

**AGREEMENT  
TO ESTABLISH A JOINT REVIEW PANEL  
FOR THE NEW NUCLEAR POWER PLANT PROJECT BY ONTARIO POWER  
GENERATION (DARLINGTON)  
WITHIN THE MUNICIPALITY OF CLARINGTON, ONTARIO**

**BETWEEN**

**THE MINISTER OF THE ENVIRONMENT  
-and-  
THE CANADIAN NUCLEAR SAFETY COMMISSION**

**PREAMBLE**

**WHEREAS** the Minister of the Environment has statutory responsibilities pursuant to the *Canadian Environmental Assessment Act*;

**WHEREAS** the Commission has statutory responsibilities pursuant to the *Nuclear Safety and Control Act* and to the *Canadian Environmental Assessment Act*;

**WHEREAS** Ontario Power Generation has applied to the Commission to seek approval to prepare a site for the construction and operation of nuclear power reactors;

**WHEREAS** the Minister and the Commission acknowledge that a duty to consult arises when the Crown has knowledge, real or constructive, of the potential existence of Aboriginal rights, title or Treaty rights, and contemplates conduct that might adversely affect it;

**WHEREAS** an environmental review of the Project by a Joint Review Panel is an important source of information about effects the Project may have on potential or established Aboriginal rights, title or Treaty rights and would therefore support any consultations between the Crown and potentially affected Aboriginal groups related to the Project;

**WHEREAS** the Project is within the jurisdiction of the Commission under the *Nuclear Safety and Control Act* and requires an environmental assessment pursuant to the *Canadian Environmental Assessment Act*;

**WHEREAS** the Commission, Fisheries and Oceans Canada, the Canadian Transportation Agency and Transport Canada are the Responsible Authorities for the Project pursuant to the *Canadian Environmental Assessment Act*;

**WHEREAS** the Project requires a licence pursuant to the *Nuclear Safety and Control Act*;

**WHEREAS** the Commission has recommended, in accordance with section 25 of the *Canadian Environmental Assessment Act*, that the Minister of the Environment refer the Project to a review panel;

**WHEREAS** the Minister of the Environment has referred the Project to a review panel in accordance with section 29 of the *Canadian Environmental Assessment Act*;

**WHEREAS** the Parties to this Agreement have determined that a review of the Project by a joint review panel will ensure that the Project is reviewed in a manner that will provide for an effective and efficient environmental assessment and regulatory process;

**AND WHEREAS** the Minister of the Environment has determined that a joint review panel should be established pursuant to subsection 40(2) of the *Canadian Environmental Assessment Act* to consider the Project;

**NOW THEREFORE**, the Parties hereby establish a Joint Review Panel for the Project in accordance with the provisions of this Agreement and the Terms of Reference attached as an Appendix to this Agreement.

## 1. DEFINITIONS

In this Agreement:

“**Aboriginal group**” means a community of Indian, Inuit or Métis people that holds or may hold Aboriginal or treaty rights under section 35 of the *Constitution Act, 1982*.

“**Agency**” means the Canadian Environmental Assessment Agency;

“**CEAA**” means the *Canadian Environmental Assessment Act*;

“**Commission**” means the Canadian Nuclear Safety Commission;

“**Environment**” has the same meaning as set out in section 2 of the CEAA;

“**Environmental Effect**” has the same meaning as set out in section 2 of the CEAA;

“**Environmental Impact Statement**” means the document that the Proponent has prepared in accordance with the Environmental Impact Statement Guidelines issued by the Parties pursuant to Part II of the Appendix to this Agreement.

“**Federal Authority**” has the same meaning as set out in section 2 of the CEAA;

“**Follow-up program**” has the same meaning as set out in section 2 of the CEAA;

**“Intervenor”**, means a person appearing at a Joint Review Panel Hearing pursuant to rule 18 of the *Canadian Nuclear Safety Commission Rules of Procedure*, a person participating as an intervenor in a Joint Review Panel Hearing pursuant to rule 19 of the *Canadian Nuclear Safety Commission Rules of Procedure* or a person who establishes an interest to participate in the Joint Review Panel Hearings by way of a written submission and/or an oral presentation.

