UNDERTAKING JT4.1

Undertaking

Update the Table in AMPCO-81 and add DRP Actuals to Date.

Response

The referenced Table 1 has been updated below to include Darlington Refurbishment Program actual costs as of March 31, 2026.

Updated Table 1 - DNNP and PRP Forecasted Costs; DRP Actual and Forecasted Costs ($M)

Costs	DNNP Forecast[1]	DRP Forecast	DRP Actual to Mar 31, 2026[2]	PRP Forecast
OPG Regular Labour[3]	329	1,095	1,067	3,833
Temporary Staff	8	103	102	38
Augmented Staff	12	227	220	54
Overtime[4]	6	93	100	313
Non-Labour	4,743	9,898	9,787	14,790
Contingency	1,436	94	0	3,764
Interest	1,165	1,190	1,105	4,048
Other	0	0	0	0
Total	7,698	12,700	12,380	26,840
Total Labour Hours (M) (Reg., Temp., Augmented)	**3.1**	**15.2**	**15.2**	**33.9**

Notes:

[1] DNNP Unit 1 and common site scope

[2] Close-out costs associated with Unit 4 will continue to be incurred into the first half of 2027, as described in Ex. D2-2-1, p. 9, lines 17-18

[3] Includes Term employees

[4] Overtime calculated on Regular and Temporary staff

UNDERTAKING JT4.2

Undertaking

Provide a copy of the Darlington New Nuclear Project Commitments Report.

Response

A copy of the NK054-REP-01210-00078 Darlington New Nuclear Project Commitments Report is provided in Attachment 1.

ONTARIO POWER GENERATION

Report

OPG Proprietary	
Document Number: NK054-REP-01210-00078	Usage Classification: N/A
Sheet Number: N/A	Revision: R010

Title:
DARLINGTON NEW NUCLEAR PROJECT COMMITMENTS REPORT

Darlington New Nuclear Project Commitments Report

NK054-REP-01210-00078-R010
DA1-OPG-NN-NN-TREP-XX-0001-IFU-C02

2025-11-21

Order Number: N/A
Project ID: N/A

OPG Proprietary

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Document is Related to Pressure Boundary ☐	Document Requires CNSC Notification ☑

Table of Contents

Revision Summary

Revision Number	Date	Comments
R010	November 21, 2025	Revisions made to implement the following changes: • Incorporated DCR 168621: Revised closure criteria for commitments D-C-1.2 and D-P-14.1 per discussion with the CNSC to reflect two separate DFO Fisheries Act Authorizations (one for construction and one for operations) and two separate Fish Habitat Compensation Plans (one for construction and one for operations) • Updated D-C-1.3 closure criteria to: “Provided to CNSC, for review and acceptance, prior to the commencement of relevant CCW construction activities.” • Updated status from open to closed for the following commitments and added closure correspondences: o D-P-3.8: OPG Letter: CD# NK054-CORR-00531-11117; o CNSC Letter: CD# NK054-CORR-00531-11218 o D-P-9.3, D-P-9.4: OPG Letter: NK054-CORR-00531-10899; CNSC Letter: CD# NK054-CORR-00531-11039 o D-P-9.5: OPG Letter: CD# NK054-CORR-00531-11037; CNSC Letter: NK054-CORR-00531-11361 o D-P-12.1(a): OPG Letter: NK054-CORR-00531-11004; CNSC Letter: CD # NK054-CORR-00531-11036 o D-P-12.3: OPG Letter: CD# NK054-CORR-00531-11085; CNSC Letter: CD# NK054-CORR-00531-11473 o D-P-12.9: OPG Letter: CD# NK054-CORR-00531-10930; CNSC Letter: CD# NK054-CORR-00531-10965 o D-P-14.1 for construction: OPG Letter: NK054-CORR-00531-11111; CNSC Letter: NK054-CORR-00531-11344 o D-C-1.2: OPG Letters: CD# NK054-CORR- 00531-11029, CD# NK054-CORR- 00531-11100; CNSC Letter: CD# NK054-CORR-00531-11387 o D-C-1.3: OPG Letters: CD# NK054-CORR- 00531-11100; CNSC Letter: CD# NK054-CORR-00531-11387 o D-C-2.2: OPG Letter: CD# NK054-CORR-00531-11150; o CNSC Letter: CD# NK054-CORR-00531-11127 o D-C-3.2: OPG Letter: CD# NK054-CORR-00531-11012; o CNSC Letter: CD# NK054-CORR-00531-11137 o D-C-5.3: OPG Letter: CD# NK054-CORR-00531-11064; o CNSC Letter: CD# NK054-CORR-00531-11127 o D-C-7.1: OPG Letter: NK054-CORR-00531-10955; CNSC Letter: NK054-CORR-00531-11359

		○ D-C-8.1: OPG Letter: CD# NK054-CORR-00531-11098; CNSC Letter: CD# NK054-CORR-00531-11474 ○ D-C-8.2: OPG Letter: CD# NK054-CORR-00531-11098; CNSC Letter: CD# NK054-CORR-00531-11474 • Added footnote 1 to indicate that OPG-MAN-00120-0021 has been superseded by OPG-PROC-0231 as of July 25, 2024. The older document exists as a record since it was used to close commitment D-P-1.14. • Added footnote 2 to Table 2 to explain the closure status of D-P-14.1 and D-C-1.2 (i.e. closed for construction phase and open for operations phase). • Added footnote 3 to Table 3 to note that Commitment submission timelines are found in Appendices A-D. • For D-P-3.8 changed closure criteria from “Provide to CLOCA” to “Provide to MECP”. • Added D-P-12.4 as a related sub-deliverable for JRP#34 and added D-P- 9.5(a) as a related sub-deliverable for JRP#38 in Table 3. • Changed the nomenclature of D-C-3.1a to D-C-3.1(a) • Added “Required Closure Response” section for D-C-3.1 & D-C-3.2 to document OPG submissions to the CNSC. • Added OPG’s response letter to the CNSC questions from the CNSC letter closing D-P-9.3 and D-P-9.4: CD# NK054-CORR-00531-11054. • Changed the description of D-C-2, 2.1, D-C-5, 5.1, and 5.2 to remove references to “program,” “plan,” or “management” and replace it with “documentation”, as management programs or plans are not representative of the deliverables that will meet these requirements. • Changed the description of D-C-2.2 and D-C-5.3 to remove reference to “management” or “plan” and replace it with “permit application” since these deliverables are covered by the ECA applications entirely. Removed “no more than 3 months” from the closure criteria of both of these sub-commitments. • Changed the closure criteria for D-C-9.1 to be “as part of the Operation Licence Application” instead of “as part of the Construction Licence Application” and added OPG’s Radioactive Waste Management Strategy submission to the “Required Closure Response” section. • Removed “or radioactive” from the deliverables section of D-C-2.1 since the commitment is focused on non-radiological effluents. • Added “and the LLW & ILW Storage” to the title and description of commitment D-C-3.1(a) since the results of the LLW & ILW safety assessment will also be included in the OPG submission

		• Incorporated DCR#159665 which changed the submission timeline of D-O-2.1 from “prior to” to “as part of” the Operation Licence Application • Augmented the first bullet under the D-P-16.1 deliverables to say “Note: Lake infill is not required for the construction of Unit 1. The requirement for lake infill for Units 2-4 will be determined and any lake infill requirements will be fulfilled prior to any planned lake infill activity for Units 2-4”. • Removed the following JRP#38 bullet from D-P-9.5: “verification of the stability of the cut slopes and dyke slopes under both static and dynamic loads with site/project-specific data during the design of the cut slopes and dykes or before their construction,” and moved it to a newly created sub-commitment D-P-9.5(a) with the closure criteria to “provide to the CNSC, for information, as part of the submission of the licence to construct amendment for subsequent units”. • Updated JRP#38 in Table 3 to contain D-P-9.5(a) as a related sub-deliverable. • Changed “Fuel Out Commissioning” to “Phase A Commissioning” throughout to better align with REGDOC-2.3.1 terminology. • For D-C-2.1 and D-C-5.2, changed closure criteria from “Provided to CNSC, for review and acceptance, together with the approval granted by MECP for facility / process effluents” to “Provided to CNSC, for review and acceptance, as part of the Environmental Compliance Approval application for facility / process effluents”. • Changed “Fuel In Commissioning” to “Phase B Commissioning” throughout to better align with REGDOC-2.3.1 terminology. • D-O-3.1 closure criteria changed from “Provide to CNSC, for review and acceptance, as part of the Operation Licence Application.” to “Provide to CNSC, for review and acceptance, prior to Operation” to align with the JRP recommendation timeline. • Minor editorial changes.
R009	October 27, 2023	Revisions made to implement the following changes: • Added Aconex document number to the report cover page. Aconex is the Document Management System for DNNP. • Shaded in grey the deliverables and text related to closed, cancelled or no longer applicable deliverables. • Section 2.2: Updated to include explanation for text shaded in grey and additional detail for completion timeline for certain activities.

		• Table 2: Updated status for commitments D-P-9.2, D-P-18, D-P-18.1, D-C-2.3, D-C-4.2, D-C-5.4, and D-C-7.2 to “Closed”. • Table 3: Shaded in grey JRP recommendations associated with Closed or cancelled commitments. • Updated name changes to some Ministries and agencies such as MOL to MLISTD, MNR to MNRF, EC to ECCC, REMP to EMP and, MOE to MECP in the table of acronyms and throughout the document to be consistent with actual acronyms. • D-P-2.1 and D-P-5.3: Corrected correspondence reference numbers under “Required Closure Response. • D-P-3 and in D-P-3.8: Changed MNR to MECP in the Licence/Regulatory Requirement. • D-P-3.8: Deleted “Required Closure Response (if Deliverable Status is Closed)” in as this commitment is not closed. • D-P-9.2, D-P-18 and D-P-18.1: Updated status from open to closed based on the received CNSC acceptance. • D-P-10.1: Added CNSC correspondence NK054-CORR-00531-10847 as a reference for closure. • D-P-12, D-C-5, and D-C-6: Updated the standard CSA N288.4 to the CSA N288.4-19. • D-P-12.3: Changed Completion Criteria from “Provide to CNSC, for review and acceptance, no later than 3 months prior to commencement of PRSL licensed activities.” to “Provide to CNSC, for review and acceptance, no later than 3 months prior to commencement of licensed activities associated with shoreline protection and in-water works.” (Change requested in [R-48]. Accepted in [R-49]). • D-P-12.3, D-P-12.9, D-C1.2, and D-C-2.1: Shaded grey the Cooling tower elements as they are no longer applicable. The once through cooling system was selected for the DNNP. • D-P-12.4 and D-C-1.2: Changed description related to algal hazard from “Prior to Construction” to “Prior to Operation” for the establishment of an adaptive management program for algal hazard to the project cooling water system intake as it is needed to support the cooling function of the fuel during operation. • D-C-1.2: Corrected “…a maximum intake approach velocity of 6 cm /s for a porous veneer design (as documented in the Condenser Cooling Water Option Assessment) [OPG 2013] …” to “…an average intake approach velocity of 6 cm /s for a porous veneer design (as documented in the Condenser Cooling Water Option Assessment) [OPG 2013] …”. • D-C-2, 4, and 5: Changed ISO 14001 standard to ISO 14001-15. • D-C-2.1: Changed Completion timeline and Criteria from “…the Environmental Compliance Approval Application…” to “…the Environmental Compliance Approval applications…” as the

		Environmental Compliance Approval (ECA) would not be one application but rather multiple, i.e., will be done in phases depending on the scheduled activities. The ECAs would be submitted to MECP at the different phases of the project depending on which activities are being undertaken. • D-C-2.1: Shaded grey the item “Test and treat intermittent releases of Steam Generator blowdown …” This item it is not applicable to the BWRX-300 design as it does not have Steam Generators. • D-C-2.1 and D-C-5.1: Added the following “prior to fuel out commissioning” to the element of the completion criteria to be provided to MECP to help clarify when this is required. • D-C-2.2: Changed Completion Timeline and Criteria from “…the Environmental Compliance Approval Application…” to “…the Environmental Compliance Approval applications…” as there are multiple applications for Environmental Compliance Approval (ECA) as the ECAs would be submitted to MECP at different phases of the project depending on activities that will be undertaken. • D-C-2.2: Changed the “Deliverable for completion” from EPC Non-Radiological Effluent Management Program / Documentation to EPC Non-Radiological Effluent Management Plan as there is no “management program” for the “Non-Radiological Effluent” for construction. • D-C-3: Changed the Licence/Regulatory Requirement from “CNSC REGDOC-2.4.2: Probabilistic Safety Assessment (PSA) for Nuclear Power Plants” to “CNSC REGDOC-2.4.2: Probabilistic Safety Assessment (PSA) version 2 for Nuclear Power Plants” as the LTC application was based on the latter version. • D-C-3.1: Shaded grey the two accident scenarios related to drop of a refurbishment waste container and drop of a steam generator. These scenarios are not applicable as the refurbishment is not anticipated for the BWRX-300 and the BWRX-300 design does not have Steam Generators. • D-C-3.1(a): New sub-commitment added for Safety assessment details related to the Independent Spent Fuel Storage Installation. • D-C-4.1: Shaded grey the item “During refurbishment or maintenance activities ….”. This item is not applicable as the refurbishment of the BWRX-300 is nor anticipated. • D-C-5.2: Changed the Completion Criteria from “Provided to MECP, for review and acceptance, as part of the Environmental Compliance Approval application under the Environmental Protection Act for facility / process air emissions” to “Provided to MECP, for review and acceptance, as part of the Environmental

		Compliance Approval application under the Environmental Protection Act for facility / process air emissions, prior to fuel out commissioning." • D-C-5.3: Changed the "Deliverable for completion" from "EPC Non-Radiological Air Emissions Program / Documentation." to "EPC Non-Radiological Air Emissions Plan" as there will be no "management program" for the "Non-Radiological Air Emissions" for construction. • D-C-7.2: Changed status to Cancelled. This sub-commitment is no longer needed as the plan will be developed by OPG and will undergo the required review and approval. [R-47] • D-O-1.1: Updated description to reflect a new Radiation Protection (RP) Program for the DNNP Operation that aligns with the current regulatory requirements. • D-O-2.1: Added note "This Standard is not applicable to this commitment" to the "Applicable Standard" Section for the "Ministry of Transportation: General Guidelines for the Preparation of Traffic Impact Studies, dated January 2008". This standard does not impact the nuclear Emergency Plan for DNNP. • D-O-2.1: Changed the Applicable Fire Protection Standard to "CSA N293.12 (R2017 update1): Fire Protection for CANDU Nuclear Power Plants (CANDU)" as it will be used to develop the DNNP Nuclear Emergency Plan. • Minor editorial changes have been applied throughout the report as necessary.
R008	31 Aug 2022	Revision made to implement the following changes: • Added D-C-5.2(a) commitment under D-C-5 commitment to address HC request regarding JRP recommendation #9 (Ref. NK054-CORR-00541-00008) • Administrative change applied to D-P-9.1 and D-P-9.2 to align with the JRP Rec.#10 • The applicable items of JRP Rec.#38 have been added to D-P-9.3 • Added D-P-9.5 under D-P-9, to capture the remaining items of JRP Rec.# 38 not captured under D-P-9.3, D-P-9.4 and D-O-3.1 • Updated the PRSL number and Licence Condition numbers to align with the renewed licence • Reviewed all commitments and updated the applicable REGDOCs, codes, standards and acts as required • Cancelled the deliverables for the following commitments: D-C-2.3, D-C-4.2, D-C-5.4. The related documents are prepared by OPG as a result these commitments become redundant. • Update status from open to closed for the following commitments: D-P-1.1 to D-P-1.21, D-P-2.1, D-P-3.1 to D-P-3.11 except D-P-3.8,

		D-P-4.1, D-P-5.2, D-P-5.3, D-P-6.1, D-P-6.2, D-P-7.1, D-P-7.2, D-P-8.1, D-P-10.1, D-P-12.1, D-P-12.2, D-P-12.5 to D-P-12.8, D-P-13.1, D-P-13.2, D-P-15.1 & D-P-17.1 based on the received CNSC acceptance • Change completion timeline for the following commitments: o D-P-14.1: From: “To be completed prior to the commencement of lake infilling activity” To: “To be completed prior to submission of application for DFO authorization” o D-C-1.2 & D-C-1.3: From: “To be completed prior to the submissions of the Construction Licence Application and other applicable approvals/permits application” To: “To be completed prior to the submission of application for DFO/TC/MNR authorization” o D-C-4 & D-C-5.1: From: “To be completed prior to the submission of the Construction Licence Application” To: “To be completed prior to fuel in commissioning” o D-C-7: From: “To be completed prior to submission of the Construction Licence Application” To: “To be completed prior to construction” o D-C-8: From: “To be completed prior to submission of the Construction Licence Application” To: “To be completed prior to operation” • Change closure criteria for the following commitments: o D-P-14.1: From: “Provide to DFO, for review and acceptance, no later than 60 days prior to commencement of lake infilling activity, as part of the application for DFO Authorization under the Fisheries Act, Section 35(2)” To: “Provide to DFO, for review and acceptance, prior to commencement of the proposed activities, as part of DFO authorization under the Fisheries Act, Sections 34.4(2) and 35(2)” o D-C-1.2, D-C-1.3: From: “Provide to CNSC for review and acceptance as part of Construction Licence Application” To: “Provide to CNSC for review and acceptance no later than 3 months prior to the commencement of the CCW construction activities”

		○ D-C-2.1, D-C-5.2: From: "Provided to CNSC, for review and acceptance, together with the approval granted by MOE for facility/ process effluents/air emissions as part of Construction Licence Application" To: "Provide to CNSC for review and acceptance together with the approval granted by MOE for facility/ process effluents/air emissions prior to fuel out commissioning" ○ D-C-4.1, D-C-5.1: From: "Provide to CNSC for review and acceptance as part of Construction Licence Application" To: "Provide to CNSC for review and acceptance prior to fuel in commissioning" ○ D-C-7.1: From: "Provide to CNSC for review and acceptance as part of Construction Licence Application" To: "Provide to CNSC for review and acceptance prior to construction" ○ D-C-8.1 & D-C-8.2: From: "Provide to CNSC for review and acceptance as part of Construction Licence Application" To: "Provide to CNSC for review and acceptance prior to construction of the Meteorological Monitoring Station" • Minor editorial changes have been applied throughout the report as necessary.
R007	15 Nov 2021	Revision made to implement the following changes to the site preparation phase (D-P) commitments in Table 1, Table 2 and Appendix B: 1. Change #1: Change to align the completion timelines and closure criteria of D-P commitments with the phased approach for site preparation work. 2. Change #2: Change to reflect OPG strategy to submit OPG overarching plans for EPC plans. The selected EPC will develop their plan based on the OPG plan. These changes were applied to D-P commitments as follow: • D-P-2 EPC Occupational Health and Safety Plan ○ Changed title to: "Occupational Health and Safety Plan" Reason for change: To implement change #2 • D-P-2.1 EPC Occupational Health and Safety Plan ○ Changed title to: "Occupational Health and Safety Plan"

