

Darlington Nuclear New Build Environmental Assessment Fully Restored on Appeal

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Abstract

Canada's Federal Court of Appeal reversed the decision of the Trial Court on September 10, 2015 in *Ontario Power Generation Inc. v Greenpeace Canada et al.*¹ (2015) FCA 186 . In so doing, the appeal court has restored the discretion of administrative tribunals in environmental assessments to decide the manner of addressing potential common-cause accidents at nuclear facilities. This article reviews the background leading up to this seminal decision, and the legal framework in which the environmental impacts of nuclear projects are assessed. Finally, the author concludes that the court's decision is consistent with previous Canadian judicial precedent, recognizing that there is no absolute certainty in environmental assessment and that licence applications at each stage of the life-cycle of a nuclear energy project provide the best assurance that any adverse environmental impacts will be avoided or, at least, contained.

Keywords

nuclear law, environmental assessment, nuclear power, environmental impact, nuclear licensing process

1.0 Background

Ontario Power Generation Inc. (OPG), a Canadian publicly owned utility, is the owner and operator of the Darlington Nuclear Generating Station consisting of four nuclear reactors in Bowmanville, Ontario. Each of the reactors generates over 900 MW of electricity. In 2006 OPG proposed to build a further set of nuclear reactors at the same site. The project proposal put forward four different technologies based on a "*bounding approach*" or "*plant parameter envelope*" (PPE). This approach involved identifying salient design elements of the Project and for each of these elements, applying the value with the greatest potential to result in an adverse effect based on the design options being considered.

Under the *Canadian Environmental Assessment Act*² (CEAA) which has since been repealed and replaced with a new Act under the same name³ S.C. 2012, c.19, the proponent, OPG, was

¹ Ontario Power Generation Inc. v Greenpeace Canada et al. (2015) FCA 186

² Canadian Environmental Assessment Act S.C. 1992, c.37

³ Canadian Environmental Assessment Act S.C. 2012, c.19

required to have an approved environmental assessment before it could proceed to obtain the necessary licences from the Canadian nuclear regulator, the Canadian Nuclear Safety Commission (CNSC) under the *Nuclear Safety and Control Act*⁴, S.C.1997 c.9, the Department of Fisheries and Oceans under the *Fisheries Act*⁵ and Transport Canada under the *Navigation Protection Act*⁶ R.S.C. 1985, c. N-22. OPG prepared an Environmental Impact Statement (EIS) and the EIS formed the basis for the environmental assessment recommended by the Joint Review Panel and approved by the federal cabinet following a full public hearing. The Joint Review Panel is an expert tribunal.

As the project required regulatory reviews by separate federal authorities, the CEAA then in force⁷, and the one in force today⁸ allow the federal Minister of Environment to enter into agreements with those authorities to establish the Panel and to fix its terms of reference. This Tribunal was empowered to hold hearings, gather information, prepare a report and review OPG's application for a licence to prepare the site for the project.

Following public hearings and the exchange of extensive information requests and responses, the Panel concluded that the project would not cause significant adverse environmental effects provided that the mitigation measures proposed and commitments made by OPG during the Review as well as the 67 recommendations of the Panel were implemented. Their Report was presented to the federal government on August 25, 2011.⁹ The federal government reviewed the report and approved of the assessment.¹⁰ The CNSC, the Fisheries Department and Transport Canada then determined that the Project was not likely to cause any significant adverse environmental effects.¹¹ The site preparation licence was issued in August of 2012.

Greenpeace, Ontario Waterkeeper, Northwatch and the Canadian Environmental Law Association then brought an application for judicial review before the Federal Court of Canada, challenging the Panel Report and recommendations. The applicants argued that the PPE approach was too conceptual since it wasn't based on a specific reactor technology and deprived any meaningful review of potential environmental effects.

2.0 Federal Court of Canada Trial Decision

On May 14, 2014, the Federal Court of Canada, in a 213 page decision¹², returned the environmental assessment to "*a duly constituted Joint Review Panel*" for further consideration and determination, suspending the licensing process. The Court concluded that on three distinct points the Panel's report and recommendations did not provide the federal Cabinet with a proper evidentiary foundation to decide whether responsible authorities with licensing powers should be

⁴ Nuclear Safety and Control Act ⁴, S.C.1997 c.9

⁵ Fisheries Act R.S.C. 1985, c.F-14

⁶ Navigation Protection Act R.S.C. 1985, c. N-22

⁷ supra 2, s.33

⁸ supra 3, s.40

⁹ Joint Panel Assessment Report August 25, 2011 <http://www.ceaa-acee.gc.ca/052/document-eng.cfm?did=55381>