**“Joint Review Panel”** means a Joint Review Panel (JRP) established through this Agreement;

**“Joint Review Panel Agreement”** means this Agreement to Establish a Joint Review Panel for the Darlington New Nuclear Power Plant (Darlington NNPP) Project by Ontario Power Generation within the Municipality of Clarington, Ontario and the attached Appendix;

**“Joint Review Panel Hearing”** means the public hearing process followed by the Joint Review Panel to hear information and evidence required for the Review;

**“Joint Review Panel Report”** means a report which sets out the rationale, conclusions and recommendations of the panel relating to the environmental assessment of the project, including any mitigation measures and follow-up program, and a summary of any comments received from the public in the course of the Joint Review Panel Hearings;

**“Jurisdiction”** has the same meaning as set out in subsection 40(1) of the CEEA;

**“Licence Application”** means the documentation filed by the Proponent under the NSCA for a Licence to Prepare Site prior to the construction of the Project.

**“NSCA”** means the *Nuclear Safety and Control Act*;

**“Parties”** mean the signatories to this Agreement;

**“Project”** means the preparation of a site for, and the construction, operation, decommissioning and abandonment of, up to four new nuclear power reactors on the existing Darlington Nuclear Site within the Municipality of Clarington, Ontario described in Part I of the Appendix to this Agreement;

**“Proponent”** means Ontario Power Generation (OPG);

**“Public Registry”** means the Canadian Environmental Assessment Registry established under section 55 of the CEEA, to facilitate public access to records relating to the environmental assessment of the Project;

**“Responsible Authority”** has the same meaning as set out in section 2 of the CEEA and includes for this Project the Commission, Fisheries and Oceans Canada, the Canadian Transportation Agency and Transport Canada; and

**“Review”** means the assessment by the Joint Review Panel of the environmental effects of the Project to be conducted pursuant to the CEAA and the consideration of the Licence Application under the NSCA to determine whether the Project will pose an unreasonable risk to the health and safety of persons, the environment and national security.

## **2. ESTABLISHMENT OF THE JOINT REVIEW PANEL (JRP)**

- 2.1** A process is hereby established to create a Joint Review Panel (JRP) that will:
- a) Constitute a review panel pursuant to sections 40, 41 and 42 of the CEAA for the purposes of carrying out an environmental assessment of the Project; and
  - b) Constitute a panel of the Commission, created pursuant to section 22 of the NSCA, for the purposes of the review of the Licence Application pursuant to section 24 of the NSCA.
- 2.2** Nothing in this JRP Agreement shall be construed as limiting the ability of the JRP to have regard to all considerations that appear to be relevant pursuant to section 24 of the NSCA and to include a consideration of the factors set out in sections 16 and 16.1 of the CEAA.

## **3. CONSTITUTION OF THE JOINT REVIEW PANEL**

- 3.1** The JRP will consist of three members. Two members will be appointed by the President of the Commission with the approval of the Minister of the Environment.
- 3.2** The Minister of the Environment will propose to the President of the Commission a candidate as a third member of the JRP who may also serve as a temporary member of the Commission.
- 3.3** The Minister of the Environment will choose which member will serve as the Chair of the JRP.
- 3.4** Upon approval by the President of the Commission of a candidate as a third member of the JRP who may also serve as a temporary member of the Commission, the President of the Commission will recommend to the Minister of Natural Resources that the Minister of Natural Resources recommend the proposed candidate to the Governor in Council for the appointment of that proposed candidate as a temporary member of Commission.
- 3.5** If appointed by the Governor in Council as a temporary member of Commission, the selected candidate will then be appointed by the Minister of the Environment as a member of the JRP.

