



OPG Protocol with the CNSC for Darlington Relicensing and Refurbishment

March 2015
Revision 0

Darlington Regulatory Program Division
Directorate of Power Reactor Regulation
Canadian Nuclear Safety Commission

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Extent of the protocol

This protocol is strictly administrative in nature. None of the statements in this protocol are to be construed or interpreted as affecting the jurisdiction or discretionary powers of the Canadian Nuclear Safety Commission (CNSC) in its assessments of licence applications made in accordance with the *Nuclear Safety and Control Act* (NSCA) [1]. It is not intended to constitute a deviation to the current operating licences of Ontario Power Generation (OPG) for its nuclear power reactors.

1. Objective

Regulatory certainty is important for major projects such as the Darlington Refurbishment Project. Likewise, certainty around expectations is critical to success in long relicensing applications and the Hearing process for Darlington in 2015. In that regard, this Protocol is intended to clearly define requirements for production of certain deliverables by both parties, to obtain certainty around schedule and scope.

The scope of work specified in this protocol has been agreed to with Canadian Nuclear Safety Commission (CNSC) staff for licensing considerations. The schedule and scope of regulatory submissions is specified in Appendix C as well as the nature of CNSC review required. Regulatory acceptance is dependent on the deliverables meeting established closure criteria. These may include acceptable R & D results, field compliance verification inspection program and results, as well as acceptable quality of Project deliverables. CNSC staff will review and accept the deliverables in accordance with the agreed upon schedule subject to those deliverables meeting closure criteria. The schedule is subject to change based on operational considerations. The following documents and any amendments relating thereto, which will be dealt with through formal correspondence between designated representatives, form the agreement between OPG and the CNSC.

This protocol details the administrative process to be used between the CNSC and OPG to manage the regulatory interaction for the listed elements of Darlington Relicensing and Refurbishment work programs. It will follow existing regulatory requirements without compromising the CNSC's independence and ability to enforce the *Nuclear Safety and Control Act* (NSCA) and the associated applicable regulations. This protocol addresses five key items to facilitate schedule adherence for all participants as follows:

- Progress of activities to a specific schedule;
- Use of a defined process to resolve issues;
- Identification of points of contact for communication;
- Guiding principles for the review of work; and
- Controlling changes to the agreed protocol

2. Date of Completion of Activities and Description of Activities

- 2.1 Subject to this protocol, OPG and the CNSC staff shall perform and complete the activities that are described in Appendix A, Technical Scope and Regulatory Response, within the timeframes indicated. The ability of CNSC staff to complete the reviews within the allocated time is dependent on the quality of the deliverables submitted by OPG.
- 2.2 Changes to the schedule in Appendix A will be managed by formal correspondence in accordance with the CNSC Protocol Governing Correspondence between the CNSC Power Reactor Regulatory Program Staff and Power Reactor Licensees Rev. 3.1 as amended from time to time.

- 2.3 Any disputes shall preferably be resolved at the working level or by escalation per Appendix B as needed.

3. Guiding Principles for Regulatory Review

The following guiding principles will be followed for the successful completion of the Protocol.

- 3.1 This protocol applies from the date of signature and ends when each of the deliverables has been completed. This is to establish regulatory scope and predictability to allow for planning and scheduling by both parties.
- 3.2 The key work is to be completed in time for Darlington Licence Hearings in August 2015.
- 3.3 The review of work under this Protocol will be risk-informed taking into consideration any new requirements related to improvements in public, worker and environmental safety.
- 3.4 All formal commitments made will be tracked to minimize the risk of being overlooked and to ensure timely completion.

4. Regulatory Response - Technical Assessment Reports (TAR)

The technical assessment reports(s) will summarize the reviews performed by CNSC staff as follows:

- 4.1 List the reviews carried out by CNSC staff and, for each review, summarize the conclusions reached.
- 4.2 CNSC staff will perform a technical assessment of the licensee submitted technical reports and will provide its findings, as necessary, to the licensee for disposition or resolution. Provision of these findings to OPG will constitute the CNSC response noted in the tables in Appendix A.
- 4.3 CNSC staff will identify any issues for clarification and where additional information is required.
- 4.4 The TAR from CNSC staff may form the basis for necessary information that may be used in part, by the Commission on making a decision with respect to license renewal.

5. Representatives

- 5.1 The representatives are responsible for all matters concerning the activities under this protocol. Any proposed changes to the scope of the activities are to be discussed and authorized by means of formal correspondence.
- 5.2 For the purposes of this protocol, the CNSC shall be represented by the following representatives:

- (i) Project Manager: The Director General, Directorate of Power Reactor Regulation (position currently held by Mr. Barclay Howden) for general matters related to this Protocol.
 - (ii) Technical Lead: The CNSC Director, Darlington Regulatory Program Director, (position currently held by Mr. Francois Rinfret) for matters related to the Technical Scope and Schedule.
- 5.3 For the purposes of the Protocol, OPGN shall be represented by the following representatives:
- (i) Project Manager: The Director, Nuclear Regulatory Affairs and Stakeholder Relations (position currently held by Mr. Robin Manley), for general matters related to this Protocol
 - (ii) Technical Lead: The Manager, Darlington Regulatory Affairs (position currently held by Mr. Doug Coleman), for matters related to the Technical Scope and Schedule.


