

Based on these discussions, Janice indicated that she would request that AID consider making FY 2001 funds for assistance available in the amounts of \$1 million for Ukraine, \$1 million for Russia, \$500K for Armenia \$500K for Kazakhstan. She said she would also ask AID to begin to consider what FY 2002 funds might be made available, and would suggest that AID consider providing \$4 million: \$1.5 million for Russia, \$1 million for Ukraine, \$750K for Armenia and \$750K for Kazakhstan. Janice noted that the Ukrainian new fuel project, the Chernobyl Shelter Implementation Plan (SIP) project, and the construction completion and licensing of the Khmel'nitsky 2 and Rovno 4 (R4/K2), facilities are of particular interest to the international community. In particular, the European Bank for Reconstruction and Development (EBRD) is considering a loan for the completion of R4/K2 and is seeking assurance that the Ukrainian regulator will be prepared to perform the requisite licensing reviews.

Jack said that with regard to the SIP and R4/K2 projects, the Ukrainian State Scientific Technical Center (SSTC) is receiving substantial international funding, though the regulator SNRA, is not. Fifty of the 60 positions at SNRA are filled, but 10 are not. The EBRD has not provided funds to SNRA because it did not want to give the appearance of a conflict of interest. So SNRA does not currently have the capability to manage the licensing process for R4/K2.

Jack added that for the SIP project, involvement of other government departments in the review and approval process was not well planned, and consequently no funding is available for the support needed from these agencies. The group acknowledged that it would be best that if, in connection with approval of the EBRD loan for the completion of R4/K2, the Ukrainian government would agree to provide assistance to the regulator. But at this moment, it is not clear that there is a solution.

The group also discussed the ANS/ENS upcoming meeting in Washington and the panel discussion on international cooperation, suggesting several topics that Janice may want to raise during her participation in the panel discussion. Janice noted that she plans to emphasize the value of regional cooperation.

- Attachments: 1. List of Attendees
- 2. Proposal for Establishment of CENS

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UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

November 30, 2000

NOTE TO: Janice Dunn Lee, Director
Office of International Programs

FROM: Elizabeth L. Doroshuk *Elizabeth L. Doroshuk*
Office of International Programs

SUBJECT: MEETING SUMMARY - WEEKLY FSU STATUS MEETING, NOVEMBER 7,
2000

Purpose:

The purpose of this note is to document the results of the weekly FSU Status Meeting, held on Tuesday, November 7, 2000. A list of attendees is included as Attachment 1.

Discussion:

Janice Dunn Lee began the meeting with a brief summary of the IAEA Technical Coordination meeting she attended in Vienna during the week of October 30, 2000. Janice noted that the meeting was very productive in that a list of FSU and CEE projects and their agreed upon priorities for the coming year was developed.

Janice provided the group with an interesting proposal made by the Swiss delegate to the meeting, Dr. S. Chakraborty, for a Center/Network for Nuclear Safety in Eastern Europe and CIS (CENS). A copy of this information is included as Attachment 2. Janice noted that she was favorably impressed by the entrepreneurial nature of the proposed Center, which might be located in Bratislava, Slovakia and funded initially by the Swiss with some international assistance, and later (after about 3-5 years) would become fee and membership based. This would require that the organization be designed to operate as a semi-independent, semi-commercial organization, which would have to actively seek cosponsors and clients from across the European Community.

Janice also mentioned that DOE continues to consider what the best approach should be for the Russian Core Conversion Project, and the question of how the U.S. can, in good conscience, support the continuing operation of these older plants for another five or ten years without certain safety improvements. Gordon added that neither does GAN feel these units can operate safely, but it will be difficult to continue to force the issue.

Janice informed the group that she would be meeting with Bill Taylor, AID later in the week. The group discussed NRC's accomplishments during the past year in terms of nuclear regulatory assistance activities in Russia, Ukraine, Kazakhstan, and Armenia, improvements that have been made for managing these programs at the NRC, and the AID funding provided for the work.