- 3.6** The members of the JRP are to be unbiased and free of any conflict of interest in relation to the Project and are to have knowledge or experience relevant to the anticipated environmental effects of the Project.

#### **4. CONDUCT OF THE REVIEW**

- 4.1** The JRP shall conduct the Review in accordance with the Terms of Reference attached as an Appendix to this JRP Agreement in a manner that:
- a) Discharges the requirements set out in the CEAA;
  - b) Permits it to obtain the information and evidence required for it to consider the Licence Application under the NSCA; and,
  - c) Permits it to obtain information and evidence about the adverse effects the project may have on potential or established Aboriginal rights, title or Treaty rights as identified to the JRP by potentially affected Aboriginal groups and enables it to bring any such information and evidence to the attention of the Minister of the Environment and the Responsible Authorities for the Project in support of consultation between the Crown and potentially affected Aboriginal groups.
- 4.2** The JRP shall have all the powers and duties of a review panel described in section 35 of the CEAA.
- 4.3** As a panel of the Commission, the JRP shall also have the powers and duties of the Commission described in section 20 of the NSCA.

#### **5. SECRETARIAT**

- 5.1** A Secretariat will be formed consisting of professional, scientific, technical or other Agency and Commission personnel necessary for the purposes of the Review.
- 5.2** The Secretariat will provide information to the JRP orally and in writing during the JRP Hearings.
- 5.3** The personnel who comprise the Secretariat shall not be considered to be Intervenors.
- 5.4** The Secretary of the Commission, and/or his designate, will act as Secretary to the JRP and as co-manager of the Secretariat.
- 5.5** The Agency shall appoint a panel manager as co-manager of the Secretariat.

## **6. RECORD OF THE REVIEW**

- 6.1** Subject to section 55 and subsections 35(4), and 35(4.1) of the CEEA, the Public Registry will include all submissions, correspondence, hearing transcripts, exhibits and other information received by the JRP and all public information produced by the JRP relating to the Review.
- 6.2** The internet site component of the Public Registry will be maintained by the Secretariat during the course of the Review in a manner that provides for convenient public access, and for the purposes of compliance with sections 55 to 55.5 of the CEEA.
- 6.3** A project file will be maintained by the Secretariat during the course of the Review in a manner that provides for convenient public access, and for the purposes of compliance with sections 55 and 55.4 of the CEEA. This project file will be located in the offices of the Secretariat.

## **7. JOINT REVIEW PANEL REPORT**

- 7.1** On completion of the assessment of the Project, the JRP will prepare a JRP Report.
- 7.2** The JRP will convey the JRP Report in writing in both official languages to the Minister of the Environment. The JRP Report will be published and made available through the Public Registry.
- 7.3** Responsible Authorities will take a course of action with respect to section 37 of the CEEA and the JRP, as a panel of the Commission, may also make a decision with respect to the Licence Application pursuant to section 24 of NSCA.

## **8. OTHER FEDERAL DEPARTMENTS AND JURISDICTIONS**

- 8.1** At the request of the JRP, federal authorities having specialist information or knowledge with respect to the Project shall make available that information or knowledge in a manner acceptable to the JRP.
- 8.2** Subject to article 8.1, nothing in this JRP Agreement shall restrict the participation of a Jurisdiction by way of submission to the JRP.

## **9. PARTICIPANT FUNDING**

- 9.1** Participant funding for the Review will be provided and administered by the Agency pursuant to the Participant Funding Program.

**10. AMENDING THIS JOINT REVIEW PANEL AGREEMENT**

**10.1** The terms and provisions of this JRP Agreement may be amended by written memorandum executed by both the Minister of the Environment and the President of the Commission.

**10.2** Subject to section 27 of the CEAA, upon completion of the Review, this JRP Agreement may be terminated at any time by an exchange of letters signed by both Parties.

