



Canadian Nuclear  
Safety Commission

Commission canadienne  
de sûreté nucléaire

# Proceedings of the Workshops on Nuclear Emergency Management



November 2002 to February 2003

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Prepared for the Canadian Nuclear Safety Commission by Golder Associates Ltd.  
November 2002 to February 2003

## EXECUTIVE SUMMARY

The Canadian Nuclear Safety Commission (CNSC), and federal partners Health Canada and the Office of Critical Infrastructure Protection and Emergency Preparedness (OCIPEP), hosted three workshops on Nuclear Emergency Management during the period November 2002 to February 2003. Invited participants represented a cross-section of organizations responsible for emergency management associated with the major nuclear facilities in Ontario, Québec and New Brunswick.

The goals of the workshops were to strengthen the nuclear emergency management network, by facilitating networking and discussion, among participants at all levels, of best practices, strengths, issues and areas for improvement.

The workshop consisted of facilitated breakout sessions on relevant topics, as well as presentations by invited speakers. Discussion points were recorded in each breakout session and are summarized in this record of proceedings, together with overall conclusions for consideration by the stakeholder organizations.

A total of 191 participants attended the three workshops. Feedback from the workshop evaluations indicates that the participants appreciated the unique opportunity to discuss and learn about plans, best practices, roles and responsibilities and areas for improvement.

Overall conclusions were formulated based on participant input collected during the breakout sessions and based on some of the key presentations made during the plenary sessions. The overall conclusions are presented for organizations, stakeholders and participants to consider, if appropriate, when revising and enhancing their nuclear emergency management programs. The overall conclusions are:

1. Additional leadership is required in order to facilitate, at all levels, the continued development of the nuclear emergency management network and the resolution of issues.
2. Enhancement of funding and resources for off-site emergency preparedness should be considered.
3. There is a desire for more or better participation by relevant parties.
4. Additional baseline guidance should be considered.
5. The document “General Guidelines for Off-site Emergency Preparedness and Response – Nuclear” should be revised, finalized and issued.
6. Assessment and continual improvement should be promoted.
7. Guidelines for recovery are desired.
8. The progress of issue resolution warrants monitoring.

# Proceedings of the Workshops on Nuclear Emergency Management

## November 2002 to February 2003

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*This appendix contains protected information and is not publicly available.*

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## 1.0 INTRODUCTION AND BACKGROUND

The Canadian Nuclear Safety Commission (CNSC), together with federal partners Health Canada and the Office of Critical Infrastructure Protection and Emergency Preparedness (OCIPEP), hosted three workshops on Nuclear Emergency Management as follows:

- November 26-27, 2002 in Markham, Ontario
- January 21-22, 2003 in Trois-Rivières, Québec
- February 18-19, 2003 in Saint John, New Brunswick

The CNSC's aim, in sponsoring this opportunity, was to bring key parties together to discuss nuclear emergency preparedness and response, in a comfortable and constructive atmosphere.

The CNSC retained the services of Golder Associates Ltd. to plan, chair, organize, facilitate and report on the workshops.

We found participants to be engaged, enthusiastic and committed to nuclear emergency preparedness. They generously shared best practices and experiences, often offered explanations and detail when requested by their colleagues, and openly discussed issues of concern.

### *About this Report*

Volume I summarizes the proceedings collected during the three workshops, and provides overall conclusions, which stakeholder organizations may wish to consider to further strengthen the nuclear emergency management network, and to enhance their ability to prepare for and respond to a nuclear emergency in Canada.

Volume II of the proceedings includes:

- Appendix B: Workshop Schedules
- Appendix C: Breakout Session Topics and Subtopics
- Appendix D: Breakout Session Notes
- Appendix E: Workshop Evaluation Summaries
- Appendix F: Public Briefs
- Appendix G: Key Presentations – Plenary Sessions

## 2.0 ABOUT THE WORKSHOPS

### *Scope and Objectives*

The workshops were held for the benefit of organizations having an active role (on-site or off-site) in nuclear emergency management at the major nuclear facilities located in each province:

- **Markham:** Pickering Nuclear Generating Station, Darlington Nuclear Generating Station, Bruce Nuclear Generating Station, AECL-Chalk River Laboratories
- **Trois-Rivières:** Gently-2
- **Saint John:** Point Lepreau Generating Station

Representatives from Ontario municipalities affected by the Fermi-2 nuclear generating station, located in the United States, were also invited to the Markham workshop.

The overall workshop theme was:

*“Together for a strong nuclear emergency response network”*

Specific objectives were to:

- identify participants’ views on best practices, strengths, issues and areas needing improvement with respect to nuclear emergency preparedness and response;
- identify those issues that participants consider a priority, and document suggested options and recommendations;
- obtain participants’ feedback on the CNSC draft document ‘General Guidelines for Off-site Emergency Preparedness and Response – Nuclear’; and
- strengthen the network by providing an opportunity for participants to meet with and consult one another.

### *Participants*

Invited participants included representatives from:

- Licensees of the major nuclear facilities in Ontario, Québec and New Brunswick;
- provincial emergency measures organizations;
- regional and municipal emergency measures organizations;
- regional and municipal councils, health authorities and school boards;
- first responders (police, fire, and emergency medical services);
- relevant volunteer organizations (including but not limited to wardens, Canadian Red Cross, St. John Ambulance and amateur radio organizations);
- provincial and federal government ministries and departments;
- professional and union power worker representatives; and,
- CNSC and federal partners Health Canada and OCIEP.

Invitee lists were prepared with input and assistance from the provincial emergency measures organizations, CNSC licensees and regions involved. Complete participant lists are provided in Appendix A.

The workshops were not open to the general public and media; however, the public was invited to provide input on nuclear emergency management via written briefs. The four briefs received are included in Appendix F of Volume II.

### *Format*

The final workshop schedules are presented in Appendix B of Volume II. The workshop format consisted of short presentations by invited speakers during plenary sessions, representing a cross-section of the nuclear emergency management network in each province, alternating with facilitated breakout group discussions. The breakout discussions were used to draw out participant feedback on strengths, best practices, issues and areas needing improvement on the following major topics:

- nuclear emergency management network;
- inter-organizational communication;
- training, exercises and drills;
- public education and communication – preparedness;
- communication – response;
- documentation: plans, procedures, checklists and databases;
- protective actions;
- field teams and monitoring;
- feedback on the document “General Guidelines for Off-site Emergency Preparedness and Response – Nuclear”; and,
- managing resources: staff, equipment, facilities and contingencies.