WEEKLY FSU MEETING

NOVEMBER 7, 2000

LIST OF ATTENDEES

1. **Gordon Fowler**
2. **Donna-Marie Perez**
3. **Jack Ramsey**
4. **Mary Carter**
5. **Janice Dunn Lee**
6. **Beth Doroshuk**

ATTACHMENT 1

Proposal for Establishment of:

Copies to:
1. JPL
2. DOE
3. DOW-NEU
4. BNL

Center/Network for Nuclear Safety in Eastern Europe and CIS (CENS)

S. Chakraborty, Swiss Federal Nuclear Safety Inspectorate
(slightly revised version, October 2000)

1. Background

There are a large number of power stations of different designs and vintages that are in operation in the countries of Eastern Europe and CIS. These include:

- * Channel-Type Boiling Water Reactors (RBMKs), and
- * Water Cooled Water Moderated Pressurized Water Reactors (WWERs).

The problems associated with the various designs, and vintages are essentially well known, and they have been subject to many investigations by the international nuclear safety community, including the International Atomic Energy Agency (IAEA).

Over the last 10 years, as a result of increased cooperation, and assistance by the international nuclear safety community (through bilateral, and multi-lateral programs), considerable progress has been made in improving the safety status of the operating nuclear power plants in the countries of Eastern Europe and CIS.

Even though, the achievements of the international assistance programs are visible and measurable; however, these activities are not always expected to become sustainable.

One of the important elements of the Convention on Nuclear Safety is the emphasis on independent and strong nuclear regulatory authorities in countries with operating nuclear facilities, and on cooperation between various nuclear regulatory bodies. This is attested to by the first review meeting (April 1999) of the contracting parties to this convention, which states among other things:

"That the status and position of the regulatory bodies remains an important topic to be dealt with in future. Special attention should be given to the development of assured human and financial resources."

"The importance of international co-operation between regulatory bodies for the enhancement of nuclear safety through bilateral and multilateral mechanisms was emphasized by all Contracting Parties."

One of the key matters is the training of engineers and scientists in the application of modern techniques for safety and risk analysis, and the dissemination of these methods.

to all levels of nuclear industry of the Eastern European and CIS countries. In particular, if the regulatory oversight functions of the reactors are to become truly independent, and effective, international support needs to be continued. The conclusions of the recent international conference on "Strengthening Nuclear Safety in Eastern Europe," held Vienna during 14-18 June 1999, quoted below, speak of the need to continue this support:

"Special mention should be made of successful efforts to strengthen the independence and technical competence of the nuclear regulatory authorities. Efforts should now concentrate on improving the depth and scope of the technical abilities of the regulatory authorities."

In the development of the Swiss bilateral program of support to Russia, Slovakia, and Ukraine, in the area of nuclear safety and regulatory analysis, the focus has been placed on a strategy to achieve sustainability through training of competent personnel in operational safety technology and regulatory oversight. However, overall sustainability in nuclear safety oversight would require the recipient countries to continue moving in the direction of:

- * Training and transfer of technology for effective regulatory inspection and oversight.
- * Safety analysis through use and application of modern/advanced computer codes and methods and safety documentation.
- * Risk-informed performance-based operational improvements and regulatory implementation.
- * Continued implementation of international safety standards and good practices for plant modernization.
- * Development and promotion of safety-guided organizational management.

One of the key elements of the Swiss assistance program of support has been, to encourage better coordination in order to reduce the potential for duplication of effort and/or overlap with other international assistance programs, including those of the European Commission (PHARE and TACIS), IAEA, and the United States bilateral programs.

2. Concept of Proposed Center/Network

It is recognized that an indefinite reliance on the Western assistance (technical and financial) cannot be expected, and is not desirable. Therefore, in developing a longer-term strategy for "sustainability," it is important to look into various alternatives and options, including institutional building and infrastructure development. Maintaining the proposed center as the focal point of networking between various scientists and experts is expected to be much easier as compared with keeping together a "team" of

key individuals. Individuals tend not to remain in same organizations for too long, as opportunities develop and people strive for progress. On the other hand, a network of experts or institutions, if based on solid foundations, should sustain their technical competence, and be long lasting.