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The Honourable Jim Prentice  
Minister of the Environment

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Michael Binder  
President, Canadian Nuclear Safety  
Commission



## APPENDIX

### Terms of Reference for the Review

#### Part I - Project Description

Pursuant to subsections 15(1)(b) and 15(3)(b) of the *Canadian Environmental Assessment Act*, the Minister of the Environment is proposing that the scope of the project include the site preparation, construction, operation, decommissioning and abandonment of the project components and activities proposed by OPG as described in *OPG New Build Project Environmental Assessment – Project Description*.

The scope of the Darlington NNPP Project includes site preparation, construction, operation, decommissioning and abandonment of up to four new nuclear power reactors for the production of up to 4,800 megawatts of electrical generating capacity for supply to the Ontario grid.

Operations would involve activities required to operate and maintain the Darlington NNPP, including management of all conventional and radioactive wastes. The Province of Ontario is considering a range of reactor designs. It is anticipated that each new reactor constructed would have an approximate 60-year operating life and could include a mid-life refurbishment depending on the reactor design technology chosen by the proponent.

The project includes up to four units, consisting of the following principal components:

- Reactor Building – contains the reactor vessel, fuel handling system, heat transport system, moderator, reactivity control mechanisms, shut down systems and containment.
- Turbine Generator Powerhouse – contains the turbines, generators and related systems and structures that convert steam from the operation into electrical energy.

The project also includes the following shared facilities between reactors:

- Condenser Cooling Systems and Structures: including cooling towers or the once-through cooling system with all of its associated submerged intake, forebay and discharge systems.
- Low and Intermediate Level Waste Management Facility (on or off-site)
- Expansion of the existing Darlington Waste Management Facility for storage of used nuclear fuel or construction of a new facility.

Ancillary activities that may be required include the transportation of low and intermediate level waste to be managed offsite at an appropriate licensed facility.

The following describes activities expected to be undertaken:

*Preparation Phase:*

Site preparation includes the following activities needed to construct the new nuclear reactors and associated physical works listed above:

- construction and enhancing of on-site roads, which would connect to local roads and provincial highway 401 as appropriate, to provide access to the site;
- re-establishment of a rail line spur if required;
- construction of a wharf if required;
- construction of parking lots and laydown areas;
- construction site fencing;
- removal of existing trees and vegetation if necessary;
- shoreline stabilization and lake infilling, coffer dam construction;
- realigning intermittent stream channels and draining some wet areas across site;
- earthmoving activities including cutting, filling, grading construction areas, creating berms and stockpiles;
- installation of necessary infrastructure such as power, water main, sewage systems, surface water drainage, storm water sewers; and
- bedrock excavation for foundations.

*Construction:*

Construction includes the following activities needed to construct the new nuclear reactors and associated physical works listed above:

- installation of bedrock piles;
- expansion of the switchyard;
- receipt and management of materials and components for installation;
- installation of the intake and outfall to Lake Ontario;
- construction of cooling towers if required;
- construction of the reactors, power house buildings, structures, and systems;
- removal of construction debris to a licensed facility, including any hazardous waste created during construction;
- testing and commissioning of systems and structures;
- landscaping; and
- final site fencing and security system installation.

*Operation and Maintenance Phase:*

The operation phase includes all of the work and activities that occur during routine operation and maintenance of the new nuclear reactors and associated buildings, structures and systems. This phase consists of the 60-year timeframe over which the nuclear power station is expected to generate electricity.

Commissioning a new nuclear power plant consists of the following general activities: verification and qualification of systems, pressure testing of vessels, fuelling of reactor; pressure testing of containment building, approach to criticality, approach to full power; testing of the reactor core physics, verification of control systems, connection to the grid, operational testing and full power operation. Some commissioning activities, specifically those that take place without fuel in the reactor core, may be authorized during the construction phase.