		Reason for change: To implement change #2 • D-P-2.2 Evidence of OPG review and acceptance of EPC Occupational Health and Safety Plan o Changed status to: Cancelled Reason for change: This sub-commitment is no longer needed as the plan being submitted to the CNSC will be developed by OPG and will undergo the required review and approval. • D-P-3 EPC Environmental Management and Protection Plans o Changed title to: “Environmental Management and Protection Plans” Reason for change: To implement change #2 o Changed completion timeline from: “To be completed prior to the commencement of PRSL licensed activities.” to: “To be completed prior to the commencement of PRSL licensed activities. The deliverables for D-P-3.8 and D-P-3.9 to be completed prior to commencement of the licensed activities with potential adverse impact to the bank swallow or to the aquatic habitat, respectively.” Reason for change: To implement change #1 • D-P-3.1 EPC Environmental Management and Protection Plan, including plans/ procedures listed below (D-P-3.2 to D-P-3.6) o Changed title to: “Environmental Management and Protection Plan” Reason for change: To implement change #2 • D-P-3.2 EPC Nuisance Effects (Dust and Noise) Plan o Changed title to: “Nuisance Effects (Dust and Noise) Plan/Procedure” Reason for change: To implement change #2 • D-P-3.3 EPC Spill Prevention and Response Plan/Procedure o Changed title to: “Spill Prevention and Response Plan/Procedure” Reason for change: To implement change #2 • D-P-3.4 EPC Storm Water Management Plan/Procedure o Changed title to: “Storm Water Management Plan/Procedure” Reason for change: To implement change #2

		• D-P-3.5 EPC Erosion and Sediment Control Plan / Procedure o Changed title to: “Erosion and Sediment Control Plan / Procedure” Reason for change: To implement change #2 • D-P-3.6 EPC Hazardous Waste Management Plan/Procedure o Changed title to: “Hazardous Waste Management Plan/Procedure” Reason for change: To implement change #2 • D-P-3.7 EPC Terrestrial Environment Mitigation Measures and Plans o Changed title to: “Terrestrial Environment Mitigation Measures and Plans” Reason for change: To implement change #2 • D-P-3.8 EPC Bank Swallow Mitigation Measures and Plans o Changed title to: “Bank Swallow Mitigation Measures and Plans” Reason for change: To implement change #2 • D-P-3.9 EPC Aquatic Environment Mitigation Measures and Plans o Changed title to: “Aquatic Environment Mitigation Measures and Plans” Reason for change: To implement change #2 o Changed closure criteria from: “Provide to CNSC, for review and acceptance, no later than 3 months prior to commencement of the PRSL licenced activities” to: “Provide to CNSC, for review and acceptance, no later than 3 months prior to commencement of any licensed activities with potential adverse impact to the in-land aquatic habitat.” Reason for change: To implement change #1 • D-P-3.10 EPC Smog Alert Plan o Changed title to: “Smog Alert Plan” Reason for change: To implement change #2 • D-P-3.11 EPC Plan to address potential new discoveries of Physical and Cultural Heritage Resources o Changed title to: “Plan to address potential new discoveries of Physical and Cultural Heritage Resources” Reason for change: To implement change #2

		• D-P-3.12 Evidence of OPG review and acceptance of EPC plans/ procedures (D-P-3.1 to D-P-3.11) o Changed status to: Cancelled Reason for change: This sub-commitment is no longer needed as the plan being submitted will be developed by OPG and will undergo the required review and approval. • D-P-4 EPC Quality Management Plan o Changed title to: “Quality Management Plan” Reason for change: To implement change #2 • D-P-4.1 EPC Quality Management Plan o Changed title to: “Quality Management Plan” Reason for change: To implement change #2 • D-P-4.2 Evidence of OPG review and acceptance of EPC Quality Management Plan o Changed status to: Cancelled Reason for change: This sub-commitment is no longer needed as the plan being submitted will be developed by OPG and will undergo the required review and approval. • D-P-5.1 DNNP Emergency Preparedness Plan, NK054-PLAN-01210-00002 o Changed status to: Closed Reason for change: CNSC acceptance provided (NK054-CORR-00531-10600 e-Doc 6621472) • D-P-5.2 EPC Emergency Response and Evacuation Plan o Changed title to: “Emergency Response and Evacuation Plan” Reason for change: To implement change #2 • D-P-5.3 EPC Fire Prevention and Response Plan o Changed title to: “Fire Prevention and Response Plan” Reason for change: To implement change #2 • D-P-5.4 Evidence of OPG review and acceptance of EPC plans (D-P-5.2 to D-P-5.3) o Changed status to: Cancelled Reason for change: This sub-commitment is no longer needed as the plan being submitted will be developed by OPG and will undergo the required review and approval. • D-P-6.2 EPC Personnel Training Plan

		○ Changed title to: “Personnel Training Plan” Reason for change: To implement change #2 • D-P-6.3 Evidence of OPG review and acceptance of EPC Personnel Training Plan ○ Change status to: Cancelled Reason for change: This sub-commitment is no longer needed as the plan being submitted will be developed by OPG and will undergo the required review and approval. • D-P-7.2 EPC Site Access and Security Protocol ○ Changed title to: “Site Access and Security Protocol” Reason for change: To implement change #2 • D-P-7.3 Evidence of OPG review and acceptance of EPC Site Access and Security Protocol ○ Changed status to: Cancelled Reason for change: This sub-commitment is no longer needed as the plan being submitted will be developed by OPG and will undergo the required review and approval. • D-P-8 EPC Level 1 and Level 2 Project Management Schedule ○ Changed title to: “Level 1 and Level 2 Project Management Schedule” Reason for change: To implement change #2 • D-P-8.1 EPC Level 1 and Level 2 Project Management Schedule ○ Changed title to: “Level 1 and Level 2 Project Management Schedule” Reason for change: To implement change #2 • D-P-8.2 Evidence of OPG review and acceptance of EPC Level 1 and Level 2 Project Management Schedule ○ Changed status to: Cancelled Reason for change: This sub-commitment is no longer needed as the plan being submitted will be developed by OPG and will undergo the required review and approval. • D-P-9 Site Geotechnical and Seismic Hazard Investigation Program ○ Changed title to: “Site Geotechnical and Seismic Hazard Investigation” Reason for change: Change needed to eliminate confusion regarding used terminology for “plan” versus “program”. ○ Changed completion timeline from:

		"Site Geotechnical and Seismic Hazard Investigation Program and investigation reports to be completed prior to submission of the Construction Licence Application." to: "Site geotechnical and seismic hazard investigations are to be completed during site preparation phase. The deliverables for D-P-9.2 are to be completed prior to commence excavation and stockpiling. The deliverables for D-P-9.3 and D-P-9.4 are to be completed as part of the Construction Licence Application." Reason for change: To implement change #1 • D-P-9.1 Site Geotechnical and Seismic Hazard Investigation Program o Changed title to: "Site Geotechnical and Seismic Hazard Investigation Plan" Reason for change: To provide clarity o Changed status to: Closed Reason for change: CNSC acceptance provided (NK054-CORR-00531-10606, e-Doc #6629303) • D-P-9.2 Site geotechnical investigation report(s) detailing the findings and results from the site investigation for excavation and stockpiling o Separated D-P-9.2 from D-P-9.3 Reason for change: To implement change #1 o Changed closure criteria from: "Provide to CNSC, for information, upon completion of the site investigation program activity, as appropriate and prior to excavation / stockpiling." to: "Provide to CNSC, for information, upon completion of the site investigation activity, and no later than 60 days prior to commence excavation and stockpiling." Reason for change: To implement change #1 • D-P-9.3 Site geotechnical investigation report(s) detailing the findings and results from the site investigation program for detailed design of foundations and structures o Changed closure criteria from: "Provide to CNSC, for information, upon completion of the site investigation program activity, as appropriate and before submission of the Construction License Application." to:

		"Provide to CNSC, for information, upon completion of the site investigation activities, as part of the Construction Licence Application." Reason for change: To implement change #1 • D-P-9.4 Site seismic hazard investigation report(s) detailing the findings and results from the site investigation program o Changed closure criteria from: "Provide to CNSC, for information, before submission of the Construction License Application." to: "Provide to CNSC, for information, upon completion of the site investigation, as appropriate and as part of the Construction Licence Application." Reason for change: To implement change #1 • D-P-10 EPC Traffic Management Plan o Changed title to: "Traffic Management Plan" Reason for change: To implement change #2 • D-P-10.1 EPC Traffic Management Plan o Changed title to: "Traffic Management Plan" Reason for change: To implement change #2 • D-P-10.2 Evidence of OPG review and acceptance of EPC Traffic Management Plan o Change status to: Cancelled Reason for change: This sub-commitment is no longer needed as the plan being submitted will be developed by OPG and will undergo the required review and approval. • D-P-12 Environmental Monitoring and Environmental Assessment Follow-up o Changed completion timeline from: "Environmental Monitoring and Environmental Assessment Follow-up Plan and methodology reports for each environment component to be completed prior to the commencement of PRSL licensed activities." to: "Environmental Monitoring and Environmental Assessment Follow-up Plan and methodology reports for each affected environment component to be completed prior to the commencement of PRSL licensed activities. The deliverable under D-P-12.1(a) to be completed as part of the Construction Licence Application. The

		methodology reports under D-P-12.4 to be completed prior to commencement of the licensed activities with potential adverse impact to the aquatic environment. The methodology reports under D-P-12.9 to be completed prior to commencement of the licensed activities for the construction phase." Reason for change: To implement change #1 • D-P-12.1 Environmental Monitoring and Environmental Assessment Follow-up Plan, NK054-PLAN-07700-00001 o Changed document number to fix typo error. The correct document number is NK054-PLAN-07730-00014. This plan was submitted to CNSC under NK054-CORR-00531-10593 o Split D-P-12.1 in DP-12.1 and D-P-12.1(a) to separate EIS review from the rest. o Provided closure criteria for D-P-12.1(a) as follow: "Provide to CNSC, for review and acceptance no later than 3 months prior to the submission of the Construction Licence Application." Reason for change: To implement change #1 • D-P-12.4 Methodology Reports for Environmental Monitoring and EA Follow-up for Aquatic Environment o Changed closure criteria from: "Provide to CNSC, for review and acceptance, no later than 3 months prior to commencement of PRSL licensed activities." to: "Provide to CNSC, for review and acceptance, no later than 3 months prior to commencement of the licensed activities with potential adverse impact to the aquatic environment." Reason for change: To implement change #1 • D-P-12.9 Methodology Reports for Environmental Monitoring and EA Follow-up for Health – Non-Human Biota and Human Health o Changed closure criteria from: "Provide to CNSC, for review and acceptance, no later than 3 months prior to commencement of PRSL licensed activities." to: "Provide to CNSC, for review and acceptance, no later than 3 months prior to commencement of the licensed activities for construction phase." Reason for change: To implement change #1 • D-P-13 Preliminary Decommissioning Plan and Financial Guarantee o Changed completion timeline from:

		"To be completed prior to commencement of sub-grade excavation" to "To be completed prior to commencement of PRSL licensed activities" • D-P-13.1 Preliminary Decommissioning Plan o Change closure criteria from: "Notify the CNSC every 5 years as per LC 8.2." to: "Provide to CNSC for review and acceptance no later than 3 months prior to the commencement of PRSL licensed activities." Reason for change: To implement change #1 o Removed the following requirement: "OPG proposed a financial guarantee would be provided at the appropriate point in the preparation of the site in accordance with CSA N286-12. If OPG applies for authorization to commence site preparation activities to allow more substantive site preparation work, OPG would propose an appropriate financial guarantee in accordance with G-206 that is commensurate with the decommissioning financial liabilities. [OPG Letter, CD# NK054-CORR-00531-10451; LTPSA Section 1.6] " Reason for change: The above requirement is a duplicate, it is already captured under D-P-13.2. o Removed the following requirement: "The Preliminary Decommissioning Plan will be revised every five years [LCH-PRSL-DNNP, License Condition 8.2]" Reason for change: The above requirement is already captured in the LCH. • D-P-13.2 Financial Guarantee o Changed closure criteria from: "Provide to CNSC, for review and acceptance when OPG applies for authorization to commence site preparation activities to allow more substantive site preparation work." to: "Provide to CNSC, for Commission review and approval no later than 3 month prior to the commencement of PRSL licensed activities." Reason for change: Change needed to align with the current process. o Changed the following requirement from: "OPG proposed a financial guarantee would be provided at the appropriate point in the preparation of the site in accordance with

		CSA N286-12. If OPG applies for authorization to commence site preparation activities to allow more substantive site preparation work, OPG would propose an appropriate financial guarantee in accordance with G-206 that is commensurate with the decommissioning financial liabilities. [OPG Letter, CD# NK054-CORR-00531-10451; LTPSA Section 1.6] " to: "When OPG applies for authorization to commence site preparation activities, OPG will propose an appropriate financial guarantee in accordance with G-206 that is commensurate with the decommissioning financial liabilities. [OPG Letter, CD# NK054-CORR-00531-10451; LTPSA Section 1.6]." Reason for change: To implement change #1 o Changed the following requirement from: "OPG will propose an appropriate financial instrument commensurate with decommissioning financial liabilities, when OPG requests authorization for more substantive work on the DNNP site. [OPG Letter, CD# NK054-CORR-00531-10451]" to: "OPG will propose an appropriate financial instrument commensurate with decommissioning financial liabilities, if OPG decides to apply for a licence amendment to allow more substantive work on the DNNP site. [OPG Letter, CD# NK054-CORR-00531-10451]" Reason for change: Change required to provide clarity for "more substantive work" as per [OPG Letter, CD# NK054-CORR-00531-10451]. • D-P-18 Proposed Layout of Structures in the Final Layout State (to the extent practicable) o Changed completion timeline from: "To be completed prior to the commencement of PRSL licensed activities." to: "To be completed during site preparation phase prior to commence the Phase 2 main site preparation activities." Reason for change: To implement change #1 • D-P-18.1 Proposed Layout of Structures in the Final Layout State (to the extent practicable) o Changed closure criteria from: "Provide to CNSC, for information purposes, the proposed site layout no later than 3 months prior to commencement of PRSL licensed activities." to:

		"Provide to CNSC, for information purposes, no later than 60 days prior to commence Phase 2 main site preparation activities." Reason for change: To implement change #1 • Section 2.2 Description of the Sections in the Deliverable Tables o Added the following paragraph: "The site preparation work will be conducted in two phases: Phase 1 is for early site preparation activities that do not require long lead commitments, permits or authorizations Phase 2 is for main site preparation activities when more significant site preparation work is to take place The completion timeline for the deliverables under site preparation phase commitments is aligned with the activities conducted under each site preparation phase. Some of these deliverables will be completed prior to the commencement of the first phase, some prior to the commencement of the second phase. There are also some deliverables that will be completed as part of the Construction Licence Application submission and some prior to commencement of construction phase activities as they are dependent on the selected reactor technology or activities that are deferred to the construction phase (see Appendix B for details)." Reason for change: To implement change #1
R006	2021-02-12	• Revision made to update documents under D-P-1.1 to D-P-1.21 and D-P-6.1 (pages: 19 to 21, 32 to 35 and 64) as a result of transitioning DNNP Management System to OPGN Management System. With respect to D-P-1.1 deliverable, OPG project governance, OPG-PROG-0039, "*Project Management Program*" and OPG-STD-0148 "*Project Management Standard*" now call for a Project Management Plan instead of a Project Execution Plan, hence the replacement of NK054-PEP-01210-00001 DNNP Project Execution Plan. • Revise details for D-P-1 (pages 35 & 36) as a result of transitioning DNNP Management System to OPGN Management System. • Revise the timeline for submission to CNSC for the deliverables under D-P-1 from 60 to 90 days prior to commencement of PRSL licensed activities.
R005	2020-11-06	• Revisions made throughout Site Preparation Phase commitments to align references with PRSL Renewal Plan (NK054-PLAN-01210-00004), including replacement of obsolete CNSC regulatory references and updates of code effective dates for CSA standards. Construction and Operation Phase commitments will be updated at later licensing stages.

		• Revisions made to references not listed in the PRSL Renewal Plan throughout Site Preparation commitments to align with current publications. • Added the Closure Response and updated the Deliverable Status for Commitments D-P-1.22 and D-P-1.23 as per CNSC's acceptance provided in NK054-CORR-00531-10556.
R004	2020-06-30	• Revised Section 1, Introduction, to capture OPG commitments as a result of 2020 PRSL renewal application. • Revised commitments D-P-3.7, D-P-9.4 and D-C-3.1 as a result of 2020 PRSL renewal application. • Added D-P-18, as a new site preparation commitment, as a result of 2020 PRSL renewal application. • Minor editorial updates. • References updated.
R003	2019-04-18	• Revisions made throughout document. • Incorporated CNSC Comments as per OPG's responses, detailed in Attachment to OPG Letter, NK054-CORR-00531-10475. • Added the Deliverable Status for each deliverable. • Added the Closure Response (if Deliverable Status is Closed) section for closed deliverables. • Added Section 3.2 Revisions. • Revised the Closure Criteria (To Who and When) and Deliverable Commitment Details for D-P-13.1, Preliminary Decommissioning Plan, and D-P-13.2, Financial Guarantee. • Updated reference of New Nuclear at Darlington (NND) to Darlington New Nuclear Project (DNNP)
R002	2014-03-25	• Revisions made throughout document. • Incorporated CNSC Comments detailed in Attachment to CNSC Letter. NK054-CORR-00531-00251.
R001	2013-04-23	• Revisions made throughout document. • Editorial changes and corrections made throughout document, as appropriate. • Incorporated CNSC comments as per OPG's responses detailed in Attachment to OPG Letter, NK054-CORR-00531-10014 and as outlined below. • Clarification provided in Section 2.2 under "Closure Criteria (To Who and When)" with respect to completion of a deliverable when it is submitted to a regulatory agency for review and acceptance. • Revised Table 3 to include an additional column indicating "Support from". This column indicates the other regulatory agencies that are acknowledged in the Government of Canada Responses to JRP recommendations as available to assist, upon request, in the implementation of the recommendation.