Appendix C of Volume II contains the complete list of breakout session topics and subtopics used to prompt discussion. Each breakout room was assigned a facilitator and scribe as a means of collecting participant feedback on each topic. The notes from each session were compiled in a workshop database to aid in the development of this summary report and to provide to participants attending each respective venue. At the conclusion of each workshop day, a summary of highlights was compiled by the workshop chair and facilitators, and presented to the participants.

The discussions were participant-driven. Understandably, and likely due to time limitations, many groups tended to focus on issues or areas requiring improvement, without necessarily reflecting on strengths or best practices; the breakout notes and summary sections reflect the discussion. In many cases, participants appeared to be actively involved in addressing the issues and areas for improvement that were raised during the workshops.

Soliciting input through breakout groups enabled participants who have a role to play when responding to a nuclear emergency to exchange information, share best practices and to identify improvement opportunities.

Despite the limitations of the workshop setting, it is reasonable to summarize and draw conclusions with respect to participants' general perceptions, levels of awareness or understanding, areas of concern or interest, availability of information, and perceived needs and priorities.

The complete breakout notes are found in Appendix D of Volume II.

At the conclusion of each workshop, participants were requested to complete and submit evaluations. These are compiled in Appendix E of Volume II.

Key plenary session presentations are included in Appendix G of Volume II.



### **3.0 SUMMARY OF WORKSHOPS**

Section 3 summarizes the proceedings of the breakout group discussions. The summaries are organized according to the major topic headings used at the workshop; the “funding” heading has been added to capture participant comments on this issue.

In developing such a summary, some detail will unavoidably be lost; hence, the interested reader is encouraged to review the breakout notes in their entirety as found in Appendix D of Volume II.

### 3.1 Summary of Findings - Markham Workshop

The Markham workshop hosted representatives involved in nuclear emergency management associated with the Class 1 major nuclear facilities at Pickering, Darlington, Bruce and AECL-Chalk River Laboratories, as well as representatives from Essex County in regards to Fermi-2. As such, the scope of discussions during the breakout sessions was somewhat broader than at the Trois-Rivières and Saint John workshops, which each focused on one facility.

Ontario has a mature provincial nuclear emergency plan which has been rolled out in the host-communities. The four Class 1 facilities are situated in communities with wide-ranging differences in primary zone (10 km) populations, ethnic diversity, transportation patterns, and surrounding land use. For example, approximately 200,000 people live and work within the primary zone of the Pickering Nuclear Generating Station, compared to about 1500 residents within the primary zone at Bruce Nuclear Generating Station. It is to be expected that while there are some commonalities, the strengths, issues and priorities may vary significantly given these contextual differences. While many findings apply to all, some are particular to a facility or host community.

#### 3.1.1 Overview of Key Plenary Presentations

Invited speakers presented on topics of interest to participants. Summaries of the presentation content are given below:

- **Keynote Address: *Together for a Strong Nuclear Emergency Preparedness Network***, by Mr. Ian Grant, Director General – Directorate of Assessment and Analysis, CNSC
- ***Welcome from Emergency Management Ontario*** by Mr. Doug Harrison, Deputy Chief, Emergency Management Ontario
- ***The Federal Nuclear Emergency Plan (FNEP)***, by Ms. Helen Griffiths, Radiation Protection Bureau, Health Canada
  - Summary of federal mandate for Nuclear Emergencies
  - Purpose and scope of FNEP
  - Health Canada program, expertise and resources available
- ***OCIPEP and Nuclear Emergency Preparedness and Response in Canada***, by Ms. Ruth McGarry, Program Officer, Office of Critical Infrastructure Protection and Emergency Preparedness
  - Overview of OCIPEP's role
  - Provision of support to Health Canada, development of plans, provision of facilities, and participation in exercises
- ***Nuclear Emergency Management Workshop***, by Mr. Bernie Beaudin, Emergency Preparedness Officer, CNSC
  - Overview of the CNSC's jurisdiction, role and responsibilities before, during and after a nuclear emergency
  - Interfaces between the CNSC and other organizations
  - Scope and intent of workshops

- *An Overview of the Provincial Nuclear Emergency Response Plan (PNERP)*, by Mr. Bill Fox, Manager, Plans, Emergency Management Ontario
  - Legislative basis, administration and aims of the PNERP
  - Overview of plan structure and organization
  - Notification process
  - Protective measures addressed
  - Terms of reference and membership of Regional Nuclear Emergency Management Coordinating Committees
- *Public Education and Emergency Information*, by Mr. Jude Kelly, Nuclear Public Information Officer, Emergency Management Ontario
  - Context, definitions and requirements of the PNERP for public education and emergency information
  - Elements of and approaches to nuclear public education
  - Future direction and challenges
- *OPG Overview – Nuclear Emergency Response*, by Mr. Allan Lew, Manager of Emergency Preparedness and Response, OPG
  - Staffing of Shift Emergency Response Organization (ERO), and activation of plan
  - Site management facility
  - OPG executive management
  - Comprehensive drill and exercise program
  - Summary of strengths
- *Emergency Preparedness at Bruce Power* by Mr. Randy Henderson, Head of Emergency Measures, Bruce Power Inc.
  - Overview of the Emergency Measures Department responsibilities, and staffing
  - Scope and flexibility of emergency plan and program, and evaluated drill schedule
- *CRL Emergency Preparedness Program* by Mr. Ray Lambert, Manager – Safety, Environment and Radiation Protection, AECL (Emergency Preparedness Program Authority)
  - Facilities at CRL
  - Scope of Emergency Preparedness (EMP) Program activities, with a focus on drills, exercises and employee education
  - CRL Emergency response organization
  - Roles and responsibilities for off-site response
- *Nuclear Emergency Management– A School Board Perspective*, by Mr. Gary Gibson, Manager of Health and Safety, Durham District School Board
  - Overview of nuclear emergency preparedness program
  - Needs and challenges
- *Nuclear Emergencies & Police Response*, by Sgt. Jim Grimley, Emergency Measures Officer, Durham Regional Police
  - Overview of Durham Regional Police Service responsibilities, particularly related to traffic control, evacuation, security of evacuated areas and centres, staffing and provision of facilities, and repatriation

- *St. John Ambulance in Ontario – Volunteer Emergency Response*, by Ms. Carmie McCormack, Provincial Emergency Planning Officer
  - Summary of emergency response coordination, services and capabilities
  - Overview of St. John Ambulance Provincial Operations Centre, its purpose, activation approach and capabilities
- *Overview of Draft Guidelines for Off-site Emergency Preparedness and Response – Nuclear*, by Mr. Barry Neil, N4 Research Associates, on behalf of the CNSC
  - Objectives and scope of guidelines

### 3.1.2 Overview of Breakout Session Discussion

Participants tended to view Ontario Power Generation, Bruce Power and AECL as being **well-linked** with the respective host-communities, and felt that the respective regions/municipalities and the province tend to be **well-coordinated** with respect to nuclear emergency planning.

