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**Written submission from the
Canadian Association of
Nuclear Host Communities and
the Municipality of Clarington**

**Mémoire de la Canadian
Association of Nuclear Host
Communities et de la
Municipalité de Clarington**

**Regulatory Oversight Report
for Canadian Nuclear Power
Generating Sites for 2023**

**Rapport de surveillance
réglementaire des sites
nucléaires pour 2023**

Commission Meeting

Réunion de la Commission

February 25, 2025

Le 25 février 2025



Clarington

Mayor Adrian Foster

January 10, 2025
Canadian Nuclear Safety Commission
280 Slater Street, P.O. Box 1046, Station B
Ottawa, ON
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Attached, you will find the work completed on behalf of the Canadian Association of Nuclear Host Communities (CANHC) and the Municipality of Clarington. This comprehensive *Review of the Canadian Nuclear Safety Commission's Regulatory Oversight Report for Canadian Nuclear Power Generating Sites for 2023 (CMD-25-M9)* highlights several issues, particularly in areas of interest to the Clarington community. Chief among these is the lack of transparency and community engagement, which are potential causes for concern.

As a proud nuclear host community, Clarington is eager to move beyond mere intervention and fully and constructively participate as an active stakeholder in our local nuclear sector and the regulatory process. We respectfully request responses to the issues the municipality has raised.

We emphasize the need for clarity on the path forward and the opportunities for Clarington's participation. Providing this clarity will greatly assist us in understanding our role and responsibilities as an integral part of the nuclear community, and how we may help with the process.

Thank you for your attention to these matters.

Sincerely,

Adrian Foster
Mayor of the Municipality of Clarington

Review of the Canadian Nuclear Safety Commission's Regulatory Oversight Report for Canadian Nuclear Power Generating Sites for 2023 (CMD-25-M9) with specific emphasis on areas of interest to the Clarington community

Introduction and scope

On August 26, 2024, the Canadian Nuclear Safety Commission (CNSC) published its annual regulatory oversight report (ROR) on Canadian Nuclear Generating Sites for the year 2023 (CMD-25-M9). This report describes, for each licensed nuclear generating site, how licensees have performed in terms of safety, compliance with their procedures, and adherence to regulatory policy. Moreover, by virtue of collating all the various inspection activities that were undertaken during a given year, the report also provides evidence that shows that the regulator is adequately fulfilling its duties. This review provides findings and recommendations on this ROR, with specific emphasis on areas of interest to residents of Clarington. These areas of interest pertain predominantly to the Darlington Nuclear Generating Station (DNGS) and the associated Darlington Waste Management Facility (DWMF), due to their location within the municipality.

Findings and recommendations

Canada has a robust regulatory regime that provides permissive rather than prescriptive licencing with appropriate checks and balances to ensure the safety of the public and environment. In regulating Canadian nuclear power generating sites (nuclear power plants [NPP] and associated waste management facilities [WMF]), CNSC considers 14 safety and control areas (SCA) in its licensing basis and compliance verification activities. The 14 SCA's are:

- Management System
- Human Performance
- Operating Performance
- Safety Analysis
- Physical Design
- Fitness for Service
- Radiation Protection
- Conventional Health and Safety
- Environmental Protection
- Emergency Preparedness and Fire Protection
- Waste Management
- Security
- Safeguards and Non-Proliferation
- Packaging and Transport

Across all SCA's, Darlington NGS and Darlington WMF received satisfactory evaluations after a series of snapshot (type 2) and desktop inspections. It is reported in table 6 that 13 type 2 inspections and 4 desktop inspections were performed for DNGS, although this appears to differ from table 5 which states there were 13 type 2 inspections and 5 desktop inspections, and table 2 which states there were 13 type 2 inspections and 6 desktop inspections. Whilst this has no impact on the SCA's themselves and, by extension, the safety of the Clarington community, the discrepancy, and any other like it, should be resolved or clarified in order to provide confidence in the conclusions. Likely due to its proportionately lower risk, only 1 type 2 inspection and 2 desktop inspections were performed for the DWMF in 2023. In all cases at both DNGS and DWMF, any non-compliances identified had low or negligible safety significance and were often due to minor administrative errors or oversights. There were two exceptions for DNGS where medium safety significance non-compliances were found for human performance management and emergency management and fire protection, respectively.

The first medium finding, pertaining to human performance management, was the result of misadministration and flaws in grading accuracy for one group undergoing simulator certification training and did not satisfy the requirements of CNSC- EG2, Rev.0, Requirements and Guidelines for Simulator-based Certification Examinations for Shift Personnel at Nuclear Power Plants. Satisfactory corrective actions were introduced. The other medium finding, pertaining to emergency management and fire protection, was the result of audibility issues with the station public address system being inadequately rectified by Ontario Power Generation (OPG). Additional compensatory measures were subsequently instituted to facilitate upgrades to the PA system. Whilst this presented no risk to the public, in the event of an onsite incident (not necessarily radiological) it could have posed an added risk to workers.