¹⁰ Government of Canada's Response to Joint Review Panel Report May 2, 2012 <http://www.ceaa-acee.gc.ca/052/document-html-eng.cfm?did=55542>

¹¹ Final Decision <http://www.ceaa-acee.gc.ca/052/details-eng.cfm?pid=29525>

¹² Greenpeace Canada et al v. Ontario Power Generation Inc. 2014 FC 463

permitted to take steps to enable the project to move forward.¹³ The court distinguished the expert advisory role of the Panel from the federal Cabinet's role as the democratically elected and accountable body which was empowered by law to finally determine, based on the risks identified in the Panel's report, whether the benefits to be gained from the project justified those risks. Unless the Panel could provide the Cabinet with tangible thresholds and or scientific data to evaluate the significance of the risk, the Panel could not allow subsequent licensing proceedings to fill what the court perceived to be a gap in the assessment documentation.

The three distinct points upon which the court determined that the evidentiary basis of the Panel's report and recommendations were insufficient were as follows:

1. the Panel failed to fully consider the environmental effects of hazardous substance emissions, in particular liquid effluent and storm-water runoff and the sources, types and quantities of non-radioactive wastes to be generated by the project.
2. the Panel failed to consider radioactive waste management and more particularly the management of spent nuclear fuel off-site.
3. the Panel failed to consider the effects of a common cause accident involving both the existing and proposed nuclear reactors, but left this issue to be addressed by the nuclear regulator prior to the actual construction some 8 years down the road.

With respect to severe common cause accidents involving the existing four reactors on the site, and the proposed new reactors, the court concluded that it was insufficient to defer, until after the construction of the new reactors, the determination of whether further emergency planning measures were required. It *"had to be conducted as part of the [environmental assessment] so that it could be considered by those with political decision-making power in relation to the Project."*¹⁴

3.0 Federal Court of Appeal Decision

On September 10, 2015 the Federal Court of Appeal, in a 2 to 1 decision, overturned the trial court's decision.

The appeal court was unanimous in deciding that the waste management issue and the common cause accident had been adequately addressed by the Panel. The Terms of Reference did not require consideration of spent nuclear fuel off-site and the improbability of a common cause accident supported the Panel's deferral of the issue to a later date as a reasonable conclusion.

The majority judge's analysis of whether the effects of hazardous substances emissions had been properly considered offers a clearer window into how Canadian law currently views environmental assessment of nuclear projects. The majority found that there had been a reasonable consideration by the Panel and that was sufficient. The reasonableness of the consideration was found in the acceptance by the Panel of the plant parameter envelope or bounding approach under which the proponent did not propose one design or technology but four

¹³ *ibid.* at par. 232.

separate ones. Without any firm design selection, the full suite of effects could not be predicted fully at the assessment stage, but this approach to assessment was reasonable when accompanied by recommendations for further regulatory action if and when the project proceeded.

4.0 Implications of the Decision on Appeal

With a dissenting opinion, there is some prospect of a further appeal to the Supreme Court of Canada . While the legislation on environmental assessment was, as mentioned above, amended in 2012, the language with respect to the assessment of environmental effects of a designated project , including the effects of malfunctions and accidents, retains the discretion in the decision - making authority to scope the environmental effects and consequently, the nature and extent of the proof tendered as part of the assessment .¹⁵

Previous Federal Court appellate decisions suggest that the kind of quantitative analysis and certainty which the applicants sought and the trial judge was prepared to grant in some respects, was unnecessary. For example, in *Inverhuron & District Ratepayers' Assn. v. Canada (Minister of the Environment)*¹⁶ the original or Reference Design for the above ground spent nuclear fuel dry storage project was replaced during the environmental assessment process. The final preferred design relied upon the detailed calculations of radiological effects in the Reference Design without undertaking a new round of calculations customized to such changes in the design. In particular, the main changes to the design were the underwater transfer of the used fuel bundles in the pools to the canisters and the transfer of the canisters, clamped but not sealed, by truck for four km to the above ground storage facilities. The Reference Design took a worst case scenario of the annual radiation doses to the public which proved in the order of 100 times less than the regulatory limit, so the Appeal Court decided no further detailed analysis of the new design was required.