Any participant hereto may, by formal correspondence, change any of its appointees mentioned above.

This protocol has been executed on behalf of Ontario Power Generation and the Canadian Nuclear Safety Commission by their duly authorized representatives:



G. Jager
Chief Nuclear Officer
Ontario Power Generation

Signed 21 APR 2015



R. Jammal
Executive Vice-President and
Chief Regulatory Operations Officer
Regulatory Operations Branch

Signed 2015/03/31

Appendix A – Technical Scope & Regulatory Response

Licence Renewal Activities

ACTIVITY	OPG		CNSC	
Darlington PROL Renewal key milestones Overall TCD: December 31, 2015	Submit CMD	TCD: Jul. 20, 2015	Submit CMD	TCD: Jul. 20, 2015
	Submit Part 1 presentation	TCD: Aug. 12, 2015	Submit Part 1 presentation	TCD: Aug. 12, 2015
PSA Overall TCD: Prior to Part 1 CNSC and OPG's CMDs need to provide updated results and progress on issues.	Notifications of revisions to PSA methodology documents	TCD: Jun. 19, 2015	None	
	DARA 2015 Probabilistic Safety Assessments (majority/all)	TCD: Jun. 19, 2015	General concurrence with assessments for licensing through CMD	TCD: Jul. 2, 2015
	Darlington NGS PSA Action Plan (if required)	TCD: Jun. 19, 2015 (in OPG's CMD)	None	
	Update on Whole Site PSA COG joint project and Darlington NGS Risk Aggregation	TCD: Jun. 19, 2015	None	
	2015 Darlington PSA Summary Report on OPG.com	TCD: Aug. 12, 2015		

ACTIVITY	OPG	CNSC
<p>Seismic Spectrum Curve & 2015 DARA Update</p> <p>Overall TCD: Prior to Part 1 CMD submission</p>	<p>OPG response to CNSC/NRCan comments (may include consideration as part of the sensitivity/ uncertainty analysis of DARA 2015 seismic PSA)</p> <p>TCD: May 1, 2015</p>	<p>CNSC to provide CNSC/NRCan comments on 2011 seismic hazard curve used in S-294 DARA</p> <p>Completed Mar. 6, 2015</p> <p>Arrange Tri-party meeting (CNSC, NRCan, OPG)</p> <p>TCD: Mar. 31, 2015</p> <p>General concurrence with OPG response and path forward</p> <p>TCD: Jun. 1, 2015</p>
<p>DFO Authorization</p> <p>Overall TCD: Prior to Part 1 CMD submission</p>	<p>OPG submit request for authorization to "take fish" to DFO.</p> <p>Completed Aug. 27, 2014</p> <p>Submission of monitoring plan for proposed habitat credit</p> <p>Completed Feb. 20, 2015</p>	<p>No action required by CNSC</p> <p>DFO issues authorization (90 days after OPG submits responses)</p> <p>TCD: May 21, 2015</p>
<p>Enhance public information and engagement</p> <p>Overall TCD: Prior to Part 1 CMD submission</p>	<p>Publically post licence renewal information</p> <p>TCD: Apr. 30, 2015 Documents referenced in application posted</p> <p>Application & addendum publicly posted.</p> <p>Completed</p> <p>Post CMDs and supplemental submissions</p> <p>Within 2 days of issue</p> <p>Host public open doors information sessions</p> <p>Completed Nov. 30, 2014</p> <p>Jun. 6&7, 2015</p> <p>Conduct stakeholder sessions</p> <p>Completed Feb. 12, 2015 local municipal officials</p>	<p>CNSC publicly post all references in their CMDs</p> <p>Within 2 days of CMD deadline</p>