		• Re-numbered the following deliverables in response to CNSC comments: o Deliverable D-O-2.1 Radioactive Waste Management Plan re-numbered as D-C-9 Radioactive Waste Management Plan. o Deliverable D-O-3 Nuclear Emergency Plan re-numbered as D-O-2 Nuclear Emergency Plan. o Deliverable D-O-4 Monitoring Program for Phase 4 St. Marys Cement Blasting Operations re-numbered to D-O-3 Monitoring Program for Phase 4 St. Marys Cement Blasting Operations. • For all deliverables, the Closure Criteria (To Who and When") revised from "provide to CNSC for information" to "provide to the CNSC for review and acceptance" with the following exceptions: o D-P-3.11 EPC Plan to address potential new discoveries of Physical and Cultural Heritage Resources o D-P-8 EPC Level 1 and Level 2 Project Management Plan o D-P-9 Site Geotechnical and Seismic Hazard Investigation Program o D-P-10 EPC Traffic Management Plan o D-P-11 Archaeological Excavation Reports o D-P-17 Communications, Consultation and Stakeholder Relations Program/Plan • Incorporated CNSC's revised timeframe of "no later than 3 months" for submitting various plans/procedures to the CNSC for review and acceptance throughout document, as appropriate. • Revised D-P-3.11 EPC Plan to address potential new discoveries of Physical and Cultural Heritage Resources to provide the plan to MTCS for review and acceptance. Should a licensed archaeologist be contracted to prepare the Plan, it is incumbent on the archaeologist to provide the Plan to the MTCS for acceptance, as appropriate. • Removed all cross references to the EMEAF (Environmental Monitoring and Environmental Follow-up) Plan in Deliverable D-P-12 Environmental Monitoring and Environmental Assessment Follow-up as OPG has decided not to progress with the EMEAF Plan until an EPC has been selected. • Added "Methodology Reports" to the title of each sub-deliverable in Deliverable D-P-12 Environmental Monitoring and Environmental Assessment Follow-up to better describe the sub-deliverable. • Added applicable JRP Recommendations 14 and 26 (in accordance with GOC Response) to deliverable D-P-12.9 Heath – Human and Non-Human Biota – Methodology Reports • Clarification provided for Socio-Economic Environment in D-P-12 Environmental Monitoring and Environmental Assessment Follow-up to indicate that environmental monitoring and EA follow-up activities will be addressed in D-P-17.1 Communications, Consultation and

		Stakeholder Relations Program/Plan for the purposes of efficiency in the program/plan's scope of activities. • Incorporated OPG new commitment statements in D-C-1.2 EPC Condenser Cooling Water Design under "Once Through Cooling Design" in accordance with CNSC Letter, CD# NK054-CORR-00531-00253 and OPG Letter, CD# NK054-CORR-00531-00242. • Replaced explicit NSCA regulatory requirements with more generic "Nuclear Safety and Control Act and associated regulations" throughout under "Licence/Regulatory Requirement".

1.0 INTRODUCTION

The purpose of this report is to provide Ontario Power Generation Inc. (OPG) staff, regulators, vendors and contractors, and other stakeholders with a comprehensive account of Darlington New Nuclear Project (DNNP) commitments that OPG made through:

- The Environmental Impact Statement (EIS) [R-1];
- The Licence to Prepare Site (LTPS) Application [R-2];
- The DNNP Joint Review Panel (JRP) public review process;
- Applications to other Federal regulatory agencies filed by OPG;
- Requirements derived from the Government of Canada (GOC) Response to the JRP Environmental Assessment (EA) Report Recommendation;
- Aggregate Assessment Report for the Darlington New Nuclear Project Power Reactor Site Preparation Licence Renewal [R-45]; and
- Darlington New Nuclear Project Power Reactor Site Preparation Licence Renewal Application. June 2020 [R-45].

The report represents OPG's understanding of the key commitments, described as a set of clear and concise deliverables. OPG will ensure that the scope of each deliverable addresses the relevant OPG commitment statements (or attributes), which include all identified mitigation measures, as they pertain to each deliverable. This will help ensure that OPG has undertaken the expected work as committed when closing commitments.

The JRP concluded that DNNP is not likely to cause significant adverse environmental effects, provided that the mitigation measures proposed, and commitments made by OPG during the review and the Panel's recommendations (in accordance with the GOC Response) are implemented.

Provision of this report to the Canadian Nuclear Safety Commission (CNSC) is in accordance with the Nuclear Power Reactor Site Preparation Licence (PRSL) for DNNP and its associated Licence Conditions Handbook. OPG will implement the commitments made during the JRP process through the completion of the deliverables presented in this report in accordance with the applicable Licence Conditions of the PRSL and its associated Licence Conditions Handbook.

1.1 Overview of Commitments Management

For purposes of this report, commitments are those actions promised to a regulatory body volunteered by the OPG authorized representative or accepted by the authorized representative. Commitments are made in written submissions to a regulatory agency, or in a hearing context. They will have a finite deliverable date (which may be a project milestone), with clear description of the expected deliverable. Once the deliverable closure criteria have been met, the deliverable will be closed. If the deliverable requires acceptance by an appropriate regulatory agency, the required

response will be tracked until it is received. Deliverables may be tracked in the OPG nuclear fleet Action Tracking Management System.

Where ongoing action is required, the deliverable is generally in the form of a specific plan or program, which may form the basis of a licence or permit. Once the plan or program is developed and implemented, any required ongoing confirmation will be captured by the performance monitoring program or periodic inspection. Implementation is confirmed via oversight or compliance monitoring activities.

The proper identification, tracking, management and completion of commitments will allow OPG staff to:

- Meet regulatory requirements.
- Ensure a common understanding of the commitments that have been made with the regulatory agencies, and the criteria for their completion.
- Develop and maintain a good reputation with the CNSC, other regulatory agencies, the Indigenous communities and the public in terms of ensuring and demonstrating that commitments made by OPG are honoured.
- Readily understand the basis for, rationale for, expectations of and limitations of the licensing basis.
- Manage commitments in an efficient manner and avoid unnecessary administrative overhead.
- Maintain an accurate record of the completion of commitments for audit and other record keeping purposes.
- Manage/revise commitments so they remain current, accurate and applicable.
- Readily provide assurance to senior management that OPG is meeting its commitments in an acceptable manner.

2.0 REPORT ORGANIZATION

2.1 Commitments

Throughout the JRP review process, many statements of commitment were made by OPG. To facilitate project execution and tracking of OPG's commitment statements, these commitments have been organized and grouped into key commitments presented as key deliverables in Table 1. Many of these key deliverables will include sub-deliverables which must be completed to satisfy the key deliverable.

Some sub-deliverables will be prepared by an Engineering, Procurement and Construction Company (EPC Co.). Table 2 shows a breakdown of all the sub-deliverables and whether OPG or the EPC Co. will prepare the sub-deliverable.

If a deliverable is required to be provided to more than one regulatory agency to satisfy different requirements (for example, a deliverable included as part of application submissions for different approvals/permits), OPG will ensure that the appropriate

regulatory agencies are engaged in discussions in the deliverable's development and review early in the process. This initiative will help to facilitate efficient and effective consultation and review of a deliverable by multiple regulatory agencies.

2.2 Description of the Sections in the Deliverable Tables

Applicable Phase

The deliverables are also organized into three Appendices (Appendix B, C, and D), to align with the applicable general project phase and the CNSC licence phase (site preparation, construction, and operation).

Deliverables that are applicable in a subsequent phase (for example, the Nuisance Effects Plan/Procedure) have not been repeated as the deliverables and their associated commitment attributes will be reviewed at the end of a CNSC licence application phase to determine its applicability in the subsequent phase. The *DNNP Commitments Report* will be revised accordingly to capture the ongoing commitments.

Deliverables that pertain to activities to be undertaken in the project's site preparation phase under the Power Reactor Site Preparation Licence (PRSL) (including activities to be completed prior to the commencement of PRSL licensed activities) are grouped into the site preparation phase.

Deliverables that pertain to activities to be undertaken in the project's construction phase (including pre-construction and Construction Licence Application activities) are grouped into the construction phase. Although some of these activities may be completed in the site preparation phase, they are grouped into the construction phase as they do not pertain to activities under the PRSL.

Deliverables that pertain to activities to be undertaken in the project's operation phase (including Operation Licence Application activities) are included in the operation phase. Although some of these activities will be completed in the construction phase, they are grouped into the operation phase, as they do not pertain to activities under the Construction Licence.

Deliverable Title

Each key deliverable is given a unique number, denoting project phase (see below) and sequence number, and a unique title. To satisfy this key deliverable, all sub-deliverables must be completed.

Licence / Regulatory Requirement

This section provides any applicable Act or regulations that relate to the deliverable and may include other applicable, as yet unidentified, regulatory requirements. Where a licence, permit or permission has been issued, the specific applicable condition (if any) is provided as well as any specific CNSC regulatory documents that may be referenced in the condition. For licences issued by the CNSC, the related information in the associated Licence Conditions Handbook also applies.

Applicable Standard

This section provides any identified standards that apply to the key deliverable and may include other applicable, as yet unidentified, standards. For version-controlled standards, the DNNP Licence Condition Handbook will be the primary source to define the applicable version for DNNP activities.

Completion Timeline

The “Completion Timeline” indicates a clear timeline in which the key deliverable is expected to be completed within the indicated project phase (for example, to be completed prior to commencement of PRSL licensed activities). A clear completion timeline helps to inform resource planning and scheduling activities for the project phase by the EPC Co., by OPG and by the appropriate regulatory authority.

The site preparation work will be conducted in two phases:

- Phase 1 is for early site preparation activities that do not require long lead commitments, permits or authorizations.
- Phase 2 is for main site preparation activities when more significant site preparation work is to take place.

The completion timeline for the deliverables under site preparation phase commitments is aligned with the activities conducted under each site preparation phase. Some of these deliverables will be completed prior to the commencement of the first phase, some prior to the commencement of the second phase. There are also some deliverables that will be completed as part of the Construction Licence Application submission and some prior to commencement of construction phase activities as they are dependent on the selected reactor technology or activities that are deferred to the construction phase (see Appendix B for details).

The completion for the deliverables under construction phase commitments is aligned with the respective activities in this phase, such as deliverables that will be completed as part of the Construction Licence Application submission, prior to specific activities to be taken, and prior to commissioning without nuclear fuel loading.

Deliverable Description

The “Deliverable Description” breaks down the key deliverables into required sub-deliverables. Each sub-deliverable is given a unique number. A clear and concise description of the deliverable is stated under “Deliverables for Completion”. The “Closure Criteria (To Who and When)” identifies to whom (normally a regulatory agency) and when the sub-deliverable is to be provided (timeline for completion). The “Required Response” indicates the expected response required from a regulatory agency in order to proceed with the licensed or proposed activity, as appropriate. The receipt of the required response (for example, a formal or informal written acceptance of the deliverable by CNSC staff) will be tracked.

Deliverable Number

The deliverable number is presented as an alphanumeric expression (for example, D-P-3.1). The following table provides a description of each identifier that may be used:

Identifier	Description
D	Commitment is identified as a deliverable
P	Deliverable is grouped in the site preparation phase of the project
C	Deliverable is grouped in the construction phase of the project (Not shown in the example.)
O	Deliverable is grouped in the operation phase of the project (Not shown in the example.)
3.1	Number assigned to the sub-deliverable from a listing of deliverables

Closure Criteria (To Who and When)

To facilitate the management and tracking of the key deliverables and sub-deliverables in the tracking system, the "Closure Criteria (To Who and When)" clearly describes the criteria for closure of each sub-deliverable. To satisfy a key deliverable, all sub-deliverables must be completed. The sub-deliverable is considered complete when the closure criteria for the sub-deliverable are satisfied.

As indicated in the "Closure Criteria (To Who and When)", a sub-deliverable may be required to be provided to a specific regulatory agency for one of the following purposes:

1. For review and acceptance
2. For information

1. For review and acceptance

A deliverable that is required to be provided to the CNSC, for review and acceptance, in accordance with the Power Reactor Site Preparation Licence (PRSL), is considered complete when the closure criteria have been satisfied and it has been provided (with correspondence) to the CNSC. A deliverable will remain open until regulatory acceptance (with correspondence) of the deliverable has been received.

A deliverable that is required to be provided to a non-CNSC regulatory agency, for review and acceptance, as part of an application submission for an approval / permit, is considered complete when the closure criteria has been satisfied and the deliverable has been submitted (with correspondence) to the regulatory agency in question. A deliverable will remain open until an approval / permit has been received.

A deliverable that is required to be provided to the CNSC, for review and acceptance, as part of the License to Construct Application, is considered complete when the closure criteria have been satisfied and it has been submitted to the CNSC in accordance with an applicable CNSC protocol at the time of submission. A deliverable

will remain open until regulatory acceptance of the deliverable has been received in accordance with the applicable protocol.

A deliverable that is required to be provided to the CNSC, for review and acceptance, as part of the application submission for a Licence to Operate, is considered complete when the closure criteria have been satisfied and it has been submitted to the CNSC in accordance with an applicable CNSC protocol at the time of submission. A deliverable will remain open until regulatory acceptance of the deliverable has been received in accordance with the applicable protocol.

2. For Information

A deliverable that is required to be provided to a regulatory agency, for information, is considered complete when the closure criteria are satisfied, and the deliverable has been formally provided to the regulatory agency.

Required Response

If a response is required from a regulator, the expected response is indicated under "Required Response" (for example, "To Be Accepted by CNSC" or "Approval to be granted by MECP") as part of the "Deliverable Description". For example, if CNSC's written acceptance (formal or informal) of a deliverable is required prior to the commencement of PRSL licensed activities, the CNSC's written acceptance will be tracked until it is received, and any associated work would not commence until acceptance is received.

Similarly, if the CNSC's written acceptance of a deliverable is required in accordance with the CNSC's Protocol for Pre-Construction and Construction Licence Application activities, the CNSC's written response will be tracked until it is received.

If an approval or permit is required to be granted by a non-CNSC regulatory agency prior to the commencement of a proposed activity, the approval or permit will be tracked until it is granted by the regulatory agency.

Deliverable Commitment Details

This section provides the relevant OPG commitment statements (or attributes) identified from the EIS, LTPS Application, JRP public review process, information requests, other applications to federal regulatory agencies, and the Government of Canada (GOC) Response to the JRP EA Report Recommendations as they pertain to each sub-deliverable.

OPG will ensure that the scope of each sub-deliverable includes the commitment attributes identified in the section, "OPG Commitments to Be Addressed by Deliverable". Each attribute contains the specific wording from the original submissions with the original reference source cited at the end of the attribute. If there are environmental monitoring and EA follow-up commitments pertaining to a sub-deliverable, a cross reference is made in the section, "EA Follow-up Commitments

Related to Deliverable," to Deliverable D-P-12: Environmental Monitoring and EA Follow-up, which identifies the Environmental Monitoring and EA Follow-up Plan.

If an element of the scope of a deliverable or a sub-deliverable is no longer applicable, the respective justifications are added, and the element shaded in grey.

If there are JRP recommendations pertaining to a sub-deliverable, the recommendations are presented in the section, "JRP Recommendations (in accordance with GOC Response) to be Addressed by Deliverable". (In some cases, the action is for another agency, in which case OPG will provide support as required.)

Where appropriate, a cross-reference to other commitments is provided. Provision of this detail will ensure that performance expectations are clearly presented to organizations executing the commitment, as well as to regulating agencies.

When a deliverable or sub-deliverable status is set to "Closed," the section, "Closure Response (if Deliverable Status is Closed)", will include a brief summary of the outcome of the deliverable and reference to the closure criteria sent/received as per the "Closure Criteria (to Whom and When)" and the respective deliverable or sub-deliverable is shaded in grey.

Status

OPG will ensure that with every revision of the *DNNP Commitments Report*, the implementation status is updated to reflect progress on each deliverable and sub-deliverable. A deliverable may be Open, Closed or Cancelled. The deliverable is closed when requirements as stated in "Closure Criteria (to Whom and When)" and "Response Required" have been met. The deliverable is cancelled when it is no longer required.

Commitments that have been set to "Closed" or "Cancelled" are shaded in grey.

Commitments of Intent

In addition to the specific key deliverables, OPG has made commitments of intent on how it will execute the project throughout the project's phases. These are captured generically in Appendix A, as they are not associated with a specific key deliverable.

Table 1 presents an overall listing of the key deliverables with a cross reference to Revision 0 of the *DNNP Commitments Report*. Table 2 presents an overall listing of both key deliverables and all related sub-deliverables with responsibilities for preparation identified for contractual purposes. Table 3 is a listing of the 67 JRP recommendations and a cross reference to the associated sub-deliverable(s) in which the recommendation is to be addressed. This table indicates the agency accountable for the activity and whether the activity is to be performed by OPG or its contractor. Each table is divided by project phase as provided in the Licence Conditions Handbook, starting with the generic commitment description.

3.0 COMMITMENT TRACKING AND FOLLOW-UP REPORTING

3.1 Commitments

Some commitments made by OPG have been incorporated into the Darlington New Nuclear Project Nuclear Power Reactor Site Preparation Licence or in its associated Licence Conditions Handbook. The initial submissions required by licence conditions are included in the deliverables. Maintenance of programs and documentation will be managed as changes to the Licence Conditions Handbook.

3.2 Revisions

Revisions made to this report, to reflect any agreed changes to the scope or status of the commitments, require written notification to the CNSC prior to implementation at least 30 days before the revised document comes into effect in accordance with the applicable Licence Conditions of PRSL and its associated Licence Conditions Handbook.

OPG anticipates this report will be revised after each CNSC licence application phase is complete, to capture any ongoing and new commitments made. After the Power Reactor Operating Licence (PROL) is received, any future commitments will be managed by the regulatory commitments management program and further revisions to this report would not be required.

3.3 Annual Reporting

Implementation status of the commitments will be published in the annual report and submitted to the CNSC in accordance with the applicable Licence Conditions of the PRSL and its associated Licence Conditions Handbook.

