

April 26, 2001

MEMORANDUM TO: Elizabeth L. Doroshuk, Team Leader  
Team A  
Office of International Programs

FROM: Donna-Marie Perez */RA/*  
Team A  
Office of International Programs

SUBJECT: TRIP REPORT- JANUARY 2001 (TRAVEL TO LITHUANIA)

From January 27 to January 31, 2001, I was on official travel to Lithuania. The purpose of this trip was to participate in the 15<sup>th</sup> Licensing Assistance Project (LAP) meeting. The discussions focused on three main areas:

- 1) Diverse Shutdown System for Unit 2
- 2) Preparation of a Safety Analysis Report for Unit 2
- 3) Decommissioning of Unit 1

I also briefed the U.S. Ambassador on current and planned NRC assistance activities for the Lithuanian Nuclear Power Safety Inspectorate (VATESI).

A more detailed writeup of the discussions held is provided as Attachment 1.

Attachment: As stated

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TRIP REPORT  
TRAVEL TO LITHUANIA  
JANUARY 2001

The Diverse Shutdown System for INPP Unit 2

As a condition of the 1994 Grant Agreement, signed between the Government of Lithuania (GOL) and the European Bank for Reconstruction and Development (EBRD), a Safety Analysis Report (SAR) and its independent review (RSR) were carried out to assist in the preparations for licensing of the Ignalina Nuclear Power Plant (INPP). This project was overseen by a panel of international nuclear safety experts (ISP). Both the SAR and the RSR strongly recommended that a fully independent diverse shutdown system (DSS) be installed at Unit 2. The ISP placed DSS implementation as a high priority for maintaining safety at INPP.

Since 1999, NRC has provided support associated with the DSS for Unit 2. This support has continued to expand due to analysis, design, and procurement problems at the INPP. These have included delays in completing and then providing the required PRA and reliability inputs to the design, and inadequate design specifications which omitted any reference to electrical design standards such as IEEE or IEC. All of these have required re-work and then further review by LAP experts. The net effect has been an extension of the needed review/support effort of the LAP experts.

A concern expressed by the LAP Members is the use of a large number (80) of cluster rods in the current DSS design. LAP reviewers believe that there has not been enough experience yet with these cluster rods to have a high confidence that technical problems will not arise from issues such as mechanical strength, vibration, chemical corrosion, or mechanical reliability. INPP described upcoming tests that they believe will resolve these questions within the next year.

The overall schedule has continued to slip. The tender for the DSS will be issued in April 2001 and puts into jeopardy the requirement to install the system by the Unit 2 outage in 2003. The INPP insists that the overall schedule will be met. I asked if VATESI would permit Unit 2 to operate after the 2003 outage without a DSS. VATESI confirmed that Unit 2 would in fact not be permitted to operate after the 2003 outage unless this DSS system is in operation.

Preparation of a Safety Analysis Report for INPP Unit 2

The decision to prepare a Safety Analysis Report (SAR) was reached at an October 1999 meeting between VATESI and the INPP. INPP stated they plan to complete the SAR by March 2002, in time to support the licensing of INPP Unit 2 by the end of calendar year 2002. The Lithuanian Energy Institute (LEI) will be their prime contractor. We learned that LEI prefers to call upon TSO organizations within Lithuania if additional assistance is needed, and will look outside Lithuania only as a last resort.

VATESI's acceptance of the scope for SAR-2 includes a requirement to perform systems analysis for all vital safety systems and support systems, which makes the scope significantly broader than was the case for SAR-1. LAP members strongly endorse this project, particularly

the enlarged scope and the strong and effective program-management plan. I noted that a decision has been made by VATESI to follow NRC SAR guidance. The IAEA guidance document on this subject is still in preparation and will not be available until mid-2002.

It was noted that the existence within Lithuania of an organization (LEI) with both the technical and the managerial capabilities to run a project like this is very encouraging. I noted that the last several years have seen the continuing build-up of in-country capabilities in safety analysis, much of it supported financially by outside assistance.