Many expressed the view that the **federal partners and departments should be more involved**, specifically in terms of increasing their local presence, sharing information and experience, and providing resources where possible.

Participants were looking for **clarification on organizational roles and responsibilities** for nuclear emergency management. “Who is in charge?” was a common theme.

The constant **turnover** of people is seen as a challenge to preparedness, and was a frequent discussion topic.

#### Funding

While regulations were passed which include nuclear facilities with respect to increasing off-site preparedness requirements, **funding does not appear to be commensurate**. The need for funding increased post 9/11, but participants perceive that any increases in funding have not made it down to the “implementers”.

Lack of budget for emergency preparedness is a key concern to most parties. In particular the **lack of sustained funding for recurring activities** such as training, drills/exercises, equipment purchase/replacement, and off-site nuclear emergency plan auditing. Particular funding gaps (for emergency preparedness) were also noted for school boards and hospitals.

#### Inter-Organizational Communication

**Working relationships amongst organizations are generally good**, but even more face-to-face communication between key parties is desired, to streamline working arrangements, clarify roles and functions, and integrate new people. Participants appreciated the workshop as being a good opportunity to meet colleagues and learn more about one another.

**Pontiac Municipal Regional County (MRC)** in Québec, across the Ottawa River from AECL-Chalk River Laboratories, is **just beginning** the process of nuclear emergency planning and requires multi-jurisdictional support, harmonization, resources and information.<sup>1</sup>

Participants felt that communication with and **involvement of neighbouring municipalities** (i.e., those bordering host-communities) and their first responders **needs improvement**.

### **Training, Exercises and Drills**

Many of the participant organizations **provide relevant training opportunities** and programs. Particular examples included: the nuclear facilities/licensees, Emergency Management Ontario, Durham Emergency Measures Organization (DEMO) and OCIZEP.

Some participants felt that the **federal government should be taking more initiative** in helping to plan training programs, propagating them through the network, and where possible providing resources. The availability of federal training programs, initiatives and opportunities (e.g., through OCIZEP) was a surprise to many.

The **lack of on-going training budgets** is a key concern for nearly all off-site organizations.

There is a broad need for **nuclear education amongst response organizations**, including the medical community (doctors, nurses, hospital staff) and volunteer groups.

There is **general satisfaction with drills and exercises**, when they take place. However, budgets are insufficient or are unavailable for some off-site organizations to conduct drills or participate in exercises, even though they may be required to do so.

**Drills and exercises should be conducted more frequently** to address staff turnover and organizational changes.

Some expressed concern that **corrective actions and recommendations** in the evaluators' reports may not always be implemented or followed up on.

Participants expressed frustration with the lack of participation in exercises/drills by some players, particularly from the federal government.

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<sup>1</sup> Clarification provided by Mr. Bernie Beaudin, CNSC, April 2, 2003: Le Ministère de la Sécurité Publique du Québec (MSPQ) has the lead responsibility for emergency planning and response in Québec. The plan, known as "le Plan directeur" within "le Plan des mesures d'urgence nucléaire externe (PMUNE)" describes elements of emergency preparedness and response in a general way. "Le Plan directeur" is used throughout the province to address emergency management issues, including the response sectors affected by the primary zone of AECL-Chalk River Laboratories. Currently, however, there is no site-specific plan pertaining to the 3 response sectors in Québec. MSPQ has begun to address this issue, and they intend to develop a detailed chapter which would include the AECL-Chalk River Laboratories site.

The response sectors in Ontario have been identified and arrangements are in place with AECL to ensure coordination amongst different elements of the emergency response organization.

Terminology differences complicate trans-boundary communication, exercises and drills.

### Public Education and Communication - Preparedness

Fire department programs were cited as being **good examples of integrated public education** and communication, and licensee participation in school programs was also valued. Many felt that school programs were fairly effective in educating children with respect to nuclear emergency preparedness, and that education of the adult population was the greater concern.

Participants were interested in the role and mandate of EMO's new Nuclear Public Education Officer.

There is general agreement that **public education on nuclear emergency preparedness requires improvement**, particularly in the following areas: coordination, message consistency, coverage, frequency, keeping educational materials up to date and addressing the multicultural public (particularly surrounding Pickering and Darlington). Participants felt that additional resources are needed to make these improvements.

**More effective use of communication media** was stressed. Approaches discussed included providing easily accessible nuclear emergency preparedness and response information to the public via a range of media, such as: phone book red pages (emergency pages); newspaper and radio announcements; websites; pamphlet distribution; 211 community info-lines and web-sites, and multi-media presentations.

Public apathy is a concern, and participants emphasized the need to balance the public message, focusing on "prepare" vs. "scare".

### Communication - Response

Intra-organizational **notification processes are in place** and generally viewed as robust. Nuclear facilities conduct fan-out drills; however, funding for these types of tests is not generally available in other organizations.

Concern was expressed that the **communication systems of first response groups (police, fire, emergency medical) are not compatible**, resulting in them being unable to communicate directly with one another.

Some expressed the view that **incident reports** (for example, from the facility to first responders) **need to be less technical and jargon-filled**, to promote clearer understanding.

It was reported that the **new public alerting system** should be in place for the contiguous zones (3 km) at Pickering and Darlington by mid-2003; the system will be expanded within the primary zones at a later date.

Some questioned the effectiveness of the **Joint Information Centre**, and participants often emphasized the need for a single credible voice to provide information to the public during an emergency.

### Documentation: Plans, Procedures, Checklists and Databases

Facility operators were confident that their emergency plans, procedures and databases are in good order.

Most of the participant organizations have **plans in place** but many are concerned about **lack of resources to test** the plans via exercises and drills.

#### Evacuation plans for Pickering require updating.

There were questions as to **whether and how the various federal plans link** with the provincial plan. Some participants expressed the need for one agency/organization to take the lead in ensuring harmonization or coordination.

**Standardized terminology is needed**, and there exists a desire to harmonize plans at all levels: municipal, regional, provincial, federal. Many are looking to the EMO for standards through the Ontario Bill 148.

The **security of and access to emergency plans and databases** has become a greater concern post 9/11; hence sharing of information may be hampered. A controlled-access website was suggested as one means of sharing general information on plans, roles and contacts; tracking available resources; and sharing expertise.

Tools and resources are required to **keep contact lists, databases and plans current**. There is a lack of confidence in the contact lists (cross-agency) due to the challenges of keeping them up to date. Participants tended to **favour mandatory updates** for the components of their plans that have a short shelf-life.