4.0 DEFINITIONS AND ACRONYMS

4.1 Definitions

None

4.2 Abbreviations and Acronyms

AR	Action Request
ALARA	As Low As Reasonably Achievable
AWT	Average Weekly Temperatures
BATEA	Best Available Technology Economically Achievable
CCME	Canadian Council of Ministers of the Environment
CCW	Condenser Cooling Water
CLA	Construction Licence Application
CLOCA	Central Lake Ontario Conservation Authority
CNSC	Canadian Nuclear Safety Commission
CSA	Canadian Standards Association

DFO	Fisheries and Oceans Canada
DNGS	Darlington Nuclear Generating Station
DNNP	Darlington New Nuclear Project
DWMF	Darlington Waste Management Facility
EA	Environmental Assessment
EC	Environment Canada (Note: Now replaced by Environment and Climate Change Canada (ECCC)
EIS	Environmental Impact Statement
EMEAF	Environmental Monitoring and Environmental Assessment Follow-up
EMPP	Environmental Management and Protection Plan
EPC	Engineering, Procurement and Construction
GOC	Government of Canada
HADD	Harmful Alteration, Disruption or Destruction of fish habitat
HC	Health Canada
IR	Information Request
JRP	Joint Review Panel
LC	Licence Condition
LTPSA	Licence to Prepare Site Application
MECP	Ontario Ministry of Environment, Conservation, and Parks
MOE	Ministry of Environment (Note: Now replaced by the MECP)
MOL	Ministry of Labour (Note: Now replaced by Ministry of Labour, Immigration, Training and Skills Development (MLISTD))
MNR	Ministry of Natural Resources (Note: Now replaced by Ministry of Natural Resources and Forestry (MNRF))
MTCS	Ministry of Tourism, Culture and Sports
MWAT	Maximum Weekly Average Temperature
NFPA	National Fire Protection Association
NND	New Nuclear at Darlington
OPG	Ontario Power Generation
PNERP	Provincial Nuclear Emergency Response Plan
PPE	Plant Parameter Envelope
PROL	Power Reactor Operating Licence
PRSL	Power Reactor Site Preparation Licence
REGO	Regulatory Obligation
REMP	Radiological Environmental Monitoring Program (Now referred to as the EMP to cover both radiological and non-radiological environmental monitoring)
RMT	Radioactive Material Transportation
RPR	Radiation Protection Regulations
RWAP	Round Whitefish Action Plan
TC	Transport Canada
TPPEMOR	Thermal Plume: Potential Effects and Mitigation Options Report
TSD	Technical Support Document
VORR	Vessel Operation Restriction Regulations
WHMIS	Workplace Hazardous Materials Information System

5.0 REFERENCES

[R-1] OPG letter, A. Sweetnam to JRP Chair, “Environmental Assessment for the OPG New Nuclear at Darlington Project” CD# NK054-CORR-00531-00037, September 30, 2009.

[R-2] OPG letter, A. Sweetnam to JRP Chair, “OPG New Nuclear at Darlington Project – Application for a Licence to Prepare Site”, CD# NK054-CORR-00531-00035, September 30, 2009.

[R-3] OPG letter, A. Sweetnam to Mr. R DesJardine. “Application for Authorizations for Works or Undertakings Affecting Fish Habitat- Habitat File No. PE-07-1092”, CD # NK054-CORR-00539.4-00001, September 30, 2009.

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[R-5] OPG Memorandum, “OPG Commitments Identified in the Environmental Impact Statement (EIS) and the Early Federal Applications, New Nuclear – Darlington” CD# NK054-CORR-01210-0264953, September 29, 2009. (not referenced)

[R-6] OPG letter, A. Sweetnam to JRP Chair, **“**OPG Response to Joint Review Panel Information Request December 15, 2009”, CD# NK054-CORR-00531-00058, January 8, 2010. (not cited)

[R-7] OPG letter, A. Sweetnam to JRP Chair, “OPG Response to Joint Review Panel Information Request February 2010”, CD# NK054-CORR-00531-00069, February 25, 2010.

[R-8] OPG letter, A. Sweetnam to JRP Chair, “OPG Response to Joint Review Panel Information Request February 2010”, CD# NK054-CORR-00531-00074, March 18, 2010.

[R-9] OPG letter, A. Sweetnam to JRP Chair, “OPG Response to Joint Review Panel Information Request March 29, 2010”, CD# NK054-CORR-00531-00083, April 21, 2010.

[R-10] OPG letter, A. Sweetnam to JRP Chair, “OPG Response to Joint Review Panel Information Request April 28, 2010”, CD# NK054-CORR-00531-00100, May 28, 2010.

[R-11] OPG letter, A. Sweetnam to JRP Chair, “OPG Response to Joint Review Panel Information Request April 28, 2010”, CD# NK054-CORR-00531-00104, June 11, 2010.

[R-12] OPG letter, A. Sweetnam to JRP Chair, “OPG Interim Response to Information Requests from the Joint Review Panel, May 20, 2010”, CD# NK054-CORR-00531-00106, June 14, 2010.

[R-13] OPG letter, A. Sweetnam to JRP Chair, “OPG Response to Joint Review Panel Information Request May 20, 2010”, CD# NK054-CORR-00531-00107, June 30, 2010.

[R-14] OPG letter, A. Sweetnam to JRP Chair, “OPG Additional Responses to Joint Review Panel Information Request May 20, 2010”, CD# NK054-CORR-00531-00122, July 30, 2010.

[R-15] OPG letter, A. Sweetnam to JRP Chair, “OPG Response to Joint Review Panel Information Request June 29, 2010”, CD# NK054-CORR-00531-00121, July 30, 2010.

[R-16] OPG letter, A. Sweetnam to JRP Chair, “OPG Response to Joint Review Panel Information Request July 8, 2010”, CD# NK054-CORR-00531-00120, July 30, 2010.

[R-17] OPG letter, A. Sweetnam to JRP Chair, “OPG Response to Information Request from the Joint Review Panel July 29, 2010”, CD# NK054-CORR-00531-00126, August 13, 2010. (not referenced)

[R-18] OPG letter, A. Sweetnam to JRP Chair, “OPG Response to Information Request from the Joint Review Panel August 19, 2010”, CD# NK054-CORR-00531-00135, August 30, 2010.

[R-19] OPG letter, A. Sweetnam to JRP Chair, “Response to Information Request from the Joint Review Panel September 16, 2010”, CD# NK054-CORR-00531-00143, September 24, 2010.

[R-20] OPG letter, A. Sweetnam to JRP Chair, “Additional Response to Information Request from the Joint Review Panel September 16, 2010”, CD# NK054-CORR-00531-00147, October 4, 2010. (not referenced)

[R-21] OPG letter, A. Sweetnam to JRP Chair, “Response to Information Request from the Joint Review Panel September 28, 2010”, CD# NK054-CORR-00531-00150, October 4, 2010. (not cited)

[R-22] OPG letter, A. Sweetnam to JRP Chair, “OPG Response to Information Request from the Joint Review Panel October 8, 2010”, CD# NK054-CORR-00531-00155, October 21, 2010. (not cited)

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[R-25] OPG letter, A. Sweetnam to JRP Chair, “Response to Information Request from the Joint Review Panel October 27, 2010 and November 3, 2010”, CD# NK054-CORR-00531-00166, November 8, 2010.

[R-26] OPG letter, A. Sweetnam to JRP Chair, “Response to Joint Review Panel Information Request 260”, CD# NK054-CORR-00531-00172, November 19, 2010.

[R-27] OPG letter, A. Sweetnam to JRP Chair, “OPG Response to Request from the Joint Review Panel for Large Scale Drawings”, CD# NK054-CORR-00531-00171, November 19, 2010. (not cited)

[R-28] OPG letter, A. Sweetnam to JRP Chair, “Response to Information Request from the Joint Review Panel November 3, 2010 and November 9, 2010”, CD# NK054-CORR-00531-00168, November 12, 2010.

[R-29] OPG letter, A. Sweetnam to JRP Chair, “Response to Information Request from the Joint Review Panel December 14, 2010”, CD# NK054-CORR-00531-00178, January 14, 2011.

[R-30] OPG letter, A. Sweetnam to JRP Chair, “OPG Review of Recommendations Made by Government Agencies, CD #: NK054-CORR-00531-00190, March 14, 2011.

[R-31] OPG letter, A. Sweetnam to JRP Chair, ”OPG Update to the Joint Review Panel and Submission of the Aquatic Environment Compensation Report”, CD#: NK054-CORR-00531-00131, August 30, 2010.

[R-32] OPG Letter, Sweetnam to D. Miller, “Revised Financial Guarantee in the Event that the OPG New Nuclear at Darlington Project is Cancelled”, CD#: NK054-CORR-00531-00151, October 12, 2010.

[R-33] OPG Letter, A. Sweetnam to JRP Chair, “OPG Additional Responses to Joint Review Panel Information Request May 20, 2010”, CD# NK054-CORR-00531-00122, July 30, 2010.

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[R-35] Ontario Power Generation, Preliminary Decommissioning Plan OPG New Nuclear at Darlington Site – Site Preparation, NK054-PLAN-00960-00001 R002, September 25, 2009.

[R-36] Aboriginal Interests Technical Support Document New Nuclear – Darlington Environmental Assessment, Ontario Power Generation Inc., Report No. NK054-REP-07730-00026, August 2009.

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[R-40] OPG Letter, A. Sweetnam to D. Newland, "Conditional Acceptance for OPG's Decision on the Condenser Cooling Water Option for the Darlington New Nuclear Project", CD# NK054-CORR-00531-00242, January 7, 2013.

[R-41] CNSC Letter, D. Newland to A. Sweetnam, "Submission of Revised Darlington New Nuclear Project Commitments Report", e-Docs #4088333, CD# NK054-CORR-00531-00251, February 15, 2013.

[R-42] CNSC Letter, D. Newland to W. Robbins, "OPG Decision on the Condenser Cooling Water Option for the Darlington New Nuclear Project, e-Docs #4092040, CD# NK054-CORR-00531-00253, March 28, 2013.

[R-43] Ontario Power Generation, Condenser Cooling Water Option Assessment Report – OPG Darlington New Nuclear Project, NK054-REP-01210-00093-R002, January 31, 2013.

[R-44] OPG Letter, A. Webster to D. Miller, "Submission of Revised Darlington New Nuclear Project Commitments Report", CD# NK054-CORR-00531-10014, March 25, 2014.

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[R-49] CNSC letter, R. Jammal to M. Knutson, “Darlington New Nuclear Project (DNNP): Request for CNSC Consent to Authorize Commencement of Phase 2 Site Preparation Licensed Activities Specified in Part IV(i) of the PRSL 18.00/2031”, CD# NK054-CORR-00531-10805, April 27, 2023.

6.0 TABLES

Table 1: List of Key Deliverables for DNNP

Current New Number	Key Deliverable
	OPG General Commitment Statements
D-P-1	DNNP Management System and Implementing Documents
D-P-2	Occupational Health and Safety Plan
D-P-3	Environmental Management and Protection Plans
D-P-4	Quality Management Plan
D-P-5	Emergency Management and Fire Protection Plans
D-P-6	Personnel Training Plan
D-P-7	Site Security Plan
D-P-8	Level 1 and Level 2 Project Management Schedule
D-P-9	Site Geotechnical and Seismic Hazard Investigation Program
D-P-10	Traffic Management Plan
D-P-11	Archaeological Excavation Reports
D-P-12	Environmental Monitoring and Environmental Assessment Follow-up
D-P-13	Preliminary Decommissioning Plan and Financial Guarantee
D-P-14	Fish Habitat Compensation Plan
D-P-15	Round Whitefish Action Plan
D-P-16	Lake Infill Design
D-P-17	Communications, Consultation and Stakeholder Relations Program
D-P-18	Proposed Layout of Structures in the Final Layout State (to the extent practicable)
D-C-1	EPC Condenser Cooling Water Design
D-C-2	Non-Radiological Effluent Documentation
D-C-3	Preliminary Safety Analysis and Design
D-C-4	Radiological Effluent Management Program
D-C-5	Radiological and Non-Radiological Air Emissions Documentation
D-C-6	Radiological Environmental Monitoring Program (REMP)
D-C-7	Contingency Plan for Flooding and Other Extreme Weather Hazards
D-C-8	Meteorological Monitoring Station
D-C-9	Radioactive Waste Management Plan
D-O-1	Radiation Protection Program
D-O-2	Nuclear Emergency Plan
D-O-3	Monitoring Program for Phase 4 St. Marys Cement Blasting Operations

Table 2: List of Key Deliverables and Sub-Deliverables for DNNP

Number	Key Deliverable / Sub-Deliverable	Prepared By	Status
Appendix A: All Phases			
	OPG General Commitment Statements	OPG	
Appendix B: Site Preparation Phase			
D-P-1	**DNNP Management System and Implementing Documents**		Closed
D-P-1.1	NK054-PLAN-01210-00008, Darlington New Nuclear Project (DNNP) Program Management Plan	OPG	Closed
D-P-1.2	N-PROC-MP-0078, Specification, Review, Acceptance and Use of Vendor Technical Documents	OPG	Closed
D-P-1.3	N-STD-MP-0009, Contractor/Owner Engineering Interface and Oversight	OPG	Closed
D-P-1.4	N-PROC-RA-0048, Conducting Audits, and Performance Assessments	OPG	Closed
D-P-1.5	N-PROC-RA-0097, Self-assessments and Benchmarking	OPG	Closed
D-P-1.6	N-STD-RA-0008, Incident Investigation	OPG	Closed
D-P-1.7	N-PROC-RA-0022, Processing Station Condition Records	OPG	Closed
D-P-1.8	OPG-STD-0148, Project Management	OPG	Closed
D-P-1.9	OPG-STD-0153, Contract Management	OPG	Closed
D-P-1.10	OPG-STD-0017, Organizational Authority Register	OPG	Closed
D-P-1.11	N-PROC-RA-0035, Operating Experience Process	OPG	Closed
D-P-1.12	N-PROC-MP-0078, Specification, Review, Acceptance and Use of Vendor Technical Documents	OPG	Closed
D-P-1.13	N-PROC-AS-0080, Nuclear Business Planning	OPG	Closed
D-P-1.14	OPG-MAN-00120-0021, Project Construction Management[1]	OPG	Closed
D-P-1.15	N-STD-MP-0009, Contractor/Owner Engineering Interface and Oversight	OPG	Closed
(D-P-6.1)	N-PROC-TR-0008, Systematic Approach to Training	OPG	Closed
D-P-1.16	OPG-PROC-0019, Records and Document Management	OPG	Closed[1]

[1] OPG-MAN-00120-0021 has been superseded by OPG -PROC-0231 as of July 25, 2024.

Number	Key Deliverable / Sub-Deliverable	Prepared By	Status
D-P-1.17	OPG-MAN-00120-0017, Project Communication and Stakeholder Management	OPG	Closed
D-P-1.18	OPG-MAN-00120-0016, Project Integrated Change Control	OPG	Closed
D-P-1.19	N-PROC-RA-0006, Regulatory Action Management	OPG	Closed
D-P-1.20	N-STD-AS-0002, Procedure Use and Adherence	OPG	Closed
D-P-1.21	N-STD-AS-0020, Nuclear Management Systems Organizations	OPG	Closed
D-P-1.22	NK054-DRAW-01210-00007, OPG New Nuclear at Darlington Survey Drawing	OPG	Closed
D-P-1-23	NK054-REP-01210-00078, Darlington New Nuclear Project Commitments Report	OPG	Closed
(D-P-5.1)	NK054-PLAN-01210-00002, Emergency Preparedness	OPG	Closed
(D-P-12.1)	NK054-PLAN-07730-00014, Environmental Monitoring and Environmental Assessment Follow-up	OPG	Closed
(D-P-7.1)	NK054-PLAN-61400-00001, Security Plan for Site Preparation	OPG	Closed
D-P-2	**Occupational Health and Safety Plan**		Closed
D-P-2.1	Occupational Health and Safety Plan	OPG	Closed
D-P-2.2	Evidence of OPG review and acceptance of EPC Occupational Health and Safety Plan	OPG	Cancelled
D-P-3	**Environmental Management and Protection Plans**		Closed
D-P-3.1	Environmental Management and Protection Plan	OPG	Closed
D-P-3.2	Nuisance Effects (Dust and Noise) Plan	OPG	Closed
D-P-3.3	Spill Prevention and Response Plan	OPG	Closed
D-P-3.4	Storm Water Management Plan	OPG	Closed
D-P-3.5	Erosion and Sediment Control Plan	OPG	Closed
D-P-3.6	Hazardous Waste Management Plan	OPG	Closed
D-P-3.7	Terrestrial Environment Mitigation Measures and Plans	OPG	Closed
D-P-3.8	Bank Swallow Mitigation Measures and Plans	OPG	Closed
D-P-3.9	Aquatic Environment Mitigation Measures and Plans	OPG	Closed
D-P-3.10	Smog Alert Plan	OPG	Closed
D-P-3.11	Plan to address potential new discoveries of Physical and Cultural Heritage Resources	OPG	Closed
D-P-3.12	Evidence of OPG review and acceptance of EPC plans/ procedures (D-P-3.1 to D-P-3.11)	OPG	Cancelled
D-P-4	**Quality Management Plan**		Closed
D-P-4.1	Quality Management Plan	OPG	Closed
D-P-4.2	Evidence of OPG review and acceptance of EPC Quality Management Plan	OPG	Cancelled

