling and the settlement of claims. On the international side, we mean assisting the pool in the country where the accident occurred. Such assistance can mean registering and filing claims, but also distributing information to the public, partner insurance companies or the state authorities, where necessary. Payment of claims should be the sole role of the national pool in the country where the accident occurred.

Slide 7 demonstrates how cooperation and assistance is stipulated in the rules and agreements signed between the pools. Standard rules contain basic principles. The last revision is No. 6 from 2004, which stipulates that if claims arise in the country in which the Reinsuring Pool is domiciled, this Pool agrees to assist the Ceding Pool in a manner and to such extent as agreed between the Ceding Pool and the Reinsuring Pool. This basic rule anticipates that there will be special bilateral agreements between the Ceding Pool and the Reinsuring Pool or even between a pool in a certain country and a pool in another country which is not a Reinsuring Pool. These bilateral agreements may be signed at any time, in particular when specific provisions in relation to costs are necessary e.g. in the case of an accident.

Slide 8 shows how a network in a particular country could look. This is simply an example and in many countries this scheme could be a little different. However, the idea is that victims would turn to a member insurance company of the pool. It is possible that assistance could also be provided from non-member companies of the pool. For example, the company with which the victim has domestic house and car insurance etc. The manner in which victims would file their claims is up to the arrangements in the particular country and depends on the technical possibilities. Some arrangements are made for web-based claims on standard forms in various languages. Such a web site would be activated only in the event of an accident or if the pool were asked for assistance. These files would then be handled by the member companies of the pool or, if the pool itself has an office like the Czech

* This text has been prepared by the NEA Secretariat based on the presentation delivered by Mr. Záruba at this workshop. The PowerPoint presentation which he used is reproduced herein.

** Mr. Petr Záruba is Manager of the Czech Nuclear Insurance Pool.

pool, then that office would be responsible for all the administrative management of claims. This would prevent disorder or duplication of files of victims.

This may not be the only way of filing claims and only represents one possible example. Victims could file claims directly for example with the operator or through the local authorities. If we look at it from the international side, this method would be activated if international pools are asked to intervene.

We have experience, especially in Europe, with mass claims, for example in the case of floods, where hundreds of thousands of claims are handled in a similar way. The cooperation between insurance companies is excellent, despite the fact that they are competitors. In the Czech Republic, we have tested this system to see how long it would take for member insurance companies to respond to a declaration of disaster or a situation calling for activation of the system. A test of a surprise nature was organized on 30 December 2004 at 3pm. Our target was to obtain a response from everybody expected to assist within 24 hours. The results were quite simply fantastic: the first response was obtained after four minutes and the last response was within four hours.

Resume of Discussions following Mr. Záruba's Presentation

The Moderator requested additional clarification on one point. In the event of an accident, victims could turn to individual member companies to introduce their claims. He wondered whether it would be even more effective to organise direct submission of the claims to the pool itself. He also wondered whether, in the case of relatively limited damage, victims would be inclined to enter their claims directly with the insurer, taking advantage of the third party liability regime which is, of course, designed to simplify matters. He considered that, in the case of a large-scale accident, the pool might suggest that a court decision were necessary before commencing the settlement of claims etc.

In relation to the first remark, Mr. Záruba considered that it might not be most effective to organise direct submission of all claims to the pool itself, as the offices of the member companies are most probably located all around the country and therefore are best located to intervene. He noted that the second question is a more complicated one, as it is very much dependant on the legal system in the country and the corresponding provisions in the atomic energy law. It is unclear as to whether a system which provides for "first come first served" is best or not. In any event, when claims are filed and registered, insurers should build up a reserve, to assist in calculating possible exposure. This would take into account persons who might encounter complications with their claim, as the money is set aside from the beginning.

The Moderator asked Mr. Záruba for further details as to the insurer's liberty to settle claims vis-à-vis the operator. What happens if the operator has different views than the insurer on the settlement of a particular claim? Mr. Záruba confirmed that in the Czech Republic for example, the victim does not have the right of direct access to the insurer and therefore the claim has to be filed with the operator. The operator may of course have a different opinion than the insurer, and the main question which would arise would be whether the money the operator would decide to pay would be repaid to him by the insurer.