The **long approval cycle** for emergency plans was seen as an obstacle to keeping documentation current. "Every change shouldn't require provincial approval" was a common theme.

Additional resources are required to **formalize the audit process** for off-site emergency plans and procedures. Guidance is needed to help resolve the issue of "how much preparedness is enough?" Objective external assessments of preparedness would be appreciated by some organizations.

**Guidelines are needed for recovery planning**; it was noted that this is particularly relevant to host communities, and their concerns regarding the return of people to their homes post-incident.

### Protective Actions

**Evacuation** from the vicinity of Pickering was viewed by many participants as a significant issue. Consistent, more realistic models are needed to help with planning. In addition, there needs to be greater public and organizational understanding of appropriate protective measures, with an emphasis on sheltering first. The issue of spontaneous evacuation (i.e., members of the public deciding to evacuate despite instructions to shelter) was also a concern. One participant commented that the subject of evacuation warrants a workshop of its own.



There has already been considerable discussion and debate regarding thyroid blocking. **Issues to be resolved** include: having a provincial policy that reflects significant differences in host communities; the lack of an approved Canadian distributor of potassium iodide (KI); having pills available in appropriate/accepted doses; whether or not to pre-distribute to residents in some communities; and methods of distribution.

**Protection of emergency worker health and safety**, through training and education, and availability of appropriate equipment, is a priority for many.

### Field Teams and Monitoring

**Staffing of field teams** was perceived to be a potential problem, in terms of having enough staff, or maintaining staff on long-term monitoring programs.

There is a need for a **single credible voice**, for communication of any monitoring results to the public.

### Managing Resources: Staff, Equipment, Facilities, Contingencies

Agreements or MoUs may be needed for **reception centres** in some communities to ensure availability and to specify reimbursement and restoration conditions.

Many participants were concerned about the perceived **lack of a coordinated inter-agency backup communication plan**, for example, in the event that phone systems are overloaded or are down, or cell phone coverage is lost in some areas. Several suggestions were provided to avoid or overcome this problem. It was noted that amateur radio can play an important role in providing backup communication capability.

The huge reliance on emergency personnel from volunteer organizations was acknowledged, as was the general lack of resources for these organizations.

### Feedback on CNSC Guidelines

Participants welcomed the document as an **appropriate, well-prepared harmonization initiative** that provides useful guidance. Some remarked that it would have been even more useful a few years ago when the PNERP was being updated. There is a general desire for harmonization of approaches with the other nuclear provinces.

Participants want to see written guidance on the other two pillars of emergency management: **mitigation and recovery**.

Some participants were seeking clarity on the issue of jurisdiction (i.e., why did the CNSC initiate development of the document) and application of the guidelines.

It was suggested that the EMO should accept/incorporate the guidelines during development of Provincial requirements for Emergency Management Program standards.

Specific feedback on the guidelines is included in Appendix D.



## 3.2 Summary of Findings – Trois-Rivières Workshop

The Trois-Rivières workshop hosted representatives from the nuclear emergency management network associated with Gentilly-2 nuclear generating station. The workshop was held entirely in French.

Québec has experienced a relatively recent (2001) restructuring of municipalities and regions, and hence of the organizations responsible for various aspects of off-site nuclear emergency management related to Gentilly-2. In addition, the province has recently completed the second of three phases of the updated provincial off-site nuclear emergency response plan (PMUNE); Phase III will make the plan operational.

### 3.2.1 Overview of Key Plenary Presentations

Invited speakers presented in French on topics of interest to participants, as follows:

- **Keynote Address: *Together for a Strong Nuclear Emergency Preparedness Network***, by Mr. Ian Grant, Director General – Directorate of Assessment and Analysis, CNSC
- ***Welcome from MSPQ***, by Mr. Bernard Dubois, Directeur des opérations territoriales de la sécurité civile, MSPQ
- ***The Federal Nuclear Emergency Plan (FNEP)*** by Mr. Jean-Patrice Auclair, Radiation Protection Bureau, Health Canada
  - Summary of federal mandate for Nuclear Emergency Response
  - Purpose and scope of FNEP
  - Health Canada program, responsibilities, expertise and resources available
- ***OCIPEP and Nuclear Emergency Preparedness and Response in Canada*** by Mr. Robert Bégin, Regional Director, Québec, OCIPEP/BPIEPC
  - Overview of OCIPEP's mandate, mission and role
  - Provision of support to Health Canada, development of plans, provision of facilities, and participation in exercises
- ***Nuclear Emergency Management Workshop*** by Mr. Bernie Beaudin, Emergency Preparedness Officer, CNSC
  - Overview of the CNSC's jurisdiction, role and responsibilities before, during and after a nuclear emergency
  - Interfaces between the CNSC and other organizations
  - Scope and intent of workshops
- ***An Overview of PMUNEG2***, by Mr. Bernard Dubois, Directeur des opérations territoriales de la sécurité civile, MSPQ
- ***Nuclear Emergency Plan – Office of Emergency Coordination, Ministère de l'Environnement [Plan d'urgence nucléaire - Bureau de coordination des urgences]***, by Mr. Claude Bouchard, Coordinateur aux urgences environnementales, Ministère de l'Environnement
  - Overview of the two-volume nuclear emergency plan, comprising the plan and procedures

- Descriptions of the planning basis, organizational structure and operations
- Worker protection, resources, training, communications and responsibilities
- *La mission Communication du Plan national de sécurité civile (PNSC)* by Mr. François Beaudoin, Directeur régional, Communication Québec
  - Function of the strategic coordination centre for communication
  - Role of Communication Québec in an emergency
  - Scope and status of the PMUNE integrated communication plan (Plan intégré de communication du PMUNE )
- *Bases de Planification du PMUNE-G2 [Planning Basis for PMUNE-G2]*, by Dr. Gilles Grenier, Médecin-conseil, santé nucléaire, Régie Régionale de la santé et des services sociaux de la Mauricie et du Centre-du-Québec
  - Accident scenarios considered in plan development
  - Emergency planning zones
  - Protective measures
  - Stable iodide distribution considerations and approaches
  - Emergency worker protection
- *Plan des mesures d'urgence (PMU) de la centrale nucléaire de Gentilly-2 [Emergency Measures Plan for Gentilly2]*, by Mr. Stephen Lévesque, Conseiller Plan des mesures d'urgence, Hydro-Québec
  - Overview of plan
  - Documentation and structure; availability of general and event-specific procedures
  - OMU overview (emergency measures organization)
  - Activation of plan
- *Le réseau de la santé et des services sociaux et les mesures d'urgence nucléaire externes à la centrale Gentilly 2*, by Mr. Jacques Isabelle, Coordonnateur général des opérations de mesures d'urgence, Régie Régionale de la santé et des services sociaux, de la Mauricie et du Centre-du-Québec
  - Role and responsibilities of health and social services in an emergency
  - Response structure
  - Roles of the regional units: normal and emergency
  - Recent activities/accomplishments related to PMUNE-G2
  - Work in progress
  - Next steps
- *Overview of Draft Guidelines for Offsite Emergency Preparedness and Response – Nuclear* by Mr. Barry Neil, N4 Research Associates, on behalf of the CNSC
  - Objectives and scope of guidelines
- *Rôle et responsabilités du MAPAQ lors d'une urgence nucléaire [Role and Responsibilities of MAPAQ in a Nuclear Emergency]* by Mr. Marcel Benoît, Charge de projet dans le plan d'urgence nucléaire, Ministère de l'Agriculture, des Pêcheries et de l'Alimentation
  - Overview of roles and responsibilities of MAPAQ

