

**Report from the Emergency Prevention, Preparedness and Response  
(EPPR) Working Group to the SAO Meeting -  
Reykjavik, 9-10 April 2003**

**1. Introduction**

The EPPR Working Group has not met since the Ministerial meeting. The next Working Group meeting is scheduled for June 3-5 2003 in Murmansk, Russia.

Ms. Laura Johnston (Canada) became Chair of the Working Group in October 2002 for the period 2002-2004. Mr. Kjell Kolstad (Norway) is Vice-Chair for the same period. Canada will provide Secretariat support to the Working Group and Ms. Vicki McCulloch is now the Executive Secretary.

**2. Status of EPPR Projects**

***2.1 Shoreline Cleanup Assessment Technology (SCAT) Manual***

The project on developing an Arctic Shoreline Cleanup Assessment Technology (SCAT) manual is continuing mainly between US and Canada, with other countries providing input through correspondence. A draft report will be provided at the next EPPR meeting (June 2003). The final product, the Arctic SCAT manual, is expected to be available by the winter of 2003.

***2.2 Circumpolar Map of Resources at Risk from Oil spills in the Arctic***

The Circumpolar Map is accessible to the public through the EPPR website <http://eppr.arctic-council.org> as well as at <http://www.akvaplan.niva.no/eppr>. In addition, copies are available in CD format. Further development of the Circumpolar Map is included in the work plan for 2002-2004 and will be considered at the next EPPR meeting. Based on a proposal being prepared by Norway, the EPPR Working Group will consider how to address the updating and maintenance of the Circumpolar Map. Possible expansion to include resources at risk from radiological/other hazards, as well as natural disasters, is also under consideration. In addition, the other Arctic Council working groups will be consulted as to their interest in using these maps as a basis for a broader range of information. A decision on these questions will be taken at the next EPPR meeting in June 2003.

### **2.3 Table Top Exercise - Bilibino**

On August 21, 2002, a radiological accident exercise was conducted at Bilibino Nuclear Power Plant in Chukotka, Russia. The emergency scenario considered a worst-case accident at one of the plant's four reactors that have operated for more than 20 years. The scenario modeled the maximum release of radioactivity to the environment, leading to the most severe radiation consequences. A significant release of radioactivity beyond a 30-kilometer radius of the plant would not occur because of the small size of the Bilibino reactor.

The following were successfully demonstrated during the exercise: plant emergency response; protective action decision making; emergency notification procedures; interagency and intergovernmental communications; plume modeling; and radiation monitoring capabilities. A detailed report will be provided at the next EPPR meeting. The Bilibino Exercise Final Report will also be available on Internet.

### **2.4 Source Control Management**

The U.S. (Department of Energy) and Russia (EMERCOM and MINATOM), under the Joint Coordinating Committee for Radiation Effects Research (JCCRER) and the EPPR Working Group are conducting a series of pilot projects to develop a risk assessment methodology / source control process for reducing the potential for emergencies at facilities handling hazardous and/or radioactive materials. The projects include the development of a risk assessment methodology document and on-site facility risk assessments at selected hazardous industrial facilities. The work includes the application of national technical and regulatory standards and the application of the international ISO 14001 Environmental Management Systems Standard.

#### **Phase I: ApatityVodocanal Risk Assessment**

The first pilot project was conducted at the drinking water and sewage treatment utility in Apatity, Murmansk Region of the Russian Federation. The facility handles 32 metric tonnes of liquid chlorine per year. Chlorine is one of the more ubiquitous hazardous materials used in industrial production including the processing of radioactive and nuclear materials. The risk assessment at the Apatity Vodocanal is complete with the findings published in the report "*Analysis of Risks of Emergencies to Population and Territory, and Development of Measures to Reduce the Risks as applied to the Apatityvodokanal Utility*". The report presents findings of the risk assessment, including measures to reduce risk, and to improve operational safety and emergency preparedness of the chlorination plant with the chlorine storage facility.

The work, supported by EPPR, was carried out under an arrangement between the U.S. Department of Energy and the Nuclear Safety Institute of the Russian Federation (IBRAE). The Russian Chlorine Center (Chlorbezopasnost), EMERCOM, and IBRAE performed the project, funded by the U.S. Department of Energy, with technical support provided by Pacific Northwest National Laboratory. Finland's Lapland Regional Fire and Rescue Service and Environment Canada provided technical assistance.