Following commissioning, the activities to be undertaken include the operation and maintenance of plant systems including nuclear steam supply systems, turbine generator and feedwater systems, electrical power systems, nuclear safety systems, ancillary systems, systems for maintaining facility security, activities associated with the maintenance program, materials handling systems, solid waste handling systems and administration and support systems.

Operation and maintenance activities can be categorized as follows:

- operation of equipment for production of electricity;
- verification, sampling, testing and maintenance during operation at power;
- maintenance, repairs, cleaning, and decontamination during planned shutdowns and outages;
- on-site transportation and handling of fuel, including defueling and refuelling of the reactor;
- management of low and intermediate waste and spent fuel waste within the reactor building, and the transfer of wastes and used fuel for interim or long-term storage;
- management of hazardous substances and hazardous waste; and activities relating to environmental protection and radiation protection programs; and
- activities required to achieve a safe state of closure prior to decommissioning.

During this phase, the assessment would include consideration of the effects associated with mid-life refurbishment for CANDU-type reactors as well as the effects relating to outages to refuel or refurbish boiling water and pressurized water-type reactors.

*Decommissioning and Abandonment Phase:*

Decommissioning activities will commence after the last reactor has permanently ceased operation, all the fuel has been transferred out of the reactor to storage, and the reactor drained and dried. Decommissioning will then begin with a period of safe storage activities to allow the radioactivity of reactor components to decrease. Decommissioning may commence with a period of safe storage activities to allow the radioactivity of reactor components to decrease. Decommissioning activities can be conceptually summarized as follows: transfer of fuel and associated wastes to interim storage; decontamination of plant; flush purging of equipment and systems; removal of surface decontamination of facilities or equipment; dismantling and removal of equipment and systems; demolition of building; and site restoration.

Few activities are expected to be carried out for the abandonment phase of the project, since the purpose of this phase is to move from the achieved “end-state” of the decommissioning phase to the abandonment phase, which is basically an “unlicensed state”. The activities related to this phase are basically to provide the results of the decommissioning and the results of the environmental monitoring programs to demonstrate that the “site” can be made available for re-use and will no longer be under CNSC regulatory oversight.

## **Part II - Components of the Review**

1. Within 30 days of the close of the public comment period regarding the draft Environmental Impact Statement Guidelines, the Minister of the Environment shall, following consultation with the President of the Commission and after taking into account the comments received by the public and Aboriginal groups, issue the Environmental Impact Statement Guidelines.
2. The Parties shall require the Proponent to prepare the Environmental Impact Statement (EIS) in accordance with the Environmental Impact Statement Guidelines issued by the Minister.
3. Upon receiving the EIS, and provided that the Joint Review Panel (JRP) has been struck and that participant funding pursuant to section 58(1.1) of the CEEA has been awarded, the JRP will have a period of up to fourteen (14) days to announce the commencement of the EIS public review and comment period and to issue instructions and a timetable for the review that will include opportunities for public comment.
4. A maximum six (6) month period is provided for review and analysis of the EIS followed by a one (1) month period for the JRP’s consideration of the comments received on the sufficiency of the EIS to proceed to the JRP Hearing phase. This seven (7) month time period is in addition to any time required by the Proponent to respond to any information requests from the JRP.
5. At any time following submission of the EIS to the JRP, during the EIS public comment and review period, or in considering of any comments received during or following the public comment period, JRP may request any additional information it deems necessary from the Proponent.
6. The JRP shall schedule and announce the start of the JRP Hearings once it is satisfied that the Proponent’s EIS and any additional information has adequately responded to the EIS Guidelines.
7. The JRP shall provide public notice of the JRP public hearings 90 days prior to the start of the Hearings.
8. Written comments obtained pursuant to the EIS public review and comment period shall be made public on the Public Registry.
9. At the request of the JRP, the Secretariat shall provide written and oral professional, scientific, technical or other assessment to the JRP.
10. The JRP may secure the services of additional independent experts to provide information on and help interpret technical and scientific issues and issues relative to community knowledge and Aboriginal traditional knowledge.