- Emergency plan
- Monitoring of food chain

### 3.2.2 Overview of Breakout Session Discussion

Most participants indicated that the **organizational structure** for nuclear emergency management **has been defined and is generally understood**, although there were many questions related to implementation. Participants typically understand roles and responsibilities of their own organizations, but had many questions about those of other organizations, and how they interact. The importance of including neighbouring municipalities in Phase III (including communication, training, drills and exercises) was emphasized.

Participants at Trois-Rivières viewed the workshop as a **good opportunity** to ask questions, learn about the roles of other participants and organizations, ascertain the status of the PMUNE and its implementation, and begin to harmonize operations.

#### Funding

**Financial resources are perceived to be lacking** for emergency preparedness, in particular, the areas of training, equipment purchases, drills and exercises, and plan maintenance. Several participants had concerns about the adequacy funding for Phase III (implementation of the PMUNE) and beyond.

#### Inter-organizational Communication

It was generally acknowledged that **communication** approaches amongst organizations are **evolving**, but need to be more clearly identified. Participants were eager for more opportunities to meet, keep informed, and promote communication.

#### Training, Exercises and Drills

**Exercises and drills currently take place** in many organizations, but there was agreement that they are **not frequent enough**.

Participants concurred that **on-going training, exercises and drills are essential** for making the PMUNE operational, identifying improvements, developing working relationships and harmonizing operations. Many suggested that relevant off-site drills or exercises should be conducted at least annually.

**Training was a significant topic of interest to many.** Emphasis was placed on the importance of: conducting training needs assessments; prioritizing training needs; providing on-going budgets for training; sharing training opportunities with other organizations; and involving neighbouring municipalities in training, especially when they are expected to play a supporting role in emergency response. Initial meetings have been headed by Sécurité Civile, to identify the chemical, biological, radiological and nuclear training requirements of emergency workers.

Participants are counting on Phase III to address the situation, in terms of enhancing the plans, confirming arrangements and verifying that the plans are working.

### Public Education and Communication

The last major round of public communication on nuclear emergency preparedness took place approximately a decade ago. MSPQ, with Communication Québec, is preparing a **public information campaign for 2003**.

Participants emphasized the importance of clarity, simplicity, accurate information, and a credible source when communicating with the public.

Many felt that a **publicly available document**, describing the PMUNE in laypersons terms, is needed, as is clarification regarding the changes in the planning zones.

### Communication - Response

Emergency **communication structures and processes have been established** and are defined in the plan. Some commented that the MSPQ emergency watch centre has improved inter-organizational communication during emergencies.

Participants were aware that the **methods for alerting the public require improvement**, and are currently under review. Participant recommendations included involving the affected municipalities when deciding on alert systems/approaches; implementing similar systems for adjacent municipalities (e.g., Bécancour and Trois-Rivières), and harmonization of the alerting codes.

Communication Québec administers an **emergency call centre** for public queries.

Participants emphasized the importance of **educating the public** on the use of protective measures, specifically **sheltering** and administering KI, given the potential limitations regarding evacuation.

First response organizations currently use communication systems having different frequencies, which do not permit direct communication.

### Documentation: Plans, Procedures, Checklists and Databases

**General plans and procedures are complete** and documented for many organizations; what remains is detailed planning and implementation during Phase III. MSPQ has the responsibility of assuring harmonization amongst the plans.

Areas identified as **requiring improvement** include maintenance of up-to-date contact and back-up contact information, regular updating of plan contents, standardization of terminology, and more effective document distribution and control.

There was significant discussion and suggestions were exchanged for preparation of effective procedures, guidelines and checklists.

There was interest in having the means to **share relevant electronic documents** amongst the various parties, for example, via a virtual library.

### **Protective Measures, Field Teams and Monitoring**

Several areas of the response plan are **currently being defined** or have yet to be addressed. These include: evacuation; traffic control; pasture, livestock, milk and food control; water control; monitoring and decontamination of personnel; and monitoring and decontamination of vehicles. Agencies responsible for development of these components have been defined.

Work remains to be completed on **KI pre-distribution and distribution**, including: identification of an approved Canadian supplier, availability of tablets appropriate for children, and communication of the distribution strategy to the public.

A meeting on the subject of **equipment acquisition** has already taken place, and requests for equipment were made in December 2002; detail was not provided as to the status of these requests.

**Lack of availability of personal protective equipment and dosimeters** for emergency workers was a major topic of discussion. MAPAQ also noted a significant need in this area. Budget limitations in several organizations have prevented purchases of required equipment.

Health Canada identified equipment reserves, and OCIPEP has a program for partially **funding equipment** purchases (Canadian Civil Protection Program - CCPP) but this information was news to many. OCIPEP staff provided background information on the program and how to apply for funding. It was recommended that this program be better communicated and extended beyond 2003.

Concerns were expressed regarding the apparent **lack of availability of third-party analytical laboratories**, and possibly mobile labs, which would be needed for analysis of samples (water, milk, soil etc.) during and after a nuclear emergency. Participants recommended that anticipated analytical needs and gaps be identified, and arrangements or agreements be made with qualified/accredited laboratories as appropriate.

### **Managing Resources: Staff, Equipment, Facilities Contingencies**

Most organizations indicated that they have **sufficient staff** for nuclear emergency preparedness and response; however, **equipment and training are high priority needs**. Participants provided many suggestions for pooling or sharing equipment and joint training. It was also suggested that an inventory or database of relevant resources be developed.

Participant comments generally indicated that facilities and evacuation centres have yet to be defined, as this is a Phase III item.