### **Risk Assessment Methodology**

A second report "*Risk Assessment Methodology at Hazardous Industrial Facilities (Working Draft)*" is also complete. Presently, the *Working Draft* only addresses chemicals. However, the methodology is being adapted to address nuclear and radioactive materials, and to address human factors more thoroughly. The *Working Draft* surveys the state of the art in risk assessment methods and criteria and appropriateness for the selection and application of these methodologies. *The Working Draft* describes the risk assessment phases: work planning and organization; accident hazard identification (hazardous materials inventories and accidental hazards); risk assessment; documentation; and development of recommendations to reduce the risk.

### **Phase II: NIIAR Fuel Research Department**

A second pilot project is being conducted at the MINATOM's Fuel Research Department (FRD) of the Federal State Unitary Enterprise "State Scientific Center of Russian Federation-Research Institute of Atomic Reactors" (NIIAR). The U.S. (Department of Energy) and Russia's MINATOM are currently developing and negotiating a project management plan to conduct a risk assessment at the FRD and to refine the *Working Draft* to include nuclear and radioactive materials, and human factors. The project should begin in the next few months be completed within one year.

### **2.5 Survey of Past Major Accidents**

Finland conducted a survey on past major accidents in the Arctic. The data gathered provide limited information on the issue and no conclusions could be drawn from it. A more extensive inventory of natural disasters in the Arctic is included in the EPPR work plan for 2002-2004. Finland will provide a plan of action for discussion at the next EPPR meeting.

## **2.6 Coordination and Cooperation**

### **With Other Arctic Council Working Groups**

#### ***AMAP***

The SAO Report to the Arctic Council Ministers (October 2002, Section 2.2.3) recommended that the Ministers ask "...EPPR, in collaboration with AMAP on the basis of a clear division of labour, to give more emphasis to the prevention, preparedness and response to emergencies involving radiological and other hazardous material". EPPR will pursue this request prior to the next EPPR meeting.

#### ***PAME***

The SAO report also recommended that "...EPPR to continue its efforts related to emergencies resulting from extraction and transportation of oil and gas, in cooperation with PAME." The Ministerial declaration (October 2002, S. 7) instructed that "...recognize the potential for the development of oil, gas, metals and minerals in many Arctic regions to impact on the local standard of living and emphasize the importance of responsible management of these resources, including emergency prevention, to promote environmental protection and the sustainable development of the Arctic indigenous and local communities;"

PAME reviewed a draft of the "Oil Transfer Guidelines" at their recent meeting in Stockholm (February 25 - 27). The draft Guidelines are available on the PAME website. EPPR will need to work with PAME to finalize the emergencies chapter.

### **With Other Organizations Outside the Arctic Council**

Several organizations operate within the same fields as EPPR, and the Working Group will continue to seek opportunities for co-ordination and co-operation with regional bodies, such as the Barents Euro-Arctic Council, the Nordic Council of Ministers, the Council of Baltic Sea States, the International Maritime Organization, and the Northern Forum.

## **3. Possible Expanded Mandate**

The SAO Report to the Arctic Council Ministers (October 2002, Section 2.2.3) noted that "... that EPPR in the future should give more emphasis to prevention, preparedness and response to accidents involving radiological and other hazardous materials, which fits within the present mandate of EPPR. The SAOs further propose that it could be appropriate to expand the mandate of EPPR to

include also prevention, preparedness and response to natural disasters.” In this regard, the SAOs recommended that the Ministers “...request EPPR to complete the inventory of past natural disasters in the Arctic to determine if the mandate of EPPR should be expanded to include also prevention, preparedness and response to natural disasters.”

The possible expansion of the mandate of the EPPR Working Group to include natural disasters will be discussed at the next meeting.

#### **4. Administrative and Financial Issues**

The Secretariat support for EPPR during the period 2002-2004 will be provided by Canada. The cost of Secretariat support is estimated at \$35,000 US per year. It is proposed that the EPPR website continue to be maintained at the Arctic Centre in Finland. The estimated cost is \$ 3,500 US per year.

#### **5. Actions by SAOs**

Based on this report, the SAOs are kindly asked to take note of:

- the state of the ongoing / recently completed projects: Circumpolar Map of Resources at Risk from Oil Spills; Source Control Management Projects (ApatityVodocanal Risk Assessment, Risk Assessment Methodology development, and NIIAR Fuel Research Department); the Bilibino table-top exercise; and Shoreline Cleanup Assessment Technology manual.
- the dialogue between EPPR and both AMAP and PAME concerning the distribution of the work as per the directions contained in the Inari SAO report and the Ministerial Declaration.
- upcoming discussions to consider placing more emphasis on radiological and other hazardous materials, and the possible expansion of EPPR's mandate to include natural disasters.