Number	Key Deliverable / Sub-Deliverable	Prepared By	Status
D-P-5	**Emergency Management and Fire Protection Plans**		Closed
D-P-5.1	DNNP Emergency Preparedness Plan, NK054-PLAN-01210-00002	OPG	Closed
D-P-5.2	Emergency Response and Evacuation Plan	OPG	Closed
D-P-5.3	Fire Prevention and Response Plan	OPG	Closed
D-P-5.4	Evidence of OPG review and acceptance of EPC plans (D-P-5.2 to D-P-5.3)	OPG	Cancelled
D-P-6	**Personnel Training Plan**		Closed
D-P-6.1	N-PROC-TR-0008, Systematic Approach to Training	OPG	Closed
D-P-6.2	Personnel Training Plan	OPG	Closed
D-P-6.3	Evidence of OPG review and acceptance of EPC Personnel Training Plan	OPG	Cancelled
D-P-7	**Site Security Plan**		Closed
D-P-7.1	Security Plan for Site Preparation, NK054-PLAN-61400-00001	OPG	Closed
D-P-7.2	Site Access and Security Protocol	OPG	Closed
D-P-7.3	Evidence of OPG review and acceptance of EPC Site Access and Security Protocol	OPG	Cancelled
D-P-8	**Level 1 and Level 2 Project Management Schedule**		Closed
D-P-8.1	Level 1 and Level 2 Project Management Schedule	OPG	Closed
D-P-8.2	Evidence of OPG review and acceptance of EPC Level 1 and Level 2 Project Management Schedule	OPG	Cancelled
D-P-9	**Site Geotechnical and Seismic Hazard Investigation**		Open
D-P-9.1	Site Geotechnical and Seismic Hazard Investigation Plan	OPG	Closed
D-P-9.2	Site geotechnical investigation report(s) detailing the findings and results from the site investigation for excavation and stockpiling	OPG	Closed
D-P-9.3	Site geotechnical investigation report(s) detailing the findings and results from the site investigation for detailed design of foundations and structures	OPG	Closed
D-P-9.4	Site seismic hazard investigation report(s) detailing the findings and results from the site investigation	OPG	Closed
D-P-9.5	Technical Reports on Geotechnical Design Considerations	OPG	Closed
D-P-9.5(a)	Slope Stability Analysis	OPG	Open
D-P-10	**Traffic Management Plan**		Closed
D-P-10.1	Traffic Management Plan	OPG	Closed
D-P-10.2	Evidence of OPG review and acceptance of EPC Traffic Management Plan	OPG	Cancelled
D-P-11	**Archaeological Excavation Reports**		Closed
D-P-11.1	Brady Site (AlGq-83) Stage 4 Preliminary Excavation Report	OPG	Closed
D-P-11.2	Brady Site (AlGq-83) Stage 4 Final Report	OPG	Closed
D-P-11.3	Crumb Site (AlGq-86) Stage 4 Preliminary Excavation Report	OPG	Closed

Number	Key Deliverable / Sub-Deliverable	Prepared By	Status
D-P-11.4	Crumb Site (AlGq-86) Stage 4 Final Report	OPG	Closed
D-P-11.5	Copies of the reports (D-P-11.1 to D-P-11.4) noted above and copies of MTCS letters of acceptance for the reports	OPG	Closed
D-P-12	**Environmental Monitoring and Environmental Assessment Follow-up**		Open
D-P-12.1	Environmental Monitoring and Environmental Assessment Follow-up Plan, NK054-PLAN-07730-00014	OPG	Closed
D-P-12.1(a)	Comprehensive Environmental Impact Statement Review	OPG	Closed
D-P-12.2	Methodology Reports for Environmental Monitoring and EA Follow-up for Atmospheric Environment	OPG	Closed
D-P-12.3	Methodology Reports for Environmental Monitoring and EA Follow-up for Surface Water Environment	OPG	Closed
D-P-12.4	Methodology Reports for Environmental Monitoring and EA Follow-up for Aquatic Environment	OPG	Open
D-P-12.5	Methodology Reports for Environmental Monitoring and EA Follow-up for Terrestrial Environment	OPG	Closed
D-P-12.6	Methodology Reports for Environmental Monitoring and EA Follow-up for Geological and Hydrogeological Environment	OPG	Closed
D-P-12.7	Methodology Reports for Environmental Monitoring and EA Follow-up for Land Use	OPG	Closed
D-P-12.8	Methodology Reports for Environmental Monitoring and EA Follow-up for Traffic and Transportation	OPG	Closed
D-P-12.9	Methodology Reports for Environmental Monitoring and EA Follow-up for Health – Non-Human Biota and Human Health	OPG	Closed
D-P-13	**Preliminary Decommissioning Plan and Financial Guarantee**		Closed
D-P-13.1	Preliminary Decommissioning Plan	OPG	Closed
D-P-13.2	Financial Guarantee	OPG	Closed
D-P-14	**Fish Habitat Compensation Plan**		Open
D-P-14.1	Fish Habitat Compensation Plan	OPG	Open[2]
D-P-15	**Round Whitefish Action Plan**		Closed
D-P-15.1	Round Whitefish Action Plan	OPG	Closed
D-P-16	**Lake Infill Design**		Open
D-P-16.1	Lake Infill Design	EPC	Open
D-P-16.2	Evidence of OPG review and acceptance of Lake Infill Design	OPG	Open
D-P-17	**Communications, Consultation and Stakeholder Relations Program/ Plan**		Closed
D-P-17.1	Communications, Consultation and Stakeholder Relations Program/ Plan	OPG	Closed

[2] D-P-14.1 and D-C-1.2 have been closed for Construction phase work. However, deliverables have been added to both of these Commitments for Operations phase. Therefore, these two Commitments remain open.

Number	Key Deliverable / Sub-Deliverable	Prepared By	Status
D-P-18	**Proposed Layout of Structures in the Final Layout State (to the extent practicable)**		Closed
D-P-18.1	Proposed Layout of Structures in the Final Layout State (to the extent practicable)	EPC	Closed
	Appendix C: Construction Phase		
D-C-1	**EPC Condenser Cooling Water Design**		Open
D-C-1.1	Condenser Cooling Water Option Assessment Report and OPG's Final Decision on Best Available Technology Economically Achievable (BATEA)	OPG	Closed
D-C-1.2	EPC Condenser Cooling Water Design	OPG	Open[2]
D-C-1.3	Evidence of OPG review and acceptance of EPC Condenser Cooling Water Design	OPG	Closed
D-C-2	**Non-Radiological Effluent Documentation**		Open
D-C-2.1	Non-Radiological Effluent Documentation	OPG	Open
D-C-2.2	EPC Non-Radiological Effluent Permit Application	EPC	Closed
D-C-2.3	Evidence of OPG review and acceptance of Non-Radiological Effluent Management Program	OPG	Cancelled
D-C-3	**Preliminary Safety Analysis and Design**		Open
D-C-3.1	Preliminary Safety Analysis and Design	EPC	Open
D-C-3.1(a)	Detailed safety assessments related to the Independent Spent Fuel Storage Installation (ISFSI) and LLW & ILW Storage	OPG	Open
D-C-3.2	Evidence of OPG review and acceptance of Preliminary Safety Analysis and demonstration that reactor design fits within PPE values	OPG	Closed
D-C-4	**Radiological Effluent Management Program**		Open
D-C-4.1	Radiological Effluent Management Program / Documentation	OPG	Open
D-C-4.2	Evidence of OPG review and acceptance of EPC Radiological Effluent Management Program	OPG	Cancelled
D-C-5	**Radiological and Non-Radiological Air Emissions Documentation**		Open
D-C-5.1	Radiological Air Emissions Documentation	OPG	Open
D-C-5.2	Non-Radiological Air Emissions Documentation	OPG	Open
D-C-5.2(a)	Detailed Acoustic Assessment for Operations	OPG	Open
D-C-5.3	EPC Non-Radiological Air Emissions Permit Application	EPC	Closed
D-C-5.4	Evidence of OPG review and acceptance of Radiological and Non-Radiological Air Emissions programs (D-C-5.1 to D-C-5.2)	OPG	Cancelled
D-C-6	**Radiological Environmental Monitoring Program (REMP)**		Open
D-C-6.1	Radiological Environmental Monitoring Program	OPG	Open
D-C-7	**Contingency Plan for Flooding and Other Extreme Weather Hazards**		Open
D-C-7.1	Contingency Plan for Flooding and Other Extreme Weather Hazards	EPC	Closed

Number	Key Deliverable / Sub-Deliverable	Prepared By	Status
D-C-7.2	Evidence of OPG review and acceptance of Contingency Plan for Flooding and Other Extreme Weather Hazards	OPG	Cancelled
D-C-8	**Meteorological Monitoring Station**		Closed
D-C-8.1	Meteorological Monitoring Station	EPC	Closed
D-C-8.2	Evidence of OPG review and acceptance of Meteorological Monitoring Station	OPG	Closed
D-C-9	**Radioactive Waste Management Plan**		Open
D-C-9.1	Radioactive Waste Management Plan	OPG	Open
Appendix D: Operation Phase			
D-O-1	**Radiation Protection Program**		Open
D-O-1.1	Radiation Protection Program	OPG	Open
D-O-2	**Nuclear Emergency Plan**		Open
D-O-2.1	Nuclear Emergency Plan	OPG	Open
D-O-3	**Monitoring Program for Phase 4 St. Marys Cement Blasting Operations**		Open
D-O-3.1	Monitoring Program for Phase 4 St. Marys Cement Blasting Operations	OPG	Open

Table 3: List of JRP Recommendations (in Accordance with GOC Response) To Be Addressed by Deliverables for DNNP

JRP Rec. #	Topic	Directed to	Support from	Phase Timeline[3]	Deliverable/ Sub-Deliverable #
Site Preparation Phase					
2	Soil quality	CNSC > OPG	EC	Prior to Site Preparation	**D-P-3.6**
5	Bluff removal and Lake infill	CNSC > OPG	EC, DFO	During Site Preparation	**D-P-3.8 D-P-14.1 D-P-16.1**
6	Preliminary Decommissioning Plan	CNSC > OPG		Prior to Site Preparation	**D-P-13.1**
7	Financial Guarantee	CNSC > OPG		Prior to Site Preparation	**D-P-13.2**
8	Air quality	CNSC > OPG	EC, HC	Prior to Site Preparation	**D-P-3.10 D-P-12.2**
9	Noise	CNSC > OPG	HC	Prior to Site Preparation / Commissioning	**D-P-3.2 D-C-5.2(a)**
10	Geotechnical	CNSC > OPG	NRCan	During Site Preparation	**D-P-9.1 D-P-9.2**
12	Water and Sediment quality	CNSC > OPG	EC, DFO	Prior to Site Preparation	**D-P-12.3**

[3] The "Phase timeline" column in Table 3 was originally based on the GOC response, but is subject to change based on the actual project schedule, now that a technology has been selected. The current submission timelines can be found within the closure criteria of each Commitment, in Appendices A through D.

JRP Rec. #	Topic	Directed to	Support from	Phase Timeline[3]	Deliverable/ Sub-Deliverable #
13	Water quality	CNSC > OPG	EC, DFO	Prior to Site Preparation	**D-P-12.3**
16	Stormwater Discharges	CNSC > OPG	EC	Prior to Site Preparation Prior to Construction	**D-P-3.4** **D-C-2.1**
19	Groundwater	CNSC > OPG	NRCan	During Site Preparation	**D-P-12.6**
20	Site Layout	CNSC > OPG	EC, DFO	Prior to Site Preparation	**D-P-3.7** **D-P-14.1**
21	Loss of Ponds	CNSC > OPG	EC	During Site Preparation	**D-P-3.7**
22	Insects, amphibians, reptiles, and mammals	CNSC > OPG	EC	Prior to Site Preparation	**D-P-12.5**
24	Birds	CNSC > OPG	EC	During Site Preparation	**D-P-3.7**
25	Least Bittern	CNSC > OPG	EC	Prior to Site Preparation	**D-P-3.7** **D-P-12.5**
27	Bank swallows	CNSC > OPG	EC	During Site Preparation	**D-P-3.8**
30	Impingement and entrainment sampling - Once through cooling	DFO > OPG	CNSC, ECCC, MNRF	During Site Preparation	**D-P-12.4** **D-P-15.1** **D-C-1.2**
31	Lake infill	DFO > OPG		During Site Preparation	**D-P-14.1** **D-P-16.1** **D-C-1.1**
38	Geotechnical	CNSC > OPG	NRCan	During Site Preparation / As part of the LTC Application / Construction	**D-P-9.1** **D-P-9.3** **D-P-9.4** **D-P-9.5** **D-P-9.5(a)**
41	Socio-economic impacts	CNSC		During Site Preparation	**D-P-17.1**
47	Traffic Management	CNSC > OPG	Municipalities	Prior to Site Preparation	**D-P-10.1**
48	Transportation improvements	CNSC		During Site Preparation	**N/A**
62	Air quality	EC	CNSC	Prior to Site Preparation	**N/A**
Construction Phase					
1	Plant Parameter Envelope	CNSC		Prior to Construction	**N/A**
3	Cooling Options BATEA	CNSC > OPG	DFO, ECCC	Prior to Construction	**D-C-1.1**
14	Effluent releases	CNSC > OPG	ECCC, DFO	Prior to Construction	**D-P-12.9** **D-C-2.1** **D-C-4.1**
17	Groundwater	CNSC > OPG	ECCC, NR Can	Prior to Construction	**D-P-12.6** **D-C-2.1** **D-C-4.1** **D-C-5.1** **D-C-5.2** **D-C-6.1**
18	Groundwater	CNSC > OPG	ECCC, NR Can	During Construction	**D-C-6.1**
26	Hazardous substances	CNSC > OPG	ECCC	Prior to Construction	**D-P-3.6** **D-P-12.9** **D-C-2.1**

JRP Rec. #	Topic	Directed to	Support from	Phase Timeline[3]	Deliverable/ Sub-Deliverable #
					D-C-5.2
32	Once through cooling	DFO > OPG	CNSC, ECCC	Prior to Construction	**D-C-1.2**
34	Once through cooling	EC > OPG	CNSC, DFO	Prior to Construction	**D-C-1.2** **D-P-12.4**
35	Once through cooling	CNSC > OPG	ECCC, DFO	Prior to Construction	**D-P-12.3** **D-P-12.4** **D-C-1.2**
37	Once through cooling	CNSC > OPG	ECCC, DFO	Prior to Construction	**D-C-1.2** **D-P-12.4**
39	Extreme weather climate change	CNSC > OPG	ECCC	Prior to Construction	**D-C-7.1**
40	Algal Hazard	CNSC > OPG	ECCC, DFO	Prior to Construction	**D-P-12.4** **D-C-1.2**
49	Rail safety	TC > OPG		Prior to Construction	**D-C-3.1**
50	Rail safety	CNSC > OPG	TC	Prior to Construction	**D-C-3.1**
51	Once through cooling	TC > OPG		Prior to Construction	**D-P-12.8**
52	Used Fuel	CNSC > OPG		Prior to Construction	**D-C-9.1**
53	Low and intermediate-level radioactive waste	CNSC > OPG		Prior to Construction	**D-C-9.1**
54	Tritium in drinking water	CNSC > OPG		During Construction	**D-C-4.1**
57	Malfunctions & Accidents	CNSC > OPG	ECCC	Prior to Construction	**D-C-3.1**
58	Malfunctions & Accidents	CNSC > OPG		Prior to Construction	**D-C-3.1**
60	Nuclear Liability	GOC		Prior to Construction	**N/A**
63	Malfunctions & Accidents	CNSC > OPG		Prior to Construction	**D-C-3.1**
66	Nuclear Liability	GOC		Prior to Construction	**N/A**
Operation Phase					
15	Water and Sediment quality	CNSC > OPG	ECCC, DFO	During Operation	**D-P-12.3**
23	Birds	CNSC > OPG	ECCC	During Operation	**D-P-12.5**
36	Once through cooling	CNSC > OPG	ECCC, DFO	During Operation	**D-P-12.4** **D-C-1.2**
38	Geotechnical	CNSC > OPG		Prior to Operation	**D-O-3.1**
61	Aquatic	CNSC > OPG	ECCC, DFO	During Operation	**D-P-12.4**
All Phases (Over Life of Project)					
4	Jurisdictional Boundaries	CNSC		Over the Life of Project	**N/A**
11	Soil quality	CNSC > OPG	ECCC	Over the Life of Project	**D-P-12.6**
28	Aquatic	DFO > OPG	ECCC, CNSC, MNRF	Over the Life of Project	**D-P-12.4** **D-P-15.1**
29	Aquatic	DFO > OPG	ECCC, CNSC, MNRF	Over the Life of Project	**D-P-12.4** **D-P-15.1**

JRP Rec. #	Topic	Directed to	Support from	Phase Timeline[3]	Deliverable/ Sub-Deliverable #
33	Aquatic	DFO > OPG	CNSC, ECCC, MNRF	Over the Life of Project	**D-P-12.4**
42	Aboriginal programs	OPG		Over the Life of Project	**D-P-17.1**
43	Land Use	CNSC		Over the Life of Project	**N/A**
44	Land Use	Province of Ontario		Over the Life of Project	**N/A**
45	Land Use	Clarington		Over the Life of Project	**N/A**
46	Emergency Planning	Province of Ontario		Over the Life of Project	**N/A**
55	Radiation Protection	HC, CNSC		Over the Life of Project	**N/A**
56	Air quality	CNSC > OPG	ECCC	Over the Life of Project	**D-P-12.2**
59	Land Use	Clarington		Over the Life of Project	**N/A**
65	Used Fuel	GOC		Over the Life of Project	**N/A**
General					
64	Malfunctions & Accidents	CEAA		General	**N/A**
67	Sustainability	GOC		General	**N/A**

7.0 APPENDICES

Appendix A: All Phases

Appendix A: All Phases

Title: OPG General Commitment Statements

Licence / Regulatory Requirement:

- PRSL 18.00/2031 LC 15.1 – Mitigation measures and commitments for site preparation
- PRSL 18.00/2031 LC 15.2 – Environmental assessment follow-up program for site preparation
- CNSC REGDOC-2.5.2: Design of Reactor Facilities: Nuclear Power Plants

Applicable Standard:

Completion Timeline:

Deliverable Description:

#	Deliverables for Completion	Closure Criteria (To Who and When)	Required Response	Status

Deliverable Commitment Details:

OPG General Commitment Statements

OPG Commitments to Be Addressed By Deliverables:

- The site preparation, construction and operation and maintenance of the DNNP will fall within the description as presented in the EA Scope of Project Technical Support Document. [EIS Section 1.1.1]

- OPG has committed to the use of Good Industry Management Practices and full compliance with applicable regulatory requirements through all phases of the DNNP. [EIS IR 152]

- The DNNP Environmental Assessment studies began in 2006 and the Environmental Impact Statement (EIS) was submitted in September 2009. Accordingly, any references to environmental compliance standards or criteria made in the documents reflect those in force at the time the documents were prepared. As those regulatory standards and criteria may change and be deemed applicable to the DNNP, the compliance obligations of OPG will also change and be met accordingly. [EIS IR 176]

- The new reactors will comply with the REGDOC-2.5.2 safety goals. This sets limits on the performance of the reactors with respect to accident frequency and consequences of off-site releases. Review of the preliminary safety analyses for the reactor technologies under consideration provides confidence that the REGDOC-2.5.2 safety goals will be met. Safety Goal Based (SGB) Small and Large Releases were developed in order to demonstrate that the reactor designs under consideration meet the intent of the REGDOC-2.5.2 safety goals with respect to the impact of protective measures (i.e., temporary evacuation, long term relocation) on the local population. The assessment concluded that the impact of protective measures was consistent with the intent of the safety goals. [EIS Section 7.3.2.9]

- All aspects of the project, including mitigation measures, will be further defined as the project evolves through the licensing process. The mitigation measures and EA follow-up elements represent commitments made by OPG to ensure that effects are reduced. Where applicable, these measures will be incorporated by the vendor during design and/or construction. [EIS IR 174; EIS IR 191]

- The Licence to Construct application will contain specific reactor technology information to address design considerations. [LTPSA, Introduction]

Appendix A: All Phases
Title: OPG General Commitment Statements
EA Follow-up Commitments Related To Deliverable:
• None.
JRP Recommendations (in accordance with GOC Response) To Be Addressed By Deliverables:
• OPG to comply with all municipal and provincial requirements and standards over the life of the Project. It is the responsibility of provincial and municipal officials to ensure compliance with their own requirements and standards over the life of the Project. [GOC Response to JRP Rec. 4]

Appendix A: All Phases
Title: OPG General Commitment Statements

Number Legend

D Deliverable
P Site Preparation Phase
C Construction Phase
O Operation Phase

(e.g., D-P-3.1 = Deliverable - Site Preparation Phase - Deliverable Number)

Abbreviations and Acronyms

CNSC	Canadian Nuclear Safety Commission
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPC	Engineering, Procurement and Construction
GOC	Government of Canada
IR	Information Request
JRP	Joint Review Panel
LC	Licence Condition
LTPSA	Licence to Prepare Site Application
DNNP	Darlington New Nuclear Project
OPG	Ontario Power Generation
PRSL	Power Reactor Site Preparation Licence

References

[EIS] OPG Letter, A. Sweetnam to JRP Chair, “Environmental Assessment for the OPG New Nuclear at Darlington Project”, CD# NK054-CORR-00531-00037, September 30, 2009.

