



Terms of Reference

CNSC Task Force

Review of Japan Nuclear Event: Implications for Canadian Nuclear Power Plants

Purpose

The general objective is to evaluate the Japan 2011 nuclear event's operational, technical and regulatory implications on Canadian nuclear power plants (NPPs); specifically, provisions taken by licensees in the design basis (initiating events) and beyond the design basis (available design margins, diversity, redundancy, barrier integrity, and physical separation) for NPPs.

Mandate

- review submissions from licensees who have been directed under 12(2) letters to reexamine the safety cases of their respective NPP; underlying defence-in-depth against external hazards; severe accidents; and emergency preparedness
- assess available technical and operational information from the events at the Fukushima Daiichi NPP and identify high-level lessons learned
- develop recommendations for short-term and long-term measures to address any shortcomings at CANDU reactors, and recommend whether design or operational modifications, including supporting research, are needed
- determine priorities for implementation of corrective actions from lessons learned and the need for further examination
- develop recommendations, as appropriate, for potential changes to CNSC regulatory requirements, inspection programs and policies for existing CANDU and new builds

Scope

The scope of this task force is limited to direct issues highlighted by the events in Fukushima and the possibility for combinations of similar events in Canada. It applies to postulated accidents at CANDU NPPs, such as — but not limited to — the following:

- seismic event + LOCA
- loss of electrical power + fire
- tornado + hurricane



These types of accidents may result in prolonged loss of safety functions; such as:

- prolonged station blackout/loss of electrical power
- prolonged loss of heat sink

They may lead to either:

- significant fuel damage or core melt
- hydrogen accumulation in containment
- loss of cooling and shielding in the spent fuel storage

Considerations for post-failure mitigations (accident management) should include the evaluation of:

- inherent safety functions/automatic actions
- operator actions as per emergency operating procedure/recovery actions
- severe accident management guidelines/evacuation plans

The results may lead to additional safety provisions of a technical, regulatory or organizational nature (such as new requirements, procedures, accident management, emergency response, etc.).

Reporting

The task force will prepare preliminary and final reports on the status of the effort and provide early identifications of significant findings to:

- the CNSC Executive Sponsors: Executive Vice-President (ROB) and Vice-President (TSB)
- CNSC Operations Management Committee
- CNSC Management Committee (MC)
- CNSC Commission members in a public forum
- Internal stakeholders, as appropriate

Organization and Membership

This task force will comprise the following members:

Chair:

- Greg Rzentkowski, Director General, Directorate of Power Reactor Regulation

Vice-Chair:

- Gerry Frappier, Director General, Directorate of Assessment and Analysis

Technical Leads:

- Tom Schaubel, Director, Directorate of Power Reactor Regulation
- Pat Hawley, Director, Directorate of Assessment and Analysis

Scientific Secretary:

- Hatem Khouaja, Technical Advisor, Directorate of Power Reactor Regulation

Technical Specialists, Subject Matter:

- Sanja Simic: severe accident
- David Newland: requirements for new build
- Chantal Morin: probabilistic safety assessment
- Chris Harwood: deterministic safety assessment

Support staff may be invited as technical or special advisors, or subject matter experts, provided the chair, vice-chair and/or the technical leads agree in advance.

Additional persons may be used as necessary to achieve objectives, but care must be taken that the number of meeting attendees does not inhibit progress.

Roles and Responsibilities

Chair:

- a. chairs the meetings
- b. serves as the regulatory lead to ensure any regulatory decisions, as outcomes of this work, such as new regulatory requirements/policy decisions and/or recommendations for safety upgrades at Canadian NPPs are implemented
- c. updates and briefs MC members, Commission, and stakeholder as necessary
- d. Sets meeting agendas in consultation with the Vice-Chair
- e. Resolves conflict when consensus is not reached
- f. Approves all documents produced by this task force

Vice-Chair:

- a. chairs the meetings in the absence of the chair
- b. ensures that regulatory decisions or recommendations for safety upgrades are based upon sound technical arguments
- c. identifies (technical) resource implications taking into account day-to-day focus on safety
- d. ensures actions are completed as assigned to the Technical Leads
- e. approves all documents produced by this task force

Technical Leads:

- a. chair the meetings in the absence of the Chair or Vice-Chair
- b. represent the views of their Directorates
- c. consider the wider regulatory aspects when formulating recommendations
- d. brief Directorate colleagues of discussions held and decisions taken in meetings
- e. discharge actions as assigned
- f. verify completeness and correctness of the reviews in consultation with the Chair/Vice-Chair
- g. prepare preliminary and final reports

Scientific Secretary:

- a. act as the meeting secretary
- b. prepare Project Charter with timelines/milestones and deliverables
- c. plan, coordinate and integrate all activities to meet the task force's mandate
- d. issue meeting notices, agenda, material and minutes, and progress reports once approved by Chair/Vice-Chair

Technical Specialists:

- a. prepare for and participate in meetings
- b. accept and complete actions taken during meetings
- c. assume responsibility for executing activities within their area of expertise to meet the task force's mandate
- d. review assigned documents/analysis
- e. verify validity of safety analysis assumptions and evaluate plant behaviour under postulated accident events
- f. prepare report for a given technical area

Operating Procedures

1. The task force will meet routinely at a frequency determined by the Chair.
2. Quorum for a meeting is four members, one of whom must be the Chair, Vice-Chair or a Technical Lead.
3. The task force will seek input from industry as appropriate, but remain independent of industry efforts.
4. The task force will present monthly reports to the CNSC Executive Sponsors; i.e., Executive Vice-President (ROB) and Executive Vice-President (TSB), and to the MC.
5. Actions may be assigned to staff outside the task force if approvals from respective line managers are granted.
6. The task force will coordinate and cooperate where applicable with other domestic and international efforts for additional insight.
7. These Terms of Reference will be revised as deemed necessary.