The Trial Court had been even more explicit and this aspect of the trial court's reasons was endorsed by the Federal Court of Appeal in the September 10, 2015 reasons for judgment in *OPG v. Greenpeace*¹⁷. The relevant endorsed passage reads as follows:

"It is worth noting again that the function of the Court in judicial review is not to act as an "academy of science" or a "legislative upper chamber". In dealing with any of the statutory criteria, the range of factual possibilities is practically unlimited. No matter how many scenarios are considered, it is possible to conceive of one which has not been. The nature of science is such that reasonable people can disagree about relevance and significance. In disposing of these issues, the Court's function is not to assure comprehensiveness but to assess, in a formal rather than substantive sense, whether there has been some consideration of those factors in which the Act requires the comprehensive study to address. If there has been some consideration, it is irrelevant that there could have been further and better consideration."

¹⁵ supra, 3 ss.19(1) &(2)

¹⁶ *Inverhuron & District Ratepayers' Assn. v. Canada (Minister of the Environment)*(2000) F.C.J. No. 682; appeal dismissed (2001)39 C.E.L.R.(N.S.) 161, leave to appeal to S.C.C. refused [2002] 1 S.C.R. vii.

¹⁷ supra 1 par. 126

The nuclear regulatory framework both in Canada and virtually everywhere else has staggered licensing to address each stage of the lifecycle of projects. This allows for flexibility to address new information, standards and experience. While the Joint Review Panel's role in an environmental assessment will include some review of each stage in the lifecycle of the project¹⁸, the precautionary nature of environmental assessment suggests that the process is preliminary at best.

To compensate for the fact that the review needs to recognize the dynamic nature of development projects further licensing applications by the regulatory authorities deal with subsequent stages of the project in greater detail at a time more proximate to those actual stages in the lifecycle of the Project. The Federal Court of Appeal in the Maclean Lake Uranium Project recognized this reality some years ago. In *Inter-Church Uranium Committee Educational Co-operative v. Canada (Atomic Energy Control Board)*¹⁹ the appellants had noted several changes to the project over at least a decade including design changes, the discovery of environmental threats from arsenic, a scientific study indicating that radioactive contaminants can migrate over long distances in groundwater faster than originally thought, a new regulatory climate with regard to water quality guidelines for arsenic and the addition of radionuclides from uranium mills to the *List of Toxic Substances in Schedule I of the Canadian Environmental Protection Act, 1999*.²⁰

*"...none of these changes transform the McClean Lake project into a new proposal. The Panel recognized that changes in science and technology would occur over the life of the project and acknowledged that it would be the Board's responsibility to evaluate the effects of these developments in the context of its licensing responsibilities."*²¹

5.0 References

1. Ontario Power Generation Inc. v Greenpeace Canada et al. (2015) FCA 186
2. Canadian Environmental Assessment Act S.C. 1992, c.37
3. Canadian Environmental Assessment Act S.C. 2012, c.19
4. Nuclear Safety and Control Act, S.C. 1997 c.9
5. Fisheries Act R.S.C. 1985 ,c.F-14
6. Navigation Protection Act R.S.C. 1985 ,c. N-22
7. Joint Panel Assessment Report August 25, 2011 <http://www.ceaa-acee.gc.ca/052/document-eng.cfm?did=55381>
8. Government of Canada's Response to Joint Review Panel Report May 2, 2012 <http://www.ceaa-acee.gc.ca/052/document-html-eng.cfm?did=55542>
9. Final Decision May 8, 2012 <http://www.ceaa-acee.gc.ca/052/details-eng.cfm?pid=29525>

¹⁸ supra 2 ss.15(3) and Regulations Designating Physical Activities SOR /2012-147 s.35 and Prescribed information for description of a designated Project regulations SOR/2012-148 ss.7-11

¹⁹ *Inter-Church Uranium Committee Educational Co-operative v. Canada (Atomic Energy Control Board)* (2004), 7 C.E.L.R. (3d) 161, [2005] 1 F.C.R. 372, 322 N.R. 30 (F.C.A.), leave to appeal refused 339 N.R. 400 (note), 2005 CarswellNat 746, 2005 CarswellNat 747 (S.C.C.).

²⁰ S.C. 1999, c. 33.

²¹ Supra 19 at para. 49.

10. Greenpeace Canada et al v. Ontario Power Generation Inc. 2014 FC 463
11. Inverhuron & District Ratepayers' Assn. v. Canada (Minister of the Environment)(2000) F.C.J. No. 682; appeal dismissed (2001)39 C.E.L.R.(N.S.) 161, leave to appeal to S.C.C. refused [2002] 1 S.C.R. vii.
12. List of Toxic Substances in Schedule I of the Canadian Environmental Protection Act, 1999
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