Many had **questions and concerns with respect to telecommunications** capability if phone lines are down or overloaded during an emergency.

**Feedback on Guidelines**

Participants viewed the *General Guidelines For Off-site Emergency Preparedness and Response – Nuclear* as a good, well-organized and helpful document that will be useful in assessing the degree of preparedness and ability to respond. Some remarked that it would have been an asset to have had the document a few years ago (for Phases I and II).

Specific feedback on the guidelines is provided in Appendix D.

### 3.3 Summary of Findings – Saint John Workshop

The Saint John workshop hosted representatives from the nuclear emergency management network associated with Point Lepreau Generating Station. The workshop was held in English. Some materials were also made available in French.

The provincial nuclear emergency program for New Brunswick is relatively mature. While operations, strengths and best practices were discussed in the breakouts, participants at this workshop tended to focus on issues or identify opportunities for improvement.

#### 3.3.1 Overview of Key Plenary Presentations

Invited speakers presented on topics of interest to participants. Summaries of the presentation content are given below:

- **Keynote Address: *Together for a Strong Nuclear Emergency Preparedness Network***, by Mr. Ian Grant, Director General – Directorate of Assessment and Analysis, CNSC
- ***Welcome from New Brunswick Emergency Measures Organization***, by Mr. Art Skaling, Director, NB EMO
- ***The Federal Nuclear Emergency Plan (FNEP)*** by Ms. Helen Griffiths, Radiation Protection Bureau, Health Canada
  - Summary of federal mandate for Nuclear Emergencies
  - Purpose and scope of FNEP
  - Health Canada program, expertise and resources available
- ***OCIPEP and Nuclear Emergency Preparedness and Response in Canada*** by Mr. John McCallan, Regional Director, Office of Critical Infrastructure Protection and Emergency Preparedness
  - Overview of OCIPEP's mandate, mission and role
  - Provision of support to Health Canada, development of plans, provision of facilities, and participation in exercises
- ***Nuclear Emergency Management Workshop*** by Mr. Bernie Beaudin, Emergency Preparedness Officer, CNSC
  - Overview of the CNSC's jurisdiction, role and responsibilities before, during and after a nuclear emergency
  - Interfaces between the CNSC and other organizations
  - Scope and intent of workshops
- ***Nuclear Emergency Preparedness Program***, by Mr. Ernest MacGillivray, Nuclear Program Consultant, Department of Public Safety
  - Comprehensive summary of the New Brunswick Nuclear Emergency Preparedness Program
  - Policy
  - Planning, including organizational roles, and an overview of the Nuclear Control Group



- Preparedness
- Response
- *Emergency Public Information in New Brunswick*, by Bonnie Buckingham Landry, Director, Communications New Brunswick (CNB)
  - Emergency Public Information Plan
  - CNB emergency role, and relationship with EMO
  - Emergency public information principles
  - Operations, management, facilities and services
  - Sample emergency messages
- *“It’s All About Partnerships”*, by Mr. Laurie Comeau, Manager, Personnel Safety and Environment, NB Power
  - Importance of facility siting
  - All-hazards approach to emergency planning
  - Mutual aid agreements
  - Importance of cooperation and partnership with NB EMO
  - Importance of exercises, communication and community liaison
- *Emergency Measures Communication Group and Amateur Radio* by Mr. Sterling Carpenter, Provincial Communications Officer, Emergency Measures Communication Group
- *Installing an Amateur Radio Station at the Offsite Emergency Centre*, by Mr. Peter Higgins, Amateur Radio Emergency Services (ARES) Assistant Emergency Coordinator
  - Amateur radio capabilities
  - Involvement in emergency preparedness
  - Future directions
- *Emergency Medical Services: Challenges and Opportunities for Nuclear Emergency Preparedness*, by Mr. Ian Watson, Region Manager, EMS and Emergency Preparedness, Atlantic Health Sciences Corporation
  - Growing role of EMS,
  - EMS structure in New Brunswick
  - Preparedness and response
  - Link to acute health care
  - Regional Health Authority preparedness and response
  - Opportunities for improvement: partnerships
- *Fire Services Perspective*, by Chief Wayne Pollock, Musquash Fire-Rescue
- *Overview of Draft Guidelines for Offsite Emergency Preparedness and Response – Nuclear*, by Mr. Barry Neil, N4 Research Associates, on behalf of the CNSC
  - Objectives and scope of guidelines
- *Incident Response*, by Mr. Gene Boles, Provincial Officer, Disaster Planning, St. John Ambulance
  - Organization, locations
  - Incident response services
  - Resources



### 3.3.2 Overview of Breakout Session Discussion

**Jurisdiction** at the community level is generally well-understood by the participants, but federal/provincial jurisdiction was less clear. In practice, jurisdictional boundaries do not tend to interfere with collaboration and response, as many groups indicated they are willing to go beyond defined limits if required during an emergency.

**Personal roles** for nuclear emergency preparedness and response, within participating organizations, are generally well-understood. However, many participants lacked information on **organizational roles and responsibilities**.

Roles and responsibilities during the **recovery** phase of a nuclear emergency have not been defined.

Relevant **memoranda of understanding (MoU) have been drafted**, primarily amongst federal and provincial governments and departments. However, because of the time and resources required for development of MoU, informal working arrangements tend to be more common amongst first response organizations. Knowledge of roles, responsibilities and capabilities is considered crucial where groups only have working understandings.

The **mutual aid** agreement between Maritime premiers was praised by participants. It was noted that the agreement is used as a model elsewhere in North America.

**Duplication of effort** by organizations was **not generally viewed as an issue**. Indeed, one participant remarked that "it would be nice to have this problem".

#### Funding

There was general agreement that there is a **lack of sustained government funding** for emergency preparedness and response. For many off-site organizations, funding is lacking for on-going training of staff, personal protective equipment, monitoring equipment, drills, and plan updating. Some participants observed that budgets are often focused on infrastructure and operations. Budgets for training may not be considered a priority by decision-makers, and separate budgets for emergency preparedness are not common.

The **funding levels are not representative of the verbal commitment** in some cases. While there appeared to be an increase in emergency preparedness money post 9/11, participants perceive that it has not reached the lower levels.

#### Inter-Organizational Communication

The **close-knit, small** rural community is considered to be **an asset** with respect to communication. "Everybody knows everybody else" was a familiar theme.

However, participants recognized the need for and benefit of **more gatherings** such as the Saint John workshop, to improve communication and understanding of roles and responsibilities, and to share experience. In addition it was felt that **more "face time" on**

**the part of federal representatives** on-site would improve communication and understanding.

The demand for emergency planning staff makes it **difficult to attend or participate** in the numerous meetings. Many suggestions were posed to alleviate this problem, including but not limited to: focusing on core emergency response processes (rather than the threat elements themselves) to reduce the variety, and number, of emergency planning meetings; sharing training, drills and exercises on a small scale; informing other parties of training and education opportunities available; and telephone- or video-conferencing.