Given it involved prescribed information, information of nuclear security significance, CNSC reported an Event Initial Report (EIR) to the commission in March 2023. This EIR pertained to misplacing of equipment used in an OPG training activity earlier in 2023 and the inadequate corrective actions thereafter. Whilst adequate measures had been put in place by Spring 2023, this, on top of downgraded security performance in previous years, has since (in 2024) resulted in an in-depth type 1 inspection. As prescribed information cannot be shared freely with the public, the necessary lack of transparency over the event does raise some concerns – especially in light of the arrest of an OPG worker in 2024 for transmitting safeguarded information. It is also not clear from the ROR if the misplaced equipment was ever found. Whilst prescribed information can be fairly innocuous, for example, identifying the location of a sensitive asset on a site that cannot be easily accessed, it could also provide information to somebody with malintent to do harm, harm that could be visited on the Clarington community or wider public. Whilst this is obviously a 'worst-case scenario' view, greater clarity over the nature of the prescribed material

would be welcome. Note, in section 2.1 on page 17 it states that this EIR is part of the Security SCA on page 22 when in fact it is mentioned on pages 29-30. This discrepancy should be rectified.

Potential concerns with respect to hydrogen equivalent (Heq) content in pressure tubes, as seen at Bruce Nuclear Generating Station, have been mitigated at DNGS due to the refurbishment of all units.

With respect to radiation, collective doses to workers at DNGS were elevated due, in most part, to on-site refurbishment activities. However, whilst this was the case, the effective dose to any individual worker did not exceed regulatory limits in 2023 and there were no reports of doses of consequence to the public in Clarington, or elsewhere. At no point were derived release limits (DRL's) to the environment exceeded. Similar findings were noted across all the nuclear power generating sites.

In their conclusions, CNSC states that “the number of unplanned transients and trips in the reactors was low and acceptable to CNSC staff.” They do not, however, indicate what their level of acceptability was until Appendix F2, wherein a World Association of Nuclear Operators (WANO) target of 1.5 trips, and an industry target of 1 trip, per 7000 operating hours are given. For Darlington NGS the total number of unplanned transients in 2023 was 5, including 2 unplanned trips and 3 setbacks, numbers bounded by the five-year maximum and minimum values. With a total of 0.35 trips per 7000 operating hours in 2023, DNGS, along with all other Nuclear Generating Stations in Canada, beat the more stringent WANO target for trips at Pressurised Water Reactors (0.5 trips per 7000 operating hours). It should be noted that the trips per 7000 operating hours at DNGS 1-4 were roughly 50% higher than for units 5-8 at nearby Pickering NGS, perhaps as a consequence of the onsite refurbishment activities. At no time was the safety of residents of Clarington, or elsewhere, at risk. Unplanned transients are not a potential occurrence at DWMF. Note, in section 2.1.3 on page 22 of the report, there is a typographical error, specifically “World Associate of Nuclear Operators” should read “World Association of Nuclear Operators.” Moreover, there appears to be a minor discrepancy between the trip rate specified on page 22 and those given in the appendix.

CNSC's commitment to engagement and transparency is noted and welcomed. However, regarding the request from environmental non-governmental organisations for greater disclosures about meetings between CNSC and industry, the extent of these requested disclosures should be better clarified. With respect to CNSC's indigenous engagement efforts, whilst specific actions, like the attendance of CNSC subject matter experts, on request, at meetings of three local First Nations to discuss the licence extension at nearby Pickering Nuclear Generating Station; actions at Darlington NGS and Darlington WMF are somewhat nondescript and, except for the independent environmental monitoring program and stated monthly meetings, appear to lean more on notification. Perhaps this

is adequate, or perhaps the activities are too extensive to list, but a more substantive description or tally of them would have been instructive. The same could be said for the Clarington community, documented engagement with whom appears to be lacking from the ROR.

It is recommended that the references section, section 6, of CMD-25-M9 be populated or removed, as in the copy that was shared such that this review could be undertaken shows it to be blank – a strange finding for a document the was signed ahead of release.

Conclusions

As described in CMD-25-M9, Ontario Power Generation, and the other Canadian nuclear operators (Bruce Power, NB Power, Hydro Quebec), have an enviable record of safely operating their nuclear generating stations. Unfortunately, like all large organisations, they make occasional administrative and procedural mistakes, but fortunately, due to rigorous processes and regulatory oversight, at no point was the public put at risk. In 2023, across all nuclear power generating sites, CNSC performed over 300 inspections (including 89 type 1, type 2, or desktop inspections), had 1578 findings, and produced 85 inspection reports, with over 150,000 person-hours having been spent on compliance alone. Year-on-year, the total number of events reported to CNSC was comparable, and the number from DNGS having fallen by almost a third. All sites in Canada, including DNGS and DWMF, demonstrated satisfactory performance across all safety and control areas, with the vast majority of documented non-compliances being of low to negligible safety significance, and none being greater than a medium finding. Rectification efforts for non-compliance could, more often than not, be consider matters of continual improvement. At Darlington, CNSC was satisfied that OPG was delivering upon the commitments made in its integrated implementation plan (IIP), its list of necessary or intended improvements, in a timely manner. An updated periodic safety review IIP was submitted to the CNSC during the reporting year.

From the perspective of the Municipality of Clarington and the community therein, there can be confidence that the ROR shows that OPG is operating its facilities in Darlington (and nearby Pickering), safely and securely, and that any risks locally remain very low. Moreover, they should be reassured that the regulator, the CNSC, is adequately fulfilling its duty to monitor the compliance of licensees. The biggest criticism of how this was reported in the 2023 ROR is that, whilst numbers were given, sometimes descriptions or explanations had insufficient detail or context, perhaps causing unwarranted concern – lack of detail around the misplacement of prescribed information being one such example.

References

CMD-25-M9 – Regulatory Oversight Report for Canadian Nuclear Power Generating Sites for 2023, Canadian Nuclear Safety Commission, 26 August 2024.