Mr. Záruba also confirmed that, despite the absence of contractual arrangements to date, the insurers would hope and suggest that they handle the claims beyond the insured amount up to the total amount of liability. In response to a question from Dr. Norbert Pelzer, Mr. Záruba stated that the Installation State, which may be required to step in at a later stage and contribute funds, is not involved from the very beginning in the management of claims; the sole interaction is with the

operator. Mr. Håkan Rustand drew delegates' attention to the fact that there is no predetermined system for the handling of claims under the international tier pursuant to the Brussels Supplementary Convention. He noted that countries have relied too much on the assumption that this system would be somewhat self-executing, and noted that he would bring it to the attention of the domestic nuclear law committee which was set up to implement the changes to the Paris Convention.

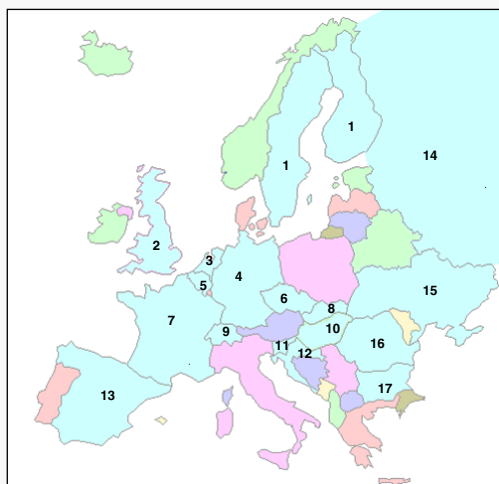
The Moderator noted in relation to the handling of claims under the BSC, that funds would be transferred to the Installation State by the other States, and then that Installation State would be required to delegate the management of such funds. While the Installation State is entitled to distribute such funds in accordance with the principles of the Conventions, the other Parties to the Brussels Supplementary Convention might express their opinion as to the proper allocation of funds.

INEX 2005

CLAIMS HANDLING

Bratislava 18-20 May 2005

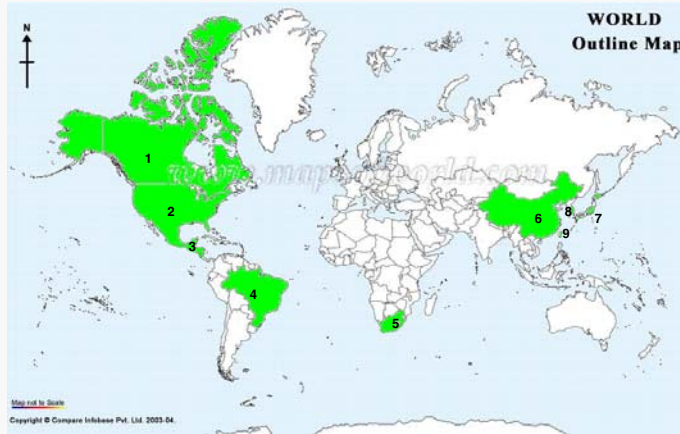
ACTIVE EUROPEAN NUCLEAR INSURANCE POOLS



NBR	POOL
1	NNI(FIN&SWE)
2	NRI (UK)
3	DUTCH ATOMIC POOL
4	DKVG (GER)
5	SYBAN (BEL)
6	CZECH ATOMIC POOL
7	ASSURATOME (FRA)
8	SLOVAK ATOMIC POOL
9	SWISS ATOMIC POOL
10	HUNGARIAN ATOMIC POOL
11	SLOVENIAN ATOMIC POOL
12	CROATIAN ATOMIC POOL
13	SPANISH ATOMIC POOL
14	RUSSIAN POOL
15	UKRAINIAN POOL
16	ROMANIAN POOL
17	BULGARIAN POOL

Bratislava 18-20 May 2005

ACTIVE NON-EUROPEAN NUCLEAR INSURANCE POOLS



NBR	POOL
1	CANADIAN
2	ANI + MAERP (USA)
3	MEXICAN
4	BRAZILIAN
5	SOUTH AFRICAN
6	CHINESE
7	JAPANESE
8	SOUTH KOREAN
9	TAIWANESE