**Terminology and jargon** used in verbal communication and plans is seen as a barrier to understanding. Harmonization and consistency is needed in many areas.

There was a general sense that communication with **neighbouring municipalities** and their first responders could be improved.

### **Training, Exercises, and Drills**

**Point Lepreau Generating Station assists NB EMO** in educating and training off-site response organizations. Many other organizations provide or conduct relevant training, but some participants were not aware of opportunities and encouraged better promotion. Some organizations routinely conduct joint training to save money.

The commitment to, and **budgets for training are considered to be inadequate by many off-site organizations**.

NB Power, the military and the Point Lepreau Wardens are examples of organizations that conduct **routine drills or exercises**.

Participants agreed that **exercises and drills are crucial** for testing plans, getting key people and organizations working together, putting training into practice, identifying issues and resolving problems.

Participants generally concurred that, with some exceptions, **drills and exercises outside of Point Lepreau are not frequent enough** to address staff turnover and maintain an appropriate degree of preparedness. Reductions in funding are considered a key issue.

**Issues associated with exercises and drills** included: lack of longer term budgeting; frequency; availability of required personnel; and communication, tracking and follow up of corrective actions.

**Absence of key participants** from exercises and drills was voiced as a concern. Suggestions included, but were not limited to: planning drills around the participants that are notorious for not showing up; and giving additional power to NB EMO or another organization to make attendance at drills and/or exercises compulsory for certain parties. It was suggested that planning occasional drills outside of regular business hours might increase participation and decrease costs, as well as increase realism to some degree.

**Unannounced drills and fan-outs** are considered by some to be important components of preparedness, but tend to be rare.

Several participants suggested **inviting higher level staff to exercises and drills**, to improve their awareness of issues and areas requiring improvement, the implication being that resources may be more likely to follow to address corrective actions.

Participants generally concurred that **handling of corrective actions requires improvement** in the areas of: documentation, communication, implementation and follow-up. Accountability for corrective actions requires improvement in terms of assigning priorities, responsible parties and establishing a timeframe for completion. Prioritization was viewed by some as being particularly important, as budget restrictions tend to determine which items are completed.

While there are some opportunities to send observers to exercises and training in other regions, **lessons learned should be shared more effectively**. A secure inter-regional web-site for corrective actions and lessons learned was suggested as a part of the solution. Evaluations from previous exercises could also be posted for review and reference.

A representative from the armed forces indicated that such a "**lessons learned**" centre currently makes information from drills available to personnel. Feedback from wardens' routine drills is provided to the EMO for review and further distribution.

Participants emphasized the importance of having **observers** involved in the exercises, and involving the media was also seen as a potential benefit.

### **Public Education and Communication - Preparedness**

It was widely acknowledged that the **wardens and fire rescue service play a key role in proactive public education and communication**, particularly within a 20 km radius from Point Lepreau Generating Station. New residents to the area are visited and provided with emergency preparedness information and a kit including a booklet, KI pills, a smoke detector, and a community notification system (CNS) device which displays emergency information and instructions. Residents are briefed on protective measures using the "All Hazards" approach. Wardens collect information on the number of households and household members, and identify communication requirements and mobility issues.

Despite the public education and communication effort, there was a general sense that **public knowledge of protective actions** could yet be improved. Participants emphasized that education, as well as clear directions, are key to having the public respond in an appropriate manner during an emergency.

Participants noted that general **documentation regarding the nuclear off-site emergency plan is not widely available** (to many participant organizations or to the public).

## Communication - Response

**Internal and intra-agency notification processes are in place** and seen as solid. Some organizations conduct telephone fan-out drills, and these tend to work well, although participants noted some difficulties in keeping contact lists up to date. Lack of cell phone coverage in some areas was also viewed as a potential issue.

Military **land forces emergency communication systems are in place**, and backup communication systems and signal units are available.

Three methods are used to alert the public regarding nuclear emergencies: the Community Notification System, the Point Lepreau Warden Service, and broadcast media. The **Community Notification System** has been established by NB EMO for the population within a 20 km radius. In the event of an emergency, audio and text messages are sent to the public; the system works with telephone, cellular phones and pagers, e-mail and other special alerting appliances. In the event that messages are not received via the CNS, a **backup notification** procedure, implemented by the wardens, is in place. There was confidence that alerting of the public within the 20 km radius zone can be accomplished within the 9-minute requirement.

An **off-site emergency information centre** is available to handle calls from the public, and then route clarifications through the CNS.

**Communication New Brunswick**, in collaboration with several other organizations, is responsible for maintaining the Emergency Public Information Plan.

Some participants noted a potential difficulty in getting emergency alert information on-air at those **media stations using automatic programming** (primarily weekends and evenings). The process for contacting station programmers has apparently not yet been tested.

Communication systems currently used by the first response organizations are **not compatible** (no common communication band/frequency).

Participants agreed that **public instructions need to be short and simple**.

## Documentation: Plans, Procedures, Checklists and Databases

NB EMO staff noted that one of the organization's roles is to **serve as a resource** to municipalities in developing and implementing emergency plans.

Many **emergency plans are in place** for the various off-site organizations represented at the workshop, but certain aspects of some plans may not yet be documented (largely due to lack of resources). Some participants had questions regarding the degree of coordination of the various plans.

The **designation of zones and sectors was a source of confusion** to some.

Participants had many comments on the use and value of **databases** for preparedness and response. Points discussed included: keeping information available and accessible yet secure; availability of resources to maintain databases; and ensuring access during an emergency. It was suggested that a community inventory of relevant resources might be useful.

**Infrequent document updating** (particularly contact lists) and lack of document control (e.g., resulting in out of date documents in circulation) appear to be relatively common issues for off-site organizations. Some participants were of the opinion that pressure at the federal level, or audit requirements would promote compliance with document control and updating requirements at the provincial level.

### **Protective Actions, Field Teams and Monitoring**

Many organizations and participants require **further clarification on protective action** levels.

There was general agreement that **adequate traffic control plans** are in place, including employing wardens for traffic control if needed.

Potassium Iodide (**KI**) **pills have been pre-distributed** to residents within the 20 km zone, and Public Health manages a database which tracks distribution and expiry dates. NB EMO is responsible for advising the public to take KI. The Off-Site Emergency Centre also has a supply of KI and a distribution procedure.