Over the last few years, based on the experience with the Swiss assistance programs, it has become obvious that, in order to achieve sustainability, it is desirable to work towards the establishment of an either a center or a network. A center for nuclear safety should be located at a Central European location, with the objective of focusing on training engineers and scientists from Eastern European and CIS countries to fulfill primarily the needs of the regulators and also licensees (plant operators), designers, and other interested parties. In addition, such a center can also serve as a technical support and training center for independent evaluation and safety review studies, with an effective and efficient regional approach. Along these lines, a center has the potential to become a platform for the exchange of knowledge and experience. In fact, the commonalities in technical bases of the countries addressed by the project should permit value-added, efficient and easy access to information needed by nuclear safety authorities. Therefore, a seminal vehicle for independent and mutual help of concerned authorities would be created.

During the final plenary session of the recently held International Conference entitled, "Strengthening of Nuclear Safety in Eastern Europe" 14-18 June 1999 (IAEA, Vienna), Chairman Lipar of the Slovak Regulatory Authority proposed the idea for the formation of an international Safety and Risk Analysis Center for Eastern Europe. Key representatives from the Czech Republic, Hungary, Armenia, United States, and the European Union viewed this proposal very positively. This proposal was also reported with a very positive tone by the influential publication "Inside NRC."

To better realize the multiplicative effect of the Swiss bilateral programs (e.g., SWISSLOVAK, SWISRUS, SWISSUP, etc.) and other technical support programs, it would be desirable to establish the proposed center with technical support for training drawn from the senior members of these projects. Invited Western experts, on an as needed basis could also augment this process.

The aim of the proposed center is to provide the regulatory agencies with the opportunity to better benefit from the Swiss-sponsored technical assistance, training, equipment, and modern analysis methods/computer codes, to establish credible and independent safety analysis and risk management resources. The center is open also to countries not operating VVER reactors so that, in the end, revitalization of cooperation in the area of nuclear safety between East and West could be better realized.

The location of the proposed center could be in Bratislava, Slovakia. This is due to several important factors, including economic viability, availability of a technically competent scientists and engineers, forward looking nuclear power industry and regulatory organization, strong incentive from the Slovak Government, and close

proximity to Vienna, where a synergy with the IAEA can be easily accommodated.

The center/network can serve as the focal point of integration for internationally assisted programs for all central and Eastern European countries that wish to utilize its resources. It will serve the regulatory authorities in the area of personnel training, independent expertise, and information management.

If such a center would be created, specialized training programs will have to be developed. This training program can only be successful if it is formal, and it is aimed to issue formal "certification" that is based on the conduct of formal examinations.

On the other hand, the supporting function of the proposed center in the area of safety review and safety evaluation should complement the "higher level" support, currently being provided by IAEA. Specifically, the center should be able to go beyond the "top-level" IAEA-type services, by becoming an organization capable of undertaking risk-informed safety analysis studies. These types of studies could be commissioned by various regulatory authorities, and/or other relevant Eastern European and CIS organizations, on a specific contract basis (i.e., versus grant basis).

3. Objectives and Scope of the Proposed Organization

7.1 Objectives

The main objectives of the proposed center/network are (Figure 1):