- Enclosure: Ontario Power Generation (OPG), 2009. Environmental Impact Statement New Nuclear – Darlington Environmental Assessment, Report No. NK054-REP-07730-00029, September 2009

[EIS IR 152] OPG Letter, Albert Sweetnam to JRP Chair,” OPG Response to Joint Review Panel Information Request April 28, 2010”, CD# NK054-CORR-00531-00100, May 28, 2010.

[EIS IR 174] OPG letter, Albert Sweetnam to JRP Chair,” OPG Response to Joint Review Panel Information Request May 20,2010”, CD# NK054-CORR-00531-00106, June 14, 2010.

Appendix A: All Phases

Title: OPG General Commitment Statements

[EIS IR 176] OPG letter, Albert Sweetnam to JRP Chair," OPG Response to Joint Review Panel Information Request June 29, 2010", CD# NK054-CORR-00531-00121, July 30, 2010.

[EIS IR 191] OPG letter, Albert Sweetnam to JRP Chair," OPG Response to Joint Review Panel Information Request June 29, 2010", CD# NK054-CORR-00531-00121, July 30, 2010.

[GOC Response to JRP Rec.] Government of Canada's Response to the Joint Review Panel Report for the Proposed Darlington New Nuclear Power Plant Project in Clarington Ontario, Doc. #1049, May 2, 2012.

[LTPSA] OPG Letter, A. Sweetnam to JRP Chair, "OPG New Nuclear at Darlington Project – Application for a Licence to Prepare Site", CD# NK054-CORR-00531-00035, September 30, 2009.

- Attachment 3: Application for Licence to Prepare Site for the Future Construction of OPG New Nuclear at Darlington

Appendix B: Site Preparation Phase

Appendix B: Site Preparation Phase

Deliverable Title: D-P-1 DNNP Management System and Implementing Documents

Licence / Regulatory Requirement:

- PRSL 18.00/2031 LC 15.3 – CNSC acceptance of documents required for site preparation
- PRSL 18.00/2031 LC 1.1 – Management system requirements for site preparation
- PRSL 18.00/2031 LC 15.1 – Mitigation measures and commitments for site preparation

Applicable Standard:

- CSA N286-12: Management System Requirements for Nuclear Facilities

Completion Timeline:

- To be completed prior to the commencement of PRSL licensed activities.

Deliverable Description:

#	Deliverables for Completion	Closure Criteria (To Who and When)	Required Response	Status
D-P-1.1	NK054-PLAN-01210-00008, Darlington New Nuclear Project (DNNP) Program Management Plan	Provide to CNSC, for review and acceptance, no later than 90 days prior to commencement of PRSL licensed activities.	To be accepted by CNSC	Closed
D-P-1.2	N-PROC-MP-0078, Specification, Review, Acceptance and Use of Vendor Technical Documents	Provide to CNSC, for review and acceptance, no later than 90 days prior to commencement of PRSL licensed activities.	To be accepted by CNSC	Closed
D-P-1.3	N-STD-MP-0009, Contractor/Owner Engineering Interface and Oversight	Provide to CNSC, for review and acceptance, no later than 90 days prior to commencement of PRSL licensed activities.	To be accepted by CNSC	Closed
D-P-1.4	N-PROC-RA-0048, Conducting Audits, and Performance Assessments	Provide to CNSC, for review and acceptance, no later than 90 days prior to commencement of PRSL licensed activities.	To be accepted by CNSC	Closed
D-P-1.5	N-PROC-RA-0097, Self-assessments and Benchmarking	Provide to CNSC, for review and acceptance, no later than 90 days prior to commencement of PRSL licensed activities.	To be accepted by CNSC	Closed
D-P-1.6	N-STD-RA-0008, Incident Investigation	Provide to CNSC, for review and acceptance, no later than 90 days prior to commencement of PRSL licensed activities.	To be accepted by CNSC	Closed

Appendix B: Site Preparation Phase				
Deliverable Title: D-P-1 DNNP Management System and Implementing Documents				
D-P-1.7	N-PROC-RA-0022, Processing Station Condition Records	Provide to CNSC, for review and acceptance, no later than 90 days prior to commencement of PRSL licensed activities.	To be accepted by CNSC	Closed
D-P-1.8	OPG-STD-0148, Project Management	Provide to CNSC, for review and acceptance, no later than 90 days prior to commencement of PRSL licensed activities.	To be accepted by CNSC	Closed
D-P-1.9	OPG-STD-0153, Contract Management	Provide to CNSC, for review and acceptance, no later than 90 days prior to commencement of PRSL licensed activities.	To be accepted by CNSC	Closed
D-P-1.10	OPG-STD-0017, Organizational Authority Register	Provide to CNSC, for review and acceptance, no later than 90 days prior to commencement of PRSL licensed activities.	To be accepted by CNSC	Closed
D-P-1.11	N-PROC-RA-0035, Operating Experience Process	Provide to CNSC, for review and acceptance, no later than 90 days prior to commencement of PRSL licensed activities.	To be accepted by CNSC	Closed
D-P-1.12	N-PROC-MP-0078, Specification, Review, Acceptance and Use of Vendor Technical Documents	Provide to CNSC, for review and acceptance, no later than 90 days prior to commencement of PRSL licensed activities.	To be accepted by CNSC	Closed
D-P-1.13	N-PROC-AS-0080, Nuclear Business Planning	Provide to CNSC, for review and acceptance, no later than 90 days prior to commencement of PRSL licensed activities.	To be accepted by CNSC	Closed
D-P-1.14	OPG-MAN-00120-0021[1], Project Construction Management	Provide to CNSC, for review and acceptance, no later than 90 days prior to commencement of PRSL licensed activities.	To be accepted by CNSC	Closed
D-P-1.15	N-STD-MP-0009, Contractor/Owner Engineering Interface and Oversight	Provide to CNSC, for review and acceptance, no later than 90 days prior to commencement of PRSL licensed activities.	To be accepted by CNSC	Closed
(D-P-6.1)	N-PROC-TR-0008, Systematic Approach to Training	Provide to CNSC, for review and acceptance, no later than 90 days prior to commencement of PRSL licensed activities.	To be accepted by CNSC	Closed

Appendix B: Site Preparation Phase				
Deliverable Title: D-P-1 DNNP Management System and Implementing Documents				
D-P-1.16	OPG-PROC-0019, Records and Document Management	Provide to CNSC, for review and acceptance, no later than 90 days prior to commencement of PRSL licensed activities.	To be accepted by CNSC	Closed
D-P-1.17	OPG-MAN-00120-0017, Project Communication and Stakeholder Management	Provide to CNSC, for review and acceptance, no later than 90 days prior to commencement of PRSL licensed activities.	To be accepted by CNSC	Closed
D-P-1.18	OPG-MAN-00120-0016, Project Integrated Change Control	Provide to CNSC, for review and acceptance, no later than 90 days prior to commencement of PRSL licensed activities.	To be accepted by CNSC	Closed
D-P-1.19	N-PROC-RA-0006, Regulatory Action Management	Provide to CNSC, for review and acceptance, no later than 90 days prior to commencement of PRSL licensed activities.	To be accepted by CNSC	Closed
D-P-1.20	N-STD-AS-0002, Procedure Use and Adherence	Provide to CNSC, for review and acceptance, no later than 90 days prior to commencement of PRSL licensed activities.	To be accepted by CNSC	Closed
D-P-1.21	N-STD-AS-0020, Nuclear Management Systems Organizations	Provide to CNSC, for review and acceptance, no later than 90 days prior to commencement of PRSL licensed activities.	To be accepted by CNSC	Closed
D-P-1.22	NK054-DRAW-01210-00007, OPG Darlington New Nuclear Project Survey Drawing	Provide to CNSC, for review and acceptance, no later than 60 days prior to commencement of PRSL licensed activities.	To be accepted by CNSC	Closed
D-P-1.23	NK054-REP-01210-00078, Darlington New Nuclear Project Commitments Report	Provide to CNSC, for review and acceptance, no later than 60 days prior to commencement of PRSL licensed activities.	To be accepted by CNSC	Closed
(D-P-5.1)	NK054-PLAN-01210-00002, Emergency Preparedness	Provide to CNSC, for review and acceptance, no later than90 days prior to commencement of PRSL licensed activities.	To be accepted by CNSC	Closed
(D-P-12.1)	NK054-PLAN-07730-00014, Environmental Monitoring and Environmental Assessment Follow-up	Provide to CNSC, for review and acceptance, no later than 90 days prior to commencement of PRSL licensed activities.	To be accepted by CNSC	Closed

Appendix B: Site Preparation Phase

Deliverable Title: D-P-1 DNNP Management System and Implementing Documents

(D-P-7.1)	NK054-PLAN-61400-00001, Security Plan for Site Preparation	Provide to CNSC, for review and acceptance, no later than 90 days prior to commencement of PRSL licensed activities.	To be accepted by CNSC	Closed

Deliverable Commitment Details:

D-P-1	**DNNP Management System and Implementing Documents**	**Status: Closed**

OPG Commitments To Be Addressed By Deliverables:

In the original application for PRSL, OPG committed to develop and implement a specific Management System for DNNP. The strategic direction outlined in the PRSL Renewal Plan (NK054-PLAN-01210-00004-R000) and in the PRSL renewal application (NK054-CORR-00531-10533) is transitioning the DNNP Management System to the OPG Nuclear (OPGN) Management System which is compliant with CSA N286-12.

OPG conducted a review of the OPGN governance to ensure its applicability to DNNP site preparation activities and satisfy the following:

- DNNP Management System and implementing documents will meet requirements of CSA N286-12, Management System Requirements for Nuclear Facilities.
- DNNP's Management System will provide a process for implementing and tracking to completion recommendations made in licensing basis documents. [LTPS IR 6]
- DNNP managed system implementing documentation required for site preparation activities will be in place prior to the start of licensed activities. [LTPSA Section 2.1.1; LTPS IR 3]
- DNNP's Management System will describe how review and oversight of site preparation activities will be performed in accordance with CSA N286-12. [LTPSA Section 2.1.1; LTPS IR 3]
- DNNP's Management System will ensure activities (for design, procurement and construction of DNNP) will be performed in conformance with the requirements of CSA N286-12, the conditions that may be included in the Licence to Prepare Site, the Project Agreement between OPG and the EPC Co., and applicable laws and regulations. [LTPSA Section 2.1.1]
- DNNP's Management System will ensure appropriate oversight of contractors and sub-contractors performing site preparation activities including an ongoing and intrusive oversight via initial assessments and on-going assessments. [LTPSA Section 2.1.1; LTPSA Section 2.1.5]
- DNNP's Management System will ensure that contractors performing work for DNNP have a Management System compliant with CSA N286-12 or equivalent which includes project execution plans and acceptable quality control established for site preparation through to turnover to OPG. [LTPSA Section 2.2]
- DNNP's Management System will implement oversight to ensure that the EPC's Quality Management System (QMS) includes responsibilities for independent audits (in addition to those of performed by OPG) of implementation of the QMS, and requirements for ensuring sufficient number of trained and qualified personnel. [LTPSA Section 2.3]
- DNNP's Management System will include a process to track outstanding actions from the initial inspections and audits of the potential EPC and its suppliers to completion. [LTPSA Section 2.2]
- DNNP's Management System will incorporate processes, procedures and training to reinforce the attributes of a positive nuclear safety culture and through oversight of EPC's management system ensure that the EPC demonstrates aspects of a positive nuclear safety culture at all times. [LTPSA Section 2.1.1]
- The Environmental Follow-up and Monitoring Plan will be incorporated into the DNNP Management System. [LTPSA Section 2.1.4]

OPG has notified CNSC about the OPGN Management System program documents to be used for controlling the licensed activities associated with the DNNP site preparation phase.

EA Follow-up Commitments To Be Addressed By Deliverable:

Appendix B: Site Preparation Phase
Deliverable Title: D-P-1 DNNP Management System and Implementing Documents
• None.
JRP Recommendations (in accordance with GOC Response) To Be Addressed By Deliverable:
• None.
Required Closure Response (if Deliverable Status is Closed):
• On October 14, 2020, a letter requesting closure of commitments D-P-1.22 and D-P-1.23 was submitted to the CNSC with relevant deliverable documents. On November 9, 2020, OPG received CNSC acceptance of these deliverables and closure of the commitments. [OPG Letter: CD# NK054-CORR-00531-10539; CNSC Letter: CD# NK054-CORR-00531-10556]. • On February 24, 2021, a letter requesting closure of commitments D-P-1.1 to D-P-1.21 was submitted to the CNSC with relevant deliverable documents. On April 22, 2022, OPG received CNSC acceptance of these deliverables and closure of the commitments. [OPG Letter: CD# NK054-CORR-00531-10561; CNSC Letter: CD# NK054-CORR-00531-10672]. Commitment D-P-1 is closed.

Appendix B: Site Preparation Phase

Deliverable Title: D-P-1 DNNP Management System and Implementing Documents

Number Legend

D Deliverable
P Site Preparation Phase
C Construction Phase
O Operation Phase

(e.g., D-P-3.1 = Deliverable - Site Preparation Phase - Deliverable Number)

Abbreviations and Acronyms

CNSC	Canadian Nuclear Safety Commission
CSA	Canadian Standards Association
DNNP	Darlington New Nuclear Project
EPC	Engineering, Construction and Procurement
GOC	Government of Canada
IR	Information Request
JRP	Joint Review Panel
LC	Licence Condition
LTPSA	Licence to Prepare Site Application
DNNP	Darlington New Nuclear Project
OPG	Ontario Power Generation
PRSL	Power Reactor Site Preparation Licence

References

[PRSL Renewal] OPG Letter, M. Knutson to C. Carrier, “DNNP – Transition of DNNP Site Preparation Management System”, CD# NK054-CORR-00531-10516. January 20, 2020.

[LTPS IR 3] OPG letter, Albert Sweetnam to JRP Chair, “OPG Response to Joint Review Panel Information Request February 2010”, CD# NK054-CORR-00531-00069, February 25, 2010.

[LTPS IR 6] OPG letter, Albert Sweetnam to JRP Chair, “OPG Response to Joint Review Panel Information Request February 2010”, CD# NK054-CORR-00531-00069, February 25, 2010.

[LTPSA] OPG Letter, A. Sweetnam to JRP Chair, “OPG New Nuclear at Darlington Project – Application for a Licence to Prepare Site”, CD# NK054-CORR-00531-00035, September 30, 2009.

Attachment 3: Application for Licence to Prepare Site for the Future Construction of OPG New Nuclear at Darlington

Appendix B: Site Preparation Phase

Deliverable Title: D-P-2 Occupational Health and Safety Plan

Licence / Regulatory Requirement:

- PRSL 18.00/2031 LC 15.3 – CNSC acceptance of documents required for site preparation
- PRSL 18.00/2031 LC 8.1 – Occupational health and safety for site preparation
- PRSL 18.00/2031 LC 15.1 – Mitigation measures and commitments for site preparation
- CNSC - Nuclear Safety and Control Act and associated regulations
- MOL Occupational Health and Safety Act of Ontario
- MOL Labour Relations Act

Applicable Standard:

- CSA N286-12: Management System Requirements for Nuclear Facilities

Completion Timeline:

- To be completed prior to the commencement of PRSL licensed activities.