11. The JRP shall hold the Hearings within the Municipality of Clarington and elsewhere as it deems appropriate.
12. The JRP shall deliver its Report to the Minister of the Environment within 90 days following the close of the Hearings. Paper and electronic copies of the report will be provided upon request. Copies will also be available on the Internet.

### **Part III – Procedure**

13. The JRP will issue directions on procedures in accordance with the CEAA, NSCA and the provisions of the JRP Agreement. The directions on procedures will include the JRP's procedures for the review process including the conduct of the EIS review, communication with the JRP, hearing procedures and/or any other matter the JRP deems appropriate. The JRP may issue separate public hearing procedures prior to the hearings.
14. The JRP may consult with the public prior to finalizing its directions on procedures.
15. The JRP Hearings will be conducted in accordance with the CEAA, NSCA and this Agreement and will ensure that opportunities are provided for timely and meaningful participation by the public and Aboriginal groups; that technical sessions are scheduled for specific matters of concern; and, that Aboriginal and traditional knowledge is appropriately considered.
16. For the purposes of the CEAA or the NSCA, the JRP Hearings shall be public unless the JRP is satisfied after representations made by a witness that specific, direct and substantial harm would be caused to the witness or specific harm to the environment by the disclosure of the evidence, documents or other things that the witness is ordered to give or produce, or that information to be presented involves national or nuclear security; the information is confidential information of a financial, commercial, scientific, technical, personal or other nature that is treated consistently as confidential and the person affected has not consented to the disclosure; or the disclosure of the information is likely to endanger the life, liberty or security of a person.
17. The JRP public hearing procedures will establish timelines for presentations to the JRP. Each presentation may be followed by a question and answer period led by the JRP, followed by questions from other Intervenors.
18. Questions will be directed through the JRP Chair who may subsequently allow a participant to put questions directly to the presenter. Where a person does not adhere to the procedures and the direction of the JRP Chair, the JRP Chair will have the authority to refuse to permit further questioning from that person.
19. The JRP Chair may limit or exclude questions or comments that fall outside the mandate of the JRP, are repetitive, irrelevant, or immaterial.
20. The JRP Chair may limit discussion that exceeds the time limits established by the JRP procedures.

#### **Part IV – Scope of the Environmental Assessment and Factors to be Considered in the Review**

The Review will include a consideration of the following factors listed in paragraphs 16(1) (a) to (d) and in subsection 16(2) of the CEAA:

- a. The environmental effects of the project, including the environmental effects of malfunctions, accidents or malevolent acts that may occur in connection with the Project and any cumulative environmental effects that are likely to result from the project in combination with other projects or activities that have been or will be carried out;
- b. The significance of the effects referred to in (a);
- c. Comments that are received during the Review;
- d. Measures that are technically and economically feasible and that would mitigate any significant adverse environmental effects of the Project;
- e. Purpose of the Project;
- f. Need for the Project;
- g. Alternatives to the Project;
- h. Alternative means of carrying out the Project that are technically and economically feasible and the environmental effects of any such alternative means;
- i. Measures to enhance any beneficial environmental effects;
- j. The requirements of a follow-up program in respect of the Project;
- k. The capacity of renewable resources that are likely to be significantly affected by the Project to meet the needs of the present and those of the future; and
- l. Consideration of community knowledge and Aboriginal traditional knowledge.

#### **Part V – Scope of Assessment of the Application for Licence to Prepare Site**

Pursuant to section 24 of the NSCA and its regulations, the JRP process will include consideration of:

- Whether the applicant is qualified to perform the activity to be licensed; and
- Whether in carrying on that activity the applicant will make adequate provisions for the protection of the environment, the health and safety of persons and the maintenance of national security and measures required to implement international obligations to which Canada has agreed.