- Training
- Expertise
- Training Information management

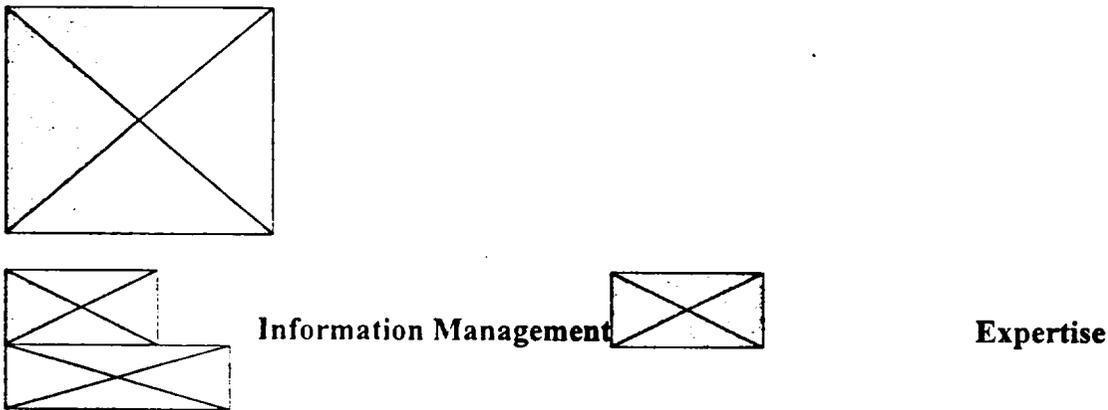


Figure 1 Pillars of the proposed CENS

The purpose of the center/network is to support, on a technical and scientific basis, the regulatory organisations in the eastern and CIS countries by making available expert resources from both east and west and to provide a foundation for a close co-operation between the participating countries. It should be noted that the most resources for selection of technical experts for the proposed network/center, will be the available experts from the existing Technical Support Organisations (TSOs) associated with the regulatory authorities, in some of the participating countries. In other words, the center aims to utilize the existing resources to better network amongst the experts in the participating countries, and as such, the center does not aim to replace, but to compliment the existing TSOs in supporting the regulatory decision making process.

4.1 Scope

The scope of CENS activities and programs include, for example, support to:

- Nuclear power plant licensing and safety management

- Nuclear facility decommissioning
- Waste Management
- Etc.

Training is one of the main pillars of CENS. It includes both short-term training in a course-type environment, or working on a specifically designed training project. It could also include longer-term training that would involve participation in conduct of a major study together with others. The instructors will include both experts from East and West.

In addition, the center will serve as an independent organization that would provide expert support to the regulatory authorities, and their respective governments, in nuclear regulatory and safety issues relevant to the specific design and operational matters applicable to the Soviet-designed nuclear power plants.

Information management system (IMS) comprises a data bank of generic and specific safety issues, regularly updated based on the information provided by the regulatory authorities and international organizations. Reliability data bank for Soviet/Russian-designed reactors will be a major activity of IMS. This will serve the plant-specific probabilistic safety analyses for the various nuclear power plants in the region. IMS will also provide a data bank of experts from East and West that could be called upon, in the times of need and emergencies.

Consistent with the aims of CENS in networking various experts, the number of permanent staff will be kept to an absolute minimum level that is required to maintain core expertise, continuity and to provide necessary support functions. On the other hand, CENS will rely heavily on applicants from various countries to serve as experts, and trainees.

This will reduce the potential for stagnation, and it should increase the opportunities for a larger number of applicants interested to participate in the CENS activities. Recognized Western experts will also be recruited and encouraged to contribute to the organization's programs, either as a short-term (days to weeks) or long-term (six months to one year) visitor.

The CENS support services will be primarily geared towards the needs of the nuclear regulatory authorities of Central and Eastern European and CIS countries; however, to the extent that it will not compromise the independence of CENS, support could also be provided to power plants and operating organizations. Special studies could also be performed under the auspices of Western and/or international sponsors, including Eastern and Western governments.

4. Financial Arrangements

The formation and build-up of such a center as a foundation will require careful planning. However, the overall financial requirements will have to be fulfilled considering both the short term and long-term plans. On the short term, the center should be financed by the Swiss assistance program, other resources, and supplemented by contributions from central and eastern European countries. Supplemental funding will have to be provided through international assistance, including the bilateral and multilateral arrangements, international organizations, European Union, etc. However, over the long-term (after about 3-5 years), the organization should become self-sustaining (i.e., fee and membership based). This requires, that the organization be designed to operate as a semi-independent, semi-commercial organization, which would have to actively seek sponsors, and clients from across the European Community (i.e., Eastern and Western Europe).

It is desirable to focus on creating a model that will be financially viable within the current competitive environment of the world economy. The emphasis should be placed on effective use of talent, and competence to meet the long-term technical, social, and economic objectives of the organization.

5. Potential Members

The participating member countries could include:

- * Armenia
- * Bulgaria
- * Czech Republic
- * Hungary
- * Lithuania
- * Poland
- * Romania
- * Russia
- * Slovak Republic
- * Slovenia
- * Ukraine

The associate members could include European Union member states and United States.