Deliverable Description:

#	Deliverables for Completion	Closure Criteria (To Who and When)	Required Response	Status
D-P-2.1	Occupational Health and Safety Plan.	Provide to CNSC, for review and acceptance, no later than 3 months prior to commencement of PRSL licensed activities.	To be accepted by CNSC.	Closed
D-P-2.2	Evidence of OPG review and acceptance of EPC Occupational Health and Safety Plan.	Provide to CNSC for review and acceptance, no later than 3 months prior to commencement of PRSL licensed activities.	To be accepted by CNSC.	Cancelled

Deliverable Commitment Details:

D-P-2.1	**Occupational Health and Safety Plan**	**Status: Closed**

OPG Commitments To Be Addressed By Deliverable:

- OPG will have plans, programs and procedures in place at DNNP to ensure the safety of the public, workers and compliance with provincial health and safety regulations. This shall include, but not limited to: Emergency Planning, Health and Safety Plans, and Fire Response Plans. [EIS, Section 7.2.3.5]
- OPG will ensure that Worker Health and Safety Plans are implemented. [LTPSA, Section 2.1.2]
- OPG will make appropriate arrangements to incorporate by reference the provincial legislation respecting occupational health and safety for the DNNP. [CNSC CMD:11-P1.2, Section 4.8.2]
- Vendor will demonstrate aspects of a positive nuclear safety culture at all times. [LTPSA, Section 2.1.1]
- OPG will review EPC's Health and Safety plans and maintain oversight to ensure the requirements of applicable law, Good Industry Management Practice and the requirements of the application for the licence to prepare site are incorporated including [LTPSA, Section 2.1.2]:
    - Compliance with provincial health and safety regulations [CNSC CMD:11-P1.2, Section 4.8.2]
    - Consideration of the proximity to DWMF and DNGS incorporated into safety plans for sheltering and evacuation. [LTPSA, Section 2.1.2]
    - Provision for periodic audits and monitoring. [LTPSA, Section 2.1.2]
    - Description of processes / methods to ensure that the estimated incremental radiation dose (above background) on the DNNP site (which is bounded by the perimeter dose readings at DWMF and DNGS), remains below regulatory dose limits for persons who are non-Nuclear Energy Workers. [NK054-CORR-00531-10691]

Appendix B: Site Preparation Phase

Deliverable Title: D-P-2 Occupational Health and Safety Plan

- Provisions for a project planning controls office, a safety organization to facilitate safe work planning and field coaching. [LTPSA, Section 2.3]
- Monitoring for methane gas during excavation and description of precautionary measures. [OPG 2009, Section 2.5.3]
- Measures to prevent and mitigate the effects of conventional malfunctions and accidents (e.g. worker training, use of proper personal protective equipment, use of experienced contractors with a proven safety record). [EIS, Tables 7.2-1 and 7.2-5]

- OPG will conduct periodic audits and monitoring of Vendor's Safety Plan to ensure the requirements of applicable law, good utility practice and the requirements of the application for the licence to prepare site are incorporated, including consideration of the proximity to DWMF and DNGS. [LTPSA Section 2.1.2]

EA Follow-up Commitments Related To Deliverable:

- None.

JRP Recommendations (in accordance with GOC Response) To Be Addressed By Deliverable:

- None.

- Required Closure Response (if Deliverable Status is Closed):

- On November 25, 2021, a letter requesting closure of commitment D-P-2.1 was submitted to the CNSC, and on June 23, 2022, OPG received the CNSC acceptance for closure of this commitment, [OPG Letter: CD# NK054-CORR-00531-10627; CNSC Letter: CD# NK054-CORR-00531-10698].

D-P-2.2	Evidence of OPG review and acceptance of EPC Occupational Health and Safety Plan	Status: Cancelled

OPG Commitments To Be Addressed By Deliverables:

- None.

Appendix B: Site Preparation Phase

Deliverable Title: D-P-2 Occupational Health and Safety Plan

Number Legend

D Deliverable
P Site Preparation Phase
C Construction Phase
O Operation Phase

(e.g., D-P-3.1 = Deliverable - Site Preparation Phase - Deliverable Number)

Abbreviations and Acronyms

CNSC	Canadian Nuclear Safety Commission
DNGS	Darlington Nuclear Generating Station
DWMF	Darlington Waste Management Facility
EIS	Environmental Impact Statement
EPC	Engineering, Procurement and Construction
GOC	Government of Canada
JRP	Joint Review Panel
LTPSA	Licence to Prepare Site Application
MOL	Ministry of Labour
DNNP	Darlington New Nuclear Project
OHSA	Occupational Health and Safety Act
OPG	Ontario Power Generation
PRSL	Power Reactor Site Preparation Licence

References

[CNSC CMD: 11-P1.2] Canadian Nuclear Safety Commission (CNSC) Commission Member Document (CMD):11-P1.2, Ontario Power Generation New Nuclear at Darlington Generating Station – Public Hearing March 21, 2011, E-DOCS #3616166, January 31, 2011.

[EIS] OPG Letter, A. Sweetnam to JRP Chair, “Environmental Assessment for the OPG New Nuclear at Darlington Project”, CD# NK054-CORR-00531-00037, September 30, 2009.

- Enclosure: Ontario Power Generation (OPG), 2009. Environmental Impact Statement New Nuclear – Darlington Environmental Assessment, Report No. NK054-REP-07730-00029, September 2009

[LTPSA] OPG Letter, A. Sweetnam to JRP Chair, “OPG New Nuclear at Darlington Project – Application for a Licence to Prepare Site”, CD# NK054-CORR-00531-00035, September 30, 2009.

- Attachment 3: Application for Licence to Prepare Site for the Future Construction of OPG New Nuclear at Darlington

[OPG 2009] OPG Letter, A. Sweetnam to JRP Chair, “OPG New Nuclear at Darlington Project – Application for a Licence to Prepare Site”, CD# NK054-CORR-00531-00035, September 30, 2009.

- Attachment 1: List of Documents Submitted as Part of the Licensing Basis for the Application for a Licence to Prepare Site – 1. Ontario Power Generation (OPG), 2009. Site Evaluation for OPG New Nuclear at Darlington – Nuclear Safety Considerations, Report No. NK054-REP-01210-00008, R01, September 14, 2009.

Appendix B: Site Preparation Phase

Deliverable Title: D-P-3 Environmental Management and Protection Plans

Licence / Regulatory Requirement:

- PRSL 18.00/2031 LC 15.3 – CNSC acceptance of documents required for site preparation.
- PRSL 18.00/2031 LC 9.1 – Environmental protection for site preparation
- PRSL 18.00/2031 LC 11.1 – Waste management for site preparation
- PRSL 18.00/2031 LC 15.1 – Mitigation measures and commitments for site preparation
- PRSL 18.00/2031 LC 9.1 – Environmental assessment follow-up program for site preparation
- ECCC – Canadian Environmental Protection Act
- CLOCA - Conservation Authorities Act and O. Reg. 42/06
- MECP- Endangered Species Act and O. Reg. 230/08, Species at Risk in Ontario (SARO) List
- MECP- Environmental Protection Act and O. Reg. 255/11
- DFO - Fisheries Act
- ECCC – Fisheries Act, Section 36(3)
- MECP – Regulation 347 General - Waste Management
- MECP- Ontario Water Resources Act
- ECCC - Migratory Birds Convention Act
- Planning Act – Municipality of Clarington
- MNRF - Public Lands Act
- ECCC - Species at Risk Act
- TC – Transportation of Dangerous Goods Act and Regulations
- CNSC - REGDOC-2.9.1, Environmental Protection: Environmental Principles, Assessments, and Protection Measures

Applicable Standard:

- CSA N286-12: Management System Requirements for Nuclear Facilities
- CAN/CSA ISO 14001-15: Environmental Management Systems
- CCME: Canadian Ambient Air Quality Standards, 2017
- MECP: Ontario's Ambient Air Quality Criteria, 2019
- ECCC – "Planting the Seed – A Guide to Establishing Prairies and Meadow Communities in Southern Ontario"
- MECP: Storm Water Management Planning and Design Manual 2003
- MECP: Ontario's Ambient Air Quality Criteria, 2012
- MECP: Summary of Standards and Guidelines to Support Ontario Regulation 419: Air Pollution – Local Air Quality, 2008
- MECP: Rationale for the Development of Ontario Air Standards for Acrolein, 2009
- National Building Code of Canada
- MECP: Noise Pollution Control NPC-300
- Greater Golden Horseshoe Area Conservation Authorities Erosion and Sediment Control Guideline for Urban Construction, 2019

Completion Timeline:

To be completed prior to the commencement of PRSL licensed activities. The deliverables for D-P-3.8 and D-P-3.9 to be completed prior to commencement of the licensed activities with potential adverse impact to the bank swallow or to the aquatic habitat, respectively.

Deliverable Description:

#	Deliverables for Completion	Closure Criteria (To Who and When)	Required Response	Status

Appendix B: Site Preparation Phase				
Deliverable Title: D-P-3 Environmental Management and Protection Plans				
D-P-3.1	Environmental Management and Protection Plan. Note: This plan may include plans listed under D-P-3.2 to D-P-3.11 except for D-P-3.8 and D-P-3.9 (to be provided separately).	Provide to CNSC, for review and acceptance, no later than 3 months prior to commencement of PRSL licensed activities.	To be accepted by CNSC.	Closed
D-P-3.2	Nuisance Effects (Dust and Noise) Plan.	Provide to CNSC, for review and acceptance, no later than 3 months prior to commencement of PRSL licensed activities.	To be accepted by CNSC.	Closed
		Provide to Municipality of Clarington, for review and acceptance, no later than 3 months prior to commencement of proposed activities, as part of the application submission for Site Plan Approval under the Planning Act, Section 41(4). *[As applicable subject to Municipal Host Agreement].*	Site Plan Approval to be granted by Municipality of Clarington	
D-P-3.3	Spill Prevention and Response Plan.	Provide to CNSC, for review and acceptance, no later than 3 months prior to commencement of PRSL licensed activities.	To be accepted by CNSC.	Closed
D-P-3.4	Storm Water Management Plan.	Provide to CNSC, for review and acceptance, no later than 3 months prior to commencement of PRSL licensed activities.	To be accepted by CNSC.	Closed
		Provide to MOE, for review and acceptance, no later than 3 months prior to commencement of proposed activities, as part of the Environmental Compliance Approval application under the Ontario Water Resources Act, Section 53 for sewage works. (Specific milestone to be confirmed with MOE).	Approval to be granted by MOE.	

Appendix B: Site Preparation Phase				
Deliverable Title: D-P-3 Environmental Management and Protection Plans				
		Provide to CLOCA, for review and acceptance, no later than 3 months prior to commencement of proposed activities, as part of the Permit application for development, interference with wetlands and alterations to shorelines and watercourses under Conservation Authorities Act and O. Reg. 42/06. *[In conjunction with Site Plan Approval - Clarington].*	Permit to be granted by CLOCA.	
		Provide to Municipality of Clarington, for review and acceptance, no later than 3 months prior to commencement of proposed activities, as part of the application submission for Site Plan Approval under the Planning Act, Section 41(4). *[As applicable subject to Municipal Host Agreement].*	Site Plan Approval to be granted by Municipality of Clarington.	
D-P-3.5	Erosion and Sediment Control Plan.	Provide to CNSC, for review and acceptance, no later than 3 months prior to commencement of PRSL licensed activities.	To be accepted by CNSC.	Closed
		Provide to DFO, for review and acceptance, no later than 3 months prior to commencement of proposed activities, as part of the DFO Authorization under Fisheries Act, Section 35(2).	Authorization to be granted by DFO.	
		Provide to MNR, for review and acceptance, no later than 3 months prior to commencement of proposed activities, as part of the Land Use Permit application to conduct in-water works under Public Lands Act. (See Deliverable D-P-16: Lake Infill	Permit to be granted by MNR.	

Appendix B: Site Preparation Phase				
Deliverable Title: D-P-3 Environmental Management and Protection Plans				
		and Deliverable D-C-1: CCW Design).		
		Provide to CLOCA, for review and acceptance, no later than 3 months prior to commencement of proposed activities, as part of the Permit application for development, interference with wetlands and alterations to shorelines and watercourses under Conservation Authorities Act and O. Reg. 42/06. *[In conjunction with Site Plan Approval - Clarington].*	Permit to be granted by CLOCA.	
D-P-3.6	Hazardous Waste Management Plan.	Provide to CNSC, for review and acceptance, no later than 3 months prior to commencement of PRSL licensed activities.	To be accepted by CNSC.	Closed
D-P-3.7	Terrestrial Environment Mitigation Measures and Plans.	Provide to CNSC, for review and acceptance, no later than 3 months prior to commencement of PRSL licensed activities.	To be accepted by CNSC.	Closed
		Provide to MNRF (if required), for review and acceptance, no later than 3 months prior to commencement of proposed activities, as part of the Overall Benefit Permitting process under the Endangered Species Act, Section 17(2)(c). (Specific milestone to be confirmed with MNR).	Permit to be granted by MNR.	
		Provide to CLOCA, for review and acceptance, no later than 3 months prior to commencement of proposed activities, as part of the Permit application for development, interference with wetlands and alterations to shorelines and watercourses under Conservation Authorities Act	Permit to be granted by CLOCA.	

Appendix B: Site Preparation Phase				
Deliverable Title: D-P-3 Environmental Management and Protection Plans				
		and O. Reg. 42/06. *[In conjunction with Site Plan Approval - Clarington].*		
D-P-3.8	Bank Swallow Mitigation Measures and Plans	Provide to CNSC, for review and acceptance, no later than 3 months prior to the commencement of any licensed activity with potential adverse impact to the Bank Swallow habitat.	To be accepted by CNSC.	Closed
		Provide to MECP, for review and acceptance, no later than 3 months prior to commencement of proposed activities, as part of the Permit application for development, interference with wetlands and alterations to shorelines and watercourses under Conservation Authorities Act and O. Reg. 42/06. [In conjunction with Site Plan Approval - Clarington].	Permit to be granted by MECP.	
D-P-3.9	Aquatic Environment Mitigation Measures and Plans.	Provide to CNSC, for review and acceptance, no later than 3 months prior to commencement of any licensed activities with potential adverse impact to the in-land aquatic habitat.	To be accepted by CNSC.	Closed
		Provide to CLOCA, for review and acceptance, no later than 3 months prior to commencement of proposed activities, as part of the Permit application for development, interference with wetlands and alterations to shorelines and watercourses under Conservation Authorities Act and O. Reg. 42/06. *[In conjunction with application for Site Plan Approval - Clarington].*	Permit to be granted by CLOCA.	
		Provide to DFO (if required), for review and acceptance, no	Authorizatio n to be	

Appendix B: Site Preparation Phase				
Deliverable Title: D-P-3 Environmental Management and Protection Plans				
		later than 3 months prior to commencement of proposed activities, as part of the DFO Authorization under Fisheries Act, Section 35(2) for HADD from inland activities.	granted by DFO.	
D-P-3.10	Smog Alert Action Plan.	Provide to CNSC, for review and acceptance, no later than 3 months prior to commencement of PRSL licensed activities.	To be accepted by CNSC.	Closed
D-P-3.11	Plan to address potential new discoveries of Physical and Cultural Heritage Resources.	Provide to MTCS, for review and acceptance, no later than 3 months prior to commencement of PRSL licensed activities, as appropriate.	To be accepted by MTCS.	Closed
		Provide to CNSC, for information, to demonstrate completion of commitment, no later than 60 days prior to commencement of PRSL licensed activities.	None.	
D-P-3.12	Evidence of OPG review and acceptance of EPC plans (D-P-3.1 to D-P-3.10) noted above.	Provide to CNSC, for review and acceptance, no later than 3 months prior to commencement of PRSL licensed activities.	To be accepted by CNSC.	Cancelled

Deliverable Commitment Details

D-P-3.1	**Environmental Management and Protection Plan**	**Status: Closed**

OPG Commitments To Be Addressed By Deliverable:

- Environmental management and protection plans will conform to all applicable regulatory requirements, and good utility practices. [LTPSA, Section 4.3]
- An Environmental Management and Protection Plan (EMPP) will be prepared to manage the environmental effects of the project through pro-active and pre-emptive means to address specific aspects of the work that may contribute to environmental effects. The EMPP will incorporate Good Industry Management Practices. [EIS IR 152]
- Vendor to implement work planning to manage potential environmental harms that may arise from site preparation activities. [LTPSA Section 2.3]
- Prior to site preparation activities commencing at the site, environmental monitoring and mitigation measures will be installed. Measures will follow Good Industry Management Practices. [LTPSA, Section 1.2.2]
- OPG will ensure that the environmental management and protection plan(s) provide a systematic evaluation of the potential environmental effects associated with each work activity, and the implementation of measures that eliminate, manage, reduce, or mitigate the associated risks. [EIS IR 123; LTPSA, Section 2.1.4]

Appendix B: Site Preparation Phase

Deliverable Title: D-P-3 Environmental Management and Protection Plans

- OPG will review and confirm that any vendor's Environmental Management and Protection Plan meets requirements. [LTPSA 2.1.4]
- OPG will review these plans and will actively monitor vendor activities with respect to their compliance with the plans. [EIS IR 123; LTPSA Section 1.2.2 and Section 2.1.4]

EA Follow-up Commitments Related To Deliverable:

- None.

JRP Recommendations (in accordance with GOC Response) To Be Addressed by Deliverable:

- None.

Required Closure Response (if Deliverable Status is Closed):

- On February 5, 2022, OPG submitted to the CNSC the request for closure of various commitments under D-P-3, and on August 24, 2022 OPG received the CNSC acceptance for closure of these commitments, [OPG Letter: CD# NK054-CORR-00531-10632; CNSC Letter: CD# NK054-CORR-00531-10718].

D-P-3.2	Nuisance Effects (Dust and Noise) Plan	Status: Closed

OPG Commitments To Be Addressed By Deliverable:

- Nuisance Effects Management Plan(s) will be developed in consultation with the Municipality of Clarington. [EIS IR 119 Resubmission]
- Nuisance Effects Management Plan(s) will be implemented for residential properties along transportation routes (and along truck haul route for transport of surplus soil to off-site disposal location) affected by the DNNP (as identified in the Traffic Management Plan) during the Site Preparation and Construction phase. [EIS Section 5.11.5.2; Section 5.11.7.2; Table 5.15-1; EIS IR 54; EIS IR 54 Resubmission]

The Plans will:

- Include a process for receiving, resolving and following-up on complaints and issues raised by the public; [EIS Section 5.11.5.2; Section 5.11.7.2; Table 5.15-1 and EIS IR 54]
- Be developed in cooperation with DN site neighbours, other local residents, municipal officials and others to ensure that specific mitigation measures are tailored to local conditions and are implemented in a manner that meets stakeholder expectations and needs.
- Complaint response mechanism will be implemented to address any concerns as part of a Nuisance Effects Management Plan. [OPG Letter, CD# NK054-CORR-00531-00190]
- Plans will be developed to consider dust control, and surface water and erosion / sediment control. [LTPSA Section 1.2.2]

Dust management will include some or all of the following activities: [EIS Section 5.2.5.2; Table 5.15-1; EIS IR 54 Resubmission]

- Application of dust suppressants including water and/or chemical stabilizers for dust control on road and other surfaces as required;
- Where possible, pave road surfaces;
- As a minimum, use low silt content materials for unpaved road surfaces, as appropriate;
- Consider use of different aggregate grades for roads construction, selection of road surface types conducive to each roadway function that promote lower dust emissions (i.e. paved roads, low silt gravel, washed stone);
- Employ slope stabilization (e.g. hydro seeding);
- Include roles, responsibilities and authorities of key staff;
- Provide for record keeping and maintenance;
- Include visual monitoring;

Appendix B: Site Preparation Phase

Deliverable Title: D-P-3 Environmental Management and Protection Plans

- Consider staged grading to allow for natural stability from cover materials and vegetation;
- Consider surface stabilization of completed earthworks with vegetation/ stone/ soil/ geotextiles and/or compacting/creation of ridges;
- Incorporate use of perimeter wind fencing/screens and temporary interior wind fencing/screens for specific phases of preparation;
- Consider use of vegetation as wind breaks;
- Provide for shaping of storage piles to minimize steep sides or faces;
- Control tracking out of mud/dirt;
- Limit the application of de-icing materials;
- Minimize the number of times soils are handled and materials drop distances (i.e. from loader to truck);
- Mitigate traffic congestion and distances travelled between loading and offloading sites;
- Minimize distances travelled between materials storage and loading areas;
- Where possible reduce high dust generating material transfer activities during high wind conditions; and
- Establish on-site vehicle restrictions including posted speed limits (<25km/hr), limiting site traffic to established haul routes, methods to control speed.