Bratislava 18-20 May 2005

NUCLEAR POOLS' CROSS BORDER CLAIMS HANDLING GROUP 2005



INTERNATIONAL NUCLEAR POOLS' NETWORK

CLAIMS HANDLING PROCEDURES

Bratislava 18-20 May 2005



NUCLEAR POOLS HAVE ORGANISED CLAIMS HANDLING PROCEDURES

DOMESTIC

CLAIMS HANDLING WILL MEAN REGISTERING AND SETTLING CLAIMS

INTERNATIONAL

CLAIMS HANDLING WILL MEAN ASSISTING ANOTHER POOL IN REGISTERING AND FILING CLAIMS

Bratislava 18-20 May 2005



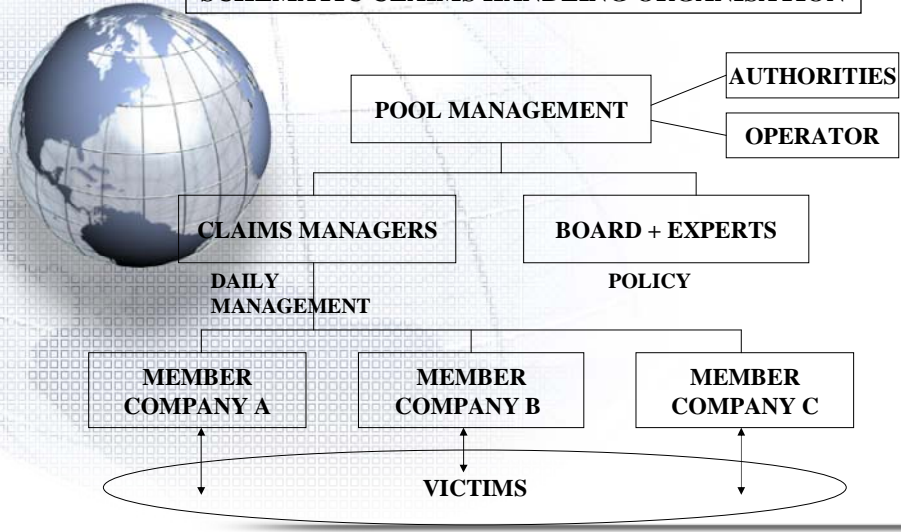
CROSS BORDER CLAIMS HANDLING WITHIN THE NUCLEAR POOLS' NETWORK

“STANDARD RULES”, THE REINSURANCE CONTRACT BETWEEN ALL TRADING NUCLEAR POOLS, STIPULATES IN ARTICLE 6:

“If claims arise in the country in which the Reinsuring Pool is domiciled this Pool agrees to assist the Ceding Pool in a manner and to such extent as agreed between Ceding Pool and the Reinsuring Pool”.

Bratislava 18-20 May 2005

SCHEMATIC CLAIMS HANDLING ORGANISATION



Bratislava 18-20 May 2005

BRATISLAVA 18 – 20 May 2005

CONCLUSIONS

GENERAL CONCLUSIONS ON WORKSHOP*

by Mr. Håkan Rustand**

I am most honoured today to have been asked to provide my conclusions on this very interesting second workshop on the indemnification of nuclear damage. The objective of the first workshop in this series was to integrate, for the first time, third party liability aspects into an international nuclear emergency exercise. Following the success of the first workshop, the Nuclear Law Committee proposed to organise the second workshop in this series. The focus this time was on the Vienna Convention on Civil Liability for Nuclear Damage, and on the Joint Protocol on the Application of the Vienna Convention and the Paris Convention, and the interaction that these two legal instruments present with the Paris Convention.