The **lack of an approved Canadian supplier** of KI remains an issue. Clarification is needed with respect to actual vs. advertised shelf-life and disposal procedures.

A survey conducted every 5 years captures information related to livestock and locally produced goods, which can be used for ingestion pathway analysis.

Guidelines/procedures are needed for **vehicle decontamination** and runoff collection.

It was understood that NB EMO is responsible for lifting protective actions and initiating recovery operations; however there is very **little guidance available on recovery planning**.

**Guidelines and clarity are needed for rescinding** land use restrictions, consumption bans and evacuation orders.

There was general agreement that budget for training and equipment, particular related to volunteer responders, is **insufficient**.

### **Managing Resources: Staff, Equipment, Facilities, Contingencies**

Wardens were comfortable that they have sufficient staff and resources within the 20 km radius, and that they are well prepared for a 2-day emergency, with backup communication systems and generators.

NB Power **assists** fire services in obtaining necessary equipment when possible. A large proportion of emergency worker protective equipment is owned by NB Power and would be loaned to responders as needed.

Various types of backup emergency equipment are available; however the **time required for and costs associated with equipment retrieval** from storage are an issue for some organizations. In addition, calibration and maintenance of stored equipment should be considered.

Public Health maintains personal monitoring equipment and an extensive decontamination plan.

Many first response organizations emphasized that they **rely on large numbers of volunteers**, which may be higher on paper than in reality during an emergency. Many volunteer for more than one organization, and/or may have higher priority commitments to work and family. Volunteer wardens tend to be retirees who stay in the area.

### Feedback on Guidelines

Participants found the guidelines to be a **clear, easy-to-follow and useful** document for off-site nuclear emergency planning and preparedness, and suggested it would be a good evaluation tool.

Some concerns were expressed with respect to the use of certain terminology, and the **inconsistencies** between the French and English versions provided at the workshop.

Participants would **like to see guidelines** developed to address **mitigation and recovery**.

## 4.0 OVERALL CONCLUSIONS

The following overall conclusions have been developed based on the invited presentation and participant input during the three workshops. Key organizations, stakeholders and participants who have jurisdiction for and/or roles in nuclear emergency management may choose to consider these conclusions, and address relevant issues and areas that warrant improvement.

### 1. Additional leadership is required in order to facilitate, at all levels, the continued development of the nuclear emergency management network and the resolution of issues.

Examples of such leadership include:

- Where possible, provide funding or opportunities for representatives of relevant stakeholder, emergency measures and response organizations to meet, share experience and expertise; clarify roles and responsibilities; and work toward resolving specific issues.
- Such opportunities could include inter-provincial and intra-provincial workshops or meetings, formation of working groups, short-term staff exchanges, and/or provision of third-party observers for exercises.
- Based on issues identified during the workshops, specific topics for future workshops or working groups could include:
  - enhancing public education on nuclear emergency preparedness and protective actions;
  - effective public alerting;
  - evacuation planning (particularly related to Pickering);
  - resolution of outstanding thyroid blocking issues;
  - standardization of emergency worker training programs;
  - identification of independent analytical laboratory capability and resources;
  - plan and terminology harmonization;
  - toolkit development including: geo-referenced community resource databases; virtual libraries; efficient plan updating and document control approaches; effective tracking and follow-up of corrective actions; and,
  - backup inter-agency communication plans.



**2. Enhancement of funding and resources for off-site emergency preparedness should be considered.**

Examples of enhancements might include, but not necessarily be limited to:

- a) Communicate federal funding programs (e.g., for training, equipment purchase etc.) more effectively to stakeholders in the host communities.
- b) Provide opportunities and long-term funding for training, especially for first response organizations, the medical community and relevant volunteer organizations.
- c) Provide long-term funding and resources for planning and participation in off-site drills and exercises.
- d) Extend funding programs for purchase of emergency equipment.

**3. There is a desire for more or better participation by relevant parties.**

Improved participation might take the form of:

- a) Ensuring the participation of required staff in exercises and drills.
- b) Encouraging participation of relevant federal representatives in exercises and drills.
- c) Offering experience and expertise where needs are perceived or assistance is requested.

**4. Additional baseline guidance should be considered.**

Given the concerns expressed by participants, agencies having jurisdiction may consider consulting with stakeholders to consider the feasibility of suggested baseline requirements such as:

- a) mandatory updating of specified off-site nuclear emergency plan components having a short shelf-life (e.g., contact lists);
- b) mandatory participation of certain parties in certain drills/exercises;
- c) minimum drill or exercise frequency; and,
- d) provision of on-going, long-term funding for training, drills, exercises and emergency plan maintenance.

**5. The document “General Guidelines for Off-Site Emergency Preparedness and Response – Nuclear” should be revised, finalized and issued.**

This should include:

- a) Reviewing and considering the detailed comments provided by participants during the workshops, and making revisions as appropriate
- b) Issuing the guidelines, ensuring consistency between French and English versions.



**6. Assessment and continual improvement should be promoted.**

Examples of how this might be achieved include:

- a) Facilitate the development of a generic nuclear emergency preparedness auditing tool or checklist that can be tailored by off-site organizations.
- b) Take a leadership role in establishing a voluntary audit process for off-site organizations.

**7. Guidelines for recovery are desired.**

Relevant organizations should work together to develop, or facilitate the development and promulgation of guidelines for nuclear emergency recovery.

**8. The progress of issue resolution warrants monitoring.****GOLDER ASSOCIATES LTD.**

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**LIST OF ACRONYMS**

<b>CNSC</b>	Canadian Nuclear Safety Commission
<b>CNS</b>	Community Notification System (Point Lepreau, New Brunswick)
<b>DEMO</b>	Durham Emergency Measure Organization (Region of Durham, Ontario)
<b>EMO</b>	Emergency Management Ontario
<b>KI</b>	Potassium Iodide (thyroid blocking agent)
<b>MAPAQ</b>	Ministère de l'Agriculture, des Pêcheries et de l'Alimentation
<b>MoU</b>	Memorandum of Understanding
<b>MRC</b>	Municipal Regional County (Québec)
<b>MSPQ</b>	Ministère de la Sécurité publique du Québec
<b>NB EMO</b>	New Brunswick Emergency Measures Organization
<b>PMUNE-G2</b>	Plan des mesures d'urgence nucléaire externe à la centrale nucléaire Gentilly-2
<b>PNERP</b>	Provincial Nuclear Emergency Response Plan (Ontario)
<b>OCIPEP</b>	Office of Critical Infrastructure Protection and Emergency Preparedness

## **APPENDIX A**

### **WORKSHOP PARTICIPANTS**

*This appendix contains protected information and is not publicly available.*