Noise management will include: [EIS Section 5.2.6.2; Table 5.15-1; EIS IR 119; EIS IR 54 Resubmission; OPG Letter, CD# NK054-CORR-00531-00190]

- Limiting hours of operation for site preparation activities;
- Construction activities occurring outside of municipal noise curfew hours be discussed in advance with nearby residents;
- Ensure vehicles and other fuel combustion equipment is properly maintained;
- Minimize idling time for vehicles;
- Limiting site traffic to established haul routes;
- Alerting residents of specific noise generating activities (e.g., blasting);
- Complying with the specific noise standards noted in Ontario Ministry of the Environment NPC-300, NPC-115, and NPC-119;
- Establish on-site vehicle restrictions, including restrictions on tail gate banging during offloading;
- Noise control on construction equipment (e.g., dampened reverse alarms).

EA Follow-up Commitments Related To Deliverable:

- Refer to Deliverable D-P-12: Environmental Monitoring and Environmental Assessment Follow-up.

JRP Recommendations (in accordance with GOC Response) To Be Addressed by Deliverable:

- OPG to develop and implement a detailed acoustic assessment. [GOC Response to JRP Rec. 9]

Required Closure Response (if Deliverable Status is Closed):

- On February 5, 2022, OPG submitted to the CNSC the request for closure of various commitments under D-P-3, and on August 24, 2022 OPG received the CNSC acceptance for closure of these commitments, [OPG Letter: CD# NK054-CORR-00531-10632; CNSC Letter: CD# NK054-CORR-00531-10718].

D-P-3.3	Spill Prevention and Response Plan	Status: Closed

OPG Commitments To Be Addressed By Deliverable:

- Spill prevention and contingency plans will be in place and include spill control measures to reduce the probability of spills occurring and to reduce the potential effect of a spill on the environment. All personnel working with chemicals will receive training related to their job descriptions, including the proper handling of chemicals to prevent their release. [EIS Section 7.2.3; Table 7.2-5]

Appendix B: Site Preparation Phase

Deliverable Title: D-P-3 Environmental Management and Protection Plans

- Good Industry Management Practices will be implemented as part of the Environmental Management and Protection Plan(s) to prevent and mitigate the effects of conventional malfunctions and accidents as listed in Chapter 7 of the EIS. [EIS Section 7.2.3; Table 7.2-5].
- In all cases, spill response measures will be taken to minimize or eliminate contaminants reaching the natural environment, and remediation measures will be implemented as required. [EIS IR 125]
- Secondary containment of storage tanks (e.g. for fuel oil) will be provided to contain any releases from spillage or tank rupture. [EIS Section 5.3.7.2]
- Contingency measures will be in place to control spills that may result during handling of fuels and lubricants during site preparation. [LTPSA Section 1.2.2]
- Spills prevention planning will be integrated into the storm water management design and Best Management Practices. [OPG letter, CD# NK054-CORR-00531-00190]
- Regular maintenance and visual inspection will be in place to detect any structural problems with fuel storage tanks. [EIS Table 7.2-1]
- Some large transformers at nuclear facilities contain large quantities of oil. DNNP will have spill prevention and contingency plans for all sources of potential chemical spills at the facility. The spill prevention and contingency plans ensure that DNNP will establish spill control measures to reduce the probability of spills occurring or to reduce the probability of the spilled material reaching the environment. These measures include the following: [EIS Section 7.2.3.1]
    - Constructing or installing containment structures;
    - Field monitoring of fuel storage; and
    - Instituting preventive maintenance programs.

EA Follow-up Commitments To Be Addressed By Deliverable:

- None.

JRP Recommendations (in accordance with GOC Response) To Be Addressed by Deliverable:

- None.

Required Closure Response (if Deliverable Status is Closed):

- On February 5, 2022, OPG submitted to the CNSC the request for closure of various commitments under D-P-3, and on August 24, 2022 OPG received the CNSC acceptance for closure of these commitments, [OPG Letter: CD# NK054-CORR-00531-10632; CNSC Letter: CD# NK054-CORR-00531-10718].

D-P-3.4	Storm Water Management Plan	Status: Closed

OPG Commitments To Be Addressed By Deliverable:

- Storm water management measures and plans will be developed in consultation with the relevant regulatory agencies, including Environment Canada. [OPG Letter, CD# NK054-CORR-00531-00190]
- A plan of drainage for the site, and a layout of storm water management facilities, including treatment trains, outfalls to the lake, and basic design parameters (e.g. flows, volumes, retention times, return periods) both for the site preparation/construction phase and for the operations phase will be developed. [OPG Letter, CD# NK054-CORR-00531-00190]
- Spills prevention planning will be integrated into the storm water management design and Best Management Practices. [OPG Letter, CD# NK054-CORR-00531-00190]
- Site drainage and storm water management plan will be implemented to maintain contribution of flow within the Darlington Creek watershed for the north (D2) tributary, to allow for the south (E) tributary to contribute flow in a new channel directed toward Lake Ontario, for the area of the Northeast Landfill Area with objectives of: i) contributing additional base flow into Darlington Creek and ii) reducing the extent of the groundwater drawdown

Appendix B: Site Preparation Phase

Deliverable Title: D-P-3 Environmental Management and Protection Plans

area north of the DN site, and to promote recharge of surface water to the groundwater regime. [EIS Section 5.6.8; Table 5.15-1]

- Storm water management ponds will be developed, as necessary, and will be sufficient in number and size to provide adequate retention times for collected runoff in advance of its discharge to surface water. [EIS IR 20]
- It is assumed that surface water runoff from the NPP buildings will be collected in storm water management ponds and then discharged to an existing drainage course or Lake Ontario.[OPG 2009, Section 5.2.2]
- The biodiversity of Coot's Pond to be maintained by implementing storm water management techniques to provide for adequate flow and water quality (e.g., Total Suspended Solids) management in Coot's Pond. [EIS Section 5.5.4.2; Table 5.15-1]
- Management features such as swales, ditches, and retention ponds, to optimize opportunities in recharging the groundwater flow regime with surface water run-off will be implemented. [EIS Section 5.6.8; Table 5.15-1]
- Features will be designed in accordance with the Ministry of the Environment (MOE) Stormwater Management Planning and Design Manual (2003) [EIS IR 21]
- Good Industry Management Practices will be implemented during all phases of the DNNP with respect to storm water management including: [EIS Section 5.3.7.2; Table 5.15-1]
    - Sediment control techniques such as a silt or turbidity curtain during dredging and a filtration system during dewatering. [OPG Letter, CD# NK054-CORR-00531-00190]
    - Erosion and sediment control measures to be installed prior to clearing and grubbing activities. [LTPSA Section 1.2.2; LTPSA Section 4.3]
    - Treatment of dewatering discharges
    - Storm water conveyance systems
    - Conventional storm water treatment methods such as storm water management ponds and oil-grit separators.
- To verify the effects of the EIS, sample stormwater discharges from the DNNP following a plan (with regard to parameters and frequency) appropriate for the facility. [EIS Table 11.6-2]
    - Duration: Post-construction phase (minimum 1 year)
    - Frequency: Variable (to consider parameters and criteria)
    - Location: Sample locations will be similar to baseline sampling program plus additional sampling station in embayment area created between lake infill area and St. Marys.
- All water having come into contact with blasting agents (e.g., ammonium nitrate/fuel oil - ANFO) will be appropriately collected, managed and disposed. [EIS Section 5.3.7.2; Table 5.15-1]
- Employ dust and sediment control measures to minimize suspended sediment concentrations. [EIS Section 5.3.7.2; Table 5.15-2]
- Plans will be developed to consider dust control, and surface water and erosion / sediment control. [LTPSA Section 1.2.2]

EA Follow-up Commitments Related To Deliverable:

- Refer to Deliverable D-P-12: Environmental Monitoring and Environmental Assessment Follow-up.

JRP Recommendations (in accordance with GOC Response) To Be Addressed by Deliverable:

- OPG to establish toxicity testing criteria and provide the test methodology and test frequency for storm water. The GOC additionally supports the application of the recommended testing for process effluents. [GOC Response to JRP Rec. 16; OPG Letter, CD# NK054-CORR-00531-00190]

Required Closure Response (if Deliverable Status is Closed):

- On February 5, 2022, OPG submitted to the CNSC the request for closure of various commitments under D-P-3, and on August 24, 2022 OPG received the CNSC acceptance for closure of these commitments, [OPG Letter: CD# NK054-CORR-00531-10632; CNSC Letter: CD# NK054-CORR-00531-10718].

Appendix B: Site Preparation Phase

Deliverable Title: D-P-3 Environmental Management and Protection Plans

D-P-3.5	Erosion and Sediment Control Plan	Status: Closed

OPG Commitments To Be Addressed By Deliverable:

- Sediment control plans to be developed in consultation with relevant regulatory agencies, including Environment Canada. [OPG Letter, CD# NK054-CORR-00531-00190]
- Sediment control techniques such as a silt or turbidity curtain during dredging and a filtration system during dewatering. [EIS Table 7.2-1]
- Erosion and sediment control measures to be installed prior to clearing and grubbing activities. The erosion and sediment control plan will describe and prescribe all necessary means to ensure Good Industry Management Practice. [LTPSA Section 1.2.2; LTPSA Section 4.3]
- Employ dust and sediment control measures to minimize suspended sediment concentrations. [EIS Section 5.3.7.2; Table 5.15-2]
- Plans will be developed to consider dust control, and surface water and erosion / sediment control. [LTPSA Section 1.2.2]
- As the Project design details are finalized, storm water management practices will be tailored for specific application, related to Coot's Pond. Sedimentation and erosion controls, including possible settling pond upstream of Coot's Pond to be in place if the Project requires additional soil to be stockpiled adjacent to the Northwest Landfill, these mitigation measures would be implemented, as appropriate, to ensure that water quantity and quality are maintained. Sufficient surface water flow to the pond would be maintained by not diverting it elsewhere. [EIS IR 189]

EA Follow-up Commitments Related To Deliverable:

- Refer to Deliverable D-P-12: Environmental Monitoring and Environmental Assessment Follow-up.

JRP Recommendations (in accordance with GOC Response) To Be Addressed by Deliverable:

- None.

Required Closure Response (if Deliverable Status is Closed):

- On February 5, 2022, OPG submitted to the CNSC the request for closure of various commitments under D-P-3, and on August 24, 2022 OPG received the CNSC acceptance for closure of these commitments, [OPG Letter: CD# NK054-CORR-00531-10632; CNSC Letter: CD# NK054-CORR-00531-10718].

D-P-3.6	Hazardous Waste Management Plan	Status: Closed

OPG Commitments To Be Addressed By Deliverable:

- Explosives required for the rock excavation activities will be delivered to the site on an as required basis by an appropriately qualified and licensed contractor. All use and management of explosives, including storage in on-site magazines, if required, will be in compliance with the federal *Explosives Act* and its regulations. [EIS Section 2.5.11]
- Separate application will be filed with the Ministry of Natural Resources for a licence for temporary storage and use of explosives. [LTPSA Section 1.2.2]
- Procedural controls will be implemented to ensure the safe transport, storage and handling of hazardous materials; [EIS IR 19]
- Hazardous chemicals will be managed using the Workplace Hazardous Materials Information System (WHMIS) principles; [EIS IR 19]
- Waste management plans to consider all reasonable efforts to reduce, reuse, or recycle non-hazardous and non-radioactive waste. [LTPSA Section 2.1.4; EIS IR 19]
- Waste will be collected regularly by licensed contractors and transferred to appropriately licensed off-site disposal facilities. [LTPSA Section 4.4]

Appendix B: Site Preparation Phase

Deliverable Title: D-P-3 Environmental Management and Protection Plans

- Disposal of any trees, bushes, stumps and windfall that cannot be safely managed on site will be disposed / removed from site to a licensed landfill or placed in a designated soil spoil area in accordance with regulatory requirements. [LTPSA Section 1.2.2]
- Any domestic sewage will be directed to the municipal wastewater treatment plant. [EIS Section 5.3.7.2; Table 5.15-1]
- Hazardous Waste considerations will include:
  - The presence of contaminated soil or rock will be assessed and managed if encountered to meet regulatory requirements; [LTPSA Section1.2.2]
  - Provisions for storing hazardous wastes in separate, secure areas to prevent spills and ensure segregation; [LTPSA Section 4.4]
  - Hazardous waste handling procedures and protocols for safe transport and storage of hazardous waste; [LTPSA Section 4.4]
  - The management of hazardous wastes (storage, processing, disposal, transport) will comply with federal and provincial requirements and Industry Practices; [LTPSA Section 4.4]
  - Waste will be collected, stored, and shipped by a licensed hazardous waste disposal company, to a licensed facility; [LTPSA Section 4.4; EIS IR 19]
  - The environmental effects of such chemicals and hazardous waste will be mitigated by the incorporation of Good Industry Management Practices into Project implementation. As the Project planning and design evolves, all Good Industry Management Practices (incorporating Good Utility Practices), will be integrated into a comprehensive and overarching Environmental Management Plan (EMP); [EIS IR 19]
  - Secondary containment of storage tanks (e.g., for fuel oil) will be provided to contain any releases from spillage or tank rupture; and [EIS Section 5.3.7.2]
  - In all cases, spill response measures will be taken to minimize or eliminate contaminants reaching the natural environment, and remediation measures will be implemented as required. [EIS IR 125]
  - A description of the contingency measures that will be implemented to control spills that may result during handling of fuels and lubricants during site preparation. [LTPSA Section 1.2.2]

EA Follow-up Commitments Related To Deliverable:

- None.

JRP Recommendations (in accordance with GOC Response) To Be Addressed by Deliverable:

- Prior to site preparation, OPG to conduct a comprehensive soils characterization program. In particular, the potentially impacted soils in the areas OPG identifies as the spoils disposal area, cement plant area and asphalt storage area must be sampled to identify the nature and extent of potential contamination. The soils characterization program could also support future ecological risk assessment activities by OPG. [GOC Response to JRP Rec. 2]
- OPG to develop a comprehensive assessment of hazardous substance releases and the required management practices for hazardous chemicals on site once a reactor technology has been chosen. [GOC Response to JRP Rec. 26]

Required Closure Response (if Deliverable Status is Closed):

- On February 5, 2022, OPG submitted to the CNSC the request for closure of various commitments under D-P-3, and on August 24, 2022 OPG received the CNSC acceptance for closure of these commitments, [OPG Letter: CD# NK054-CORR-00531-10632; CNSC Letter: CD# NK054-CORR-00531-10718].

D-P-3.7	Terrestrial Environment Mitigation Measures and Plans	Status: Closed

OPG Commitments To Be Addressed By Deliverable:

Appendix B: Site Preparation Phase

Deliverable Title: D-P-3 Environmental Management and Protection Plans

- Terrestrial Environment mitigation measures and plans will be developed in consultation with appropriate regulatory agencies (e.g. MNR, CLOCA, CNSC), including Environment Canada.

Prior to Site Preparation

- The Butternut tree will be included in the site planting plans through the Endangered Species Act (ESA) Notice of Activity Process. [Table 6 of Aggregate Assessment Report provided in R-45]
- Necessary measures need to be taken to avoid an impact on Chimney Swift and its habitat. [OPG Letter, CD# NK054-CORR-00531-00190]
- Salvage and relocate aquatic plants and biota where practicable, to a suitable existing or created habitat in advance of site preparation activities. [EIS, Section 5.4.4.2]
- Salvage and relocate or replant rare plant species to suitable existing or created habitat in advance of site preparation activities. [EIS, Section 5.5.4.2; Table 5.15-1]
- OPG is currently developing a Rare Plant Salvage and Pond Decommissioning Plan, internal to OPG, which will be implemented by OPG prior to Site Preparation and Construction activities. The Rare Plant Salvage Plan will identify the locations of plants to be re-located on the DN site, the removal timing and methods, the refuge location that will be used on the Darlington Nuclear (DN) site, and other details based on experience. Once the new ponds have been created, plant material will be redistributed across the site, as appropriate, as part of the biodiversity plan for the DN site. [EIS IR 191]

During Site Preparation/ Construction

- Some mitigation elements should be, and will be, implemented prior to completion of the DNNP construction work. [EIS IR 191]
- The Project design will incorporate to the extent practicable measures to maintain access for wildlife travel on the east-west wildlife corridor during construction activities; and to enhance the corridor function for the long-term. [EIS, Section 5.5.9.2; Table 5.15.-1]
- Good Industry Management Practices applied during clearing and grubbing activities to reduce environmental impact include:
    - Minimizing the area to be cleared to the extent feasible;
    - Minimizing compaction of roots in areas that will not be cleared; and
    - Compliance with seasonal constraints and regulatory requirements[LTPSA, Section 1.2.2]

Post Construction

- Incorporate landscape design principles (e.g., naturalization of the Northwest and Northeast Landfill Area surfaces and the lake infill area, planting plans and re-vegetation programs) and implement Good Industry Management Practices in the design and construction of the Project to reduce the visibility of the operating facility (e.g., cooling towers). [EIS, Sections 5.8.5.2 and 5.8.6.2; Table 5.15-1]
- Re-plant approximately 40 to 50 ha of Cultural Meadