

Dr. Binder
President
Canadian Nuclear Safety Commission
280 Slater St
PO Box 1046, Station B
Ottawa, Ontario
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Dear Dr. Binder;

We are a group of specialists at the CNSC. We are writing to you so that we can be heard.

We are writing anonymously because our opinions will be well received by management at the CNSC and we are not confident in whistle blower protection.

Our primary concern is that CNSC Commissioners do not receive sufficient information to make balanced judgments.

Secondly, because insufficient information is made available, other branches of government cannot make informed decisions. For example, the Government of Ontario cannot make a good decision about financing the refurbishment of Darlington without knowing all the facts.

Finally, knowledgeable and interested members of the public cannot be involved in the licensing process unless all non-confidential information is released.

We have attached a number of cases that we know about and that have been significant issues at recent public hearings

We have made some suggestions that may alleviate the problems we have identified.

cc. Dr. J. Moyra McDill, CNSC Commissioner
Ms. Rumina Velshi, CNSC Commissioner
Mr. S. P. Stensil, Greenpeace Canada
Theresa McClenaghan, Canadian Environmental Law Association.

Case 1

In 2014 the CNSC granted OPG a one-year licence for Darlington NGS on the basis that it would provide the safety case for the refurbishment period of the station, i.e. approximately 2016 to 2030. However, OPG did not submit regulatory quality studies for the refurbishment configuration prior to being granted a long term licence in December 2015.

For example:

- CNSC regulatory standard S-294 requires an update of the Probabilistic Safety Assessment (PSA) ‘... if major changes occur in the facility.’
- Isolating a single unit for refurbishment changes the containment boundary, changes the containment volume and changes the reliability of inter-unit systems.
- Isolating a single unit constitutes a major change to the facility. *If refurbishment does not require a fully updated PSA, then this regulatory requirement is meaningless.*
- OPG has not completed a S-294 quality PSA for the refurbishment configuration.
- CNSC staff did not inform the Commission that the PSA had not been updated or recommend a licence condition that an update was required

Without a detailed PSA, OPG is not in compliance with S-294, and neither OPG nor the Commission can make an informed decision about the safety of the plant during refurbishment.

Case 2

OPG did submit an updated PSA in 2015, and informed CNSC staff and the Commission that it is compliant with Regulatory Standard S-294.

The CMD from CNSC staff presented information from OPG’s PSA. What CNSC staff did not tell the Commissioners is that they had completed little or no review of the 2015 PSA.

In fact, CNSC staff only resolved all comments from the review of the 2011 PSA in early 2015.

Without some review of a regulatory document such as a PSA, the CNSC staff cannot endorse the results and findings of the document. As a minimum CNSC staff should make it clear how extensive a review of regulatory documents was completed.

Case 3

Bruce Power's operating licences required the completion of S-294 compliant PSAs by the end of 2013. Bruce Power did not complete the PSAs until late 2014.

Bruce Power did not inform the Commission of this issue in the 2014 day 1 licensing hearing.

CNSC staff did not inform the Commission of this issue in the 2014 day 1 licensing hearing.

CNSC management went further and actively discouraged any review of Bruce Power's PSAs by technical specialists. They argued that acceptance of the methodology was sufficient, there was no need to confirm that the PSA met the methodology.

We disagree with management's position. However, even if management's position is correct, the status of the PSA and the level of review should have been made clear to the Commissioners. This may have resulted in the imposition of licence conditions upon Bruce Power as it has done upon OPG.

Case 4

The CNSC engaged technical experts for Natural Resources Canada to review the seismic hazard for the Darlington site. This is used in the seismic PSA.

The experts from Natural Resources Canada concluded that the hazard used by OPG in its 2011 seismic PSA under-estimated the hazard by a factor of two.

It is our understanding that OPG updated its seismic hazard assessment for Darlington in 2012 or 2013 based upon a series of geological tests completed in 2011. We understand that the OPG assessment also concluded that the seismic hazard had been underestimated by a factor of two.

Neither OPG nor CNSC staff informed the CNSC Commissioners that the seismic hazard was under-estimated by a factor of two in the PSA submitted in 2015. Therefore, no information was presented by either organization on how this might affect seismic risk.

Case 5

Intervenors in recent OPG licensing hearings have asked about the impact of INES – 7 events. In particular, the extent of evacuation following an INES-7 event.

We believe that OPG completed a Level 3 PSA in 2011 2012 Darlington to support the environmental assessment required as part of the refurbishment project. The Level 3 PSA analyzed the impact of an INES-7 event upon evacuation.

OPG did not release the results of the Level 3 PSA as it was not required to do so by the rules for an environmental assessment.

Without the information from the Level 3 PSA, the CNSC Commissioners cannot judge whether Ontario's emergency response plan is adequate. Additionally, the Government of Ontario cannot fully assess the economic and social risks associated with extending the life of Darlington.

Correcting the Identified Issues

1. Assign an independent expert to review the accuracy of the claims made in this letter. Make the expert's report available to the public.
2. Instruct OPG to complete and issue a regulatory quality update of the Darlington PSA by the end of 2016.
3. Instruct the CNSC staff that in future they must prepare a public review of all studies that are mandated by the licence or the licence condition handbook, e.g. the PSA and the Safety Report. The review should include the review plan, the resources spent in the review, the findings and the importance of any deficiencies.
4. Instruct the CNSC staff to complete a review of the Darlington PSA following item 3 by June 30, 2017.
5. Instruct OPG to complete an assessment of off-site effects, e.g. area meeting provincial Protective Action Limits by June 30, 2017.
6. Hold a public meeting to discuss the Darlington PSA and the CNSC's review in the second half of 2017.
7. Instruct all Canadian operators that in future they must conduct an independent peer review of their PSAs. This practice is used in many jurisdictions and is mandatory in the USA.

A peer review will confirm that a PSA has been completed following regulatory requirements, including the methodologies accepted by CNSC staff. A summary of the findings of the peer review should be issued to the public.

8. Track resolution of the findings of peer reviews at Commission meetings.

9. Instruct Bruce Power to complete a peer review of the latest PSA for Bruce B by June 30, 2017.