The report about the plans to develop the SAR for INPP Unit 2 is tempered by a major problem on the regulatory side. Specifically, VATESI will need to review the SAR in enough detail to allow it to form a decision, technical-area-by-technical-area, on licensing Unit 2. But VATESI, although considerably stronger technically compared to a few years ago, clearly does not have enough in-house capability to perform such a review on its own. More importantly, we learned that VATESI also does not have enough financial resources to support an effective review by hiring outside experts to assist it. In the past, VATESI has been able to rely on support from a team of foreign experts, organized under the auspices of the LAP. At this point in time, it appears unlikely that the LAP consortium can muster enough financial resources to assist VATESI in carrying out an effective SAR-2 review. This situation places the burden firmly on the Lithuanian Government to provide VATESI with the resources needed to review SAR-2 and to license Unit 2, activities that are separate but very much inter-related.

#### Decommissioning for Unit 1

Under pressure from the EU, the GOL has agreed to shut down Unit 1 in 2005, and they plan to make a decision on Unit 2 by 2004. Lithuania's current plans regarding the second reactor coincide with a scheduled review of their energy strategy in 2004.

Progress reports on the pre-decommissioning activities for INPP Unit 1 were given by INPP manager Shevaldin and Chairman Kutas on the INPP and VATESI activities, respectively. Mr. Grabia of EBRD also gave a briefing on the activities concerning EBRD donor funding.

The INPP has established a special management unit within the plant structure that will have full responsibility for decommissioning. The most important activity now underway is the process of identifying a Project Management Unit (PMU). Given the tendering and procurement process, it will take approximately 6 months to put the PMU in place. INPP has identified a dedicated work space for the new unit, and is recruiting personnel to staff it from among the current plant employees.

Mr. Grabia explained the EBRD's new International Decommissioning Support Fund has already received a 44 million Euro pledge from the EC, as well as smaller pledges from 10 additional countries. While INPP would be the beneficiary of the 44 million Euro, the EC is planning to support VATESI with an additional 1 million Euro. The EBRD needs more detailed technical specifications upon which its participation can be based. The expectation is that, once the PMU is in place and the INPP's own decommissioning unit is more fully staffed, these specifications will be developed.

The most crucial decision is the selection of the target end-state for the decommissioning, as well as the timing. At present the “safe-store” option is favored on an interim basis, but the final decision will not be made until all of the options are thoroughly evaluated.

#### Potential VATESI Reorganization

Chairman Kutas reported on discussions within the GOL as to a possible reorganization, under which VATESI might be transferred under the Ministry of the Environment (VATESI now reports directly to the Prime Minister). Given that a new government was formed several months ago, the decision will likely be made in the context of broader government thinking about organizational issues.

LAP members agreed it would be inappropriate to comment on exactly where VATESI should report within the government. However, everyone strongly agreed that VATESI needs to remain independent of political pressures, adequately funded, and with the freedom to select issues it considers important, separate from the political issues-of-the-day.

#### Overall Financial Support for VATESI

LAP members have strongly urged that the GOL identify enough resources to allow VATESI to carry out a program that, in the next few years, will include several important projects that are distinct from its normal day-to-day operations of assuring INPP safety. The Agency for International Development (AID) has provided NRC with \$300,000 to assist VATESI on the DSS and SAR through September 2002.

#### Meeting with Ambassador Tefft

Ambassador Tefft is very interested in the Lithuanian energy sector in general, and Lithuanian nuclear issues in particular. He has requested that NRC debrief Embassy staff after attendance at LAP meetings. I focused the discussion on assistance NRC has provided to date and explained AID funding will expire in September 2002. This means NRC will be unable to support VATESI through implementation of the DSS (something AID had requested). The Ambassador stated that he recognizes the value NRC brings to the LAP meetings and fully supports NRC assistance to VATESI. He requested that the NRC representative talk with AID about providing additional resources and an extension in the period of performance.

I concluded the meeting with the Ambassador by noting that at the LAP meeting, and during several side-conversations, numerous issues were identified that cannot be resolved satisfactorily by VATESI without adequate resources, independence and enforcement authority.

#### Follow up meeting in Washington, D.C.

An inter-agency meeting was held in March, which included NRC, DOE, AID, State Department and the National Security Council. AID officials stated unequivocally that because the AID mission in Vilnius closed last year they are not authorized to obligate any additional funds. In addition, they are also unable to provide an extension to the 2002 period of performance. This information has been conveyed to the embassy in Vilnius.