ACTIVITY	OPG	CNSC
	<p>Completed Feb. 19, 2015 NGO's</p> <p>Apr. 30, 2015 First Nations</p>	
Fuel Channels	<p>Request for acceptance of pressure tube flaw component dispositions – extension of LBB Limit beyond February 28, 2015</p> <p>Submission on Assurance for FC and Spacer FFS for Target Pre-Refurbishment Service Life</p>	<p>Completed Jan. 14, 2015</p> <p>Completed Mar. 6, 2015</p> <p>CNSC acceptance of Pressure tube flaw component dispositions</p> <p>CNSC Concurrence TCD: May 30, 2015</p>
KI Pre-distribution Overall TCD Dec. 31, 2015	<p>Firm plan with committed dates and action owners, milestone, deliverables to ensure distribution deadline is met</p>	<p>TCD: Aug. 12, 2015</p> <p>Continued participation on the provincial KI pill project team</p> <p>On going</p>
FHA/FSSA	<p>Submission of completed actions and committed longer term actions and request for acceptance of the FHA & FSSA reports</p>	<p>Completed Nov. 19, 2014</p> <p>CNSC staff acceptance of the FHA & FSSA reports and closure of the Directive</p> <p>Completed Jan. 30, 2015</p>
NOP	<p>Provide response to CNSC contractor report</p> <p>Provide response to CNSC staff report</p>	<p>TCD: Mar. 27, 2015</p> <p>TCD: Mar. 27, 2015</p> <p>Concurrence from CNSC that E-NOP methodology is accepted; else any remaining minor questions for resolution</p> <p>TCD: Jun. 15, 2015</p>

ACTIVITY	OPG	CNSC
LBLOCA	OPG to submit position on LBLOCA and path forward on resolution of issues TCD: May 31, 2015	CNSC to provide response to OPG submission TCD: Jun. 30, 2015
Fukushima	OPG request for closure of last FAIs Complete Oct. 31, 2014	CNSC acceptance of request for closure Complete Jan. 21, 2015
Study of Consequences of a Hypothetical Severe Nuclear Accident and Effectiveness of Mitigation Measures	OPG to provide technical support as requested On going	Final Draft Report For Commission Acceptance Completed Mar. 9, 2015 Publication of Final Report to be placed on CNSC website. TCD: Jun. 30, 2015

Refurbishment Activities Related to Licence Renewal

ACTIVITY	OPG	CNSC
IIP Revision Rev 2	OPG submit IIP Rev 1. Completed Oct. 30, 2014	CNSC review and accept IIP Rev 1 Completed Dec. 22, 2014
Overall TCD: Prior to Part 1 CMD submission	OPG submit IIP Rev 2. TCD: May 15, 2015	CNSC include IIP Rev 2 in licence renewal CMD TCD: Jul. 20, 2015
SIO Seismic Fragility	OPG submission on seismic robustness of SIO's Completed Oct. 30, 2104	CNSC acceptance of OPG submission TCD: Apr. 15, 2015

Appendix B – Issue Resolution Process

CNSC Staff will review the deliverables presented by OPGN to determine whether there are fundamental issues to issuing a positive CNSC staff position on licence renewal. Disagreements may arise during the review. A review and issue resolution mechanism will be used to facilitate timely completion.

Nothing in this issue resolution process seeks to bind, or has the effect of binding, the Commission.

Step 1: Identification of the Issue and Resolution at the Working Level

1. Periodic OPG and CNSC licensing or technical review meetings will be held to review progress on the key activities and highlight any potential major issues. Minimum attendance at these review meetings will be the CNSC technical lead or delegate and the technical lead (or delegate) for OPG.
2. It is the intention of both parties to resolve issues at this level.
3. If an issue cannot be resolved at this level, it will be documented (typically, a brief factual summary of the issue and a paragraph representing the view of each organization) by the individuals in Paragraph 1 with one week of failure to resolve, and forwarded to the Project Managers (Step 2).

Step 2: Resolution at the Project Manager Level

1. A step 1 issue, once documented, will be provided to the CNSC Project Manager and his counterpart in OPG. A meeting will be called, normally within 14 days, to resolve the issue, and the resolution documented.
2. Issues which cannot be resolved at this level will be referred to the Executive Level (Step 3) within two weeks, supported by the original or revised documentation from Step 1.

Step 3: Resolution at the Executive Level

A step 3 issue with documentation will be sent to the Executive Vice-President and Chief Regulatory Operations Officer (CNSC) and the Chief Nuclear Officer (for OPG). A meeting will be called, normally within 30 days, to resolve the issue and the resolution documented.

Meetings of the Parties

Working Level	Frequency	Representatives
<p>Review schedule status and identify technical issues for resolution.</p> <p>1.Meetings with WG Chairs 2.Issue resolutions 3.Progress updates</p>	<p>Periodically, as required and/or when reportable progress has been made.</p>	<p>OPG – Doug Coleman CNSC – Francois Rinfret</p>
Project Manager Level	Frequency	Representatives
<p>Unresolved issues at the working level will be provided to the managers for resolution.</p>	<p>Every month or as issues are raised.</p>	<p>OPG – Robin Manley CNSC – Barclay Howden</p>
Executive Level	Frequency	Representatives
<p>Any unresolved issues at the Senior Management level will be managed as needed.</p>	<p>As needed.</p> <p>A meeting will be called, normally within 30 days to resolve the issue, and the resolution documented.</p>	<p>OPG – Glenn Jager/ Laurie Swami CNSC – Ramzi Jammal</p>