To fulfil this objective, we needed to invent two fictitious scenarios. The first one, the installation scenario, involved a fire taking place in a fuel storage facility at a fictitious nuclear installation in the Slovak Republic. A sizeable quantity of radioactive materials was released into the atmosphere and on-site and off-site emergency plans were activated. Extensive damage occurred, including personal injuries to site workers and emergency rescue staff, property damage, damage to the environment, damage to the tourism industry and ancillary service industries, and transport cancellations. The second scenario focused on a transport accident having taken place on board a ship transporting nuclear substances along the Danube River from Germany to Romania, when the ship is in Hungarian territorial waters and when a German operator has assumed liability for the consignment.

My general view is that we have been very successful in these three days of discussion, providing a very interesting exchange of views. One issue that attracted particular debate was the thorny question of claims handling. This was especially interesting for my delegation as we are in the process of implementing the revised Paris Convention at home and therefore this was of great use to us. The insurers have a clear picture of how they would operate, and the presentations by Mr. Reitsma and Mr. Záruba provided welcome clarity in this respect.

Another very interesting discussion followed our examination of the questionnaire and the issues raised in relation to the definition of damage, ranging from death and personal injury, agricultural and industrial products subject to actual and rumour damage, the tourism industry, the environment and transport services. The discussions revealed that there still exist differences in our legal systems, demonstrated by the different responses submitted to the questionnaire. This study may inspire people, upon their return to their capitals, to make changes to their own law if they feel that solutions currently available in other legal systems are desirable or preferable. Such harmonisation is desirable.

* This text has been prepared by the NEA Secretariat based on the conclusions delivered by Mr. Rustand at this workshop.

** Mr. Håkan Rustand is former Chairman of the Paris Convention revision exercise.

Another important issue is the key role played by nuclear insurers for the operability of the whole liability system. Mr. Reitsma cautioned us yesterday when saying that it might be difficult to obtain compensation for certain coverage, in particular the extension of the prescription period to 30 years. I respectfully disagree with him in relation to his interpretation as regards environmental damage where I think the gap might not be so big, as followed from his presentation.

One of the most debated issues was on this morning's agenda: the proper functioning of the Joint Protocol. We listened yesterday to Mr. Boulanenkov's excellent presentation on the background to this instrument and the context in which it was adopted. We then listened to Dr. Pelzer's excellent presentation which suggests that we had underestimated the ramifications of the practical application of this instrument. One solution, of course, to minimise the negative aspects, would be if all states would adhere to the Joint Protocol.

Another possible solution as outlined by Mr. Omer Brown was the Convention on Supplementary Compensation as a bridging instrument. When revising the Paris Convention, we were indeed most anxious not to jeopardize in any way the proper functioning of the Convention on Supplementary Compensation.

The importance of the proper operation of the early notification system has been demonstrated on many occasions in the past. The Secretariat has already noted that there have been substantial improvements in this regards since the first of these international workshops.

The objective of a workshop such as this is to stimulate people to return home with new knowledge about the practices of other countries, and to reflect at home on whether there may be room for improvement in domestic practices. In this regard, it can be said that an international workshop like this moves towards harmonisation amongst like-minded countries. I would like to conclude by thanking my distinguished colleagues here today for the interesting discussions, and by extending warm thanks to our Slovak colleagues and to the NEA Secretariat for the excellent organisation of this workshop.

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Indemnification of Damage in the Event of a Nuclear Accident

The Second International Workshop on the Indemnification of Nuclear Damage was held in Bratislava, Slovak Republic, from 18 to 20 May 2005. The workshop was co-organised by the OECD Nuclear Energy Agency and the Nuclear Regulatory Authority of the Slovak Republic. It attracted wide participation from national nuclear authorities, regulators, operators of nuclear installations, nuclear insurers and international organisations.

The purpose of the workshop was to assess the third party liability and compensation mechanisms that would be implemented by participating countries in the event of a nuclear accident taking place within or near their borders. To accommodate this objective, two fictitious accident scenarios were developed: one involving a fire in a nuclear installation located in the Slovak Republic and resulting in the release of significant amounts of radioactive materials off-site, and the other a fire on board a ship transporting enriched uranium hexafluoride along the Danube River. The first scenario was designed to involve the greatest possible number of countries, with the second being restricted to countries with a geographical proximity to the Danube. These proceedings contain the papers presented at the workshop, as well as reports on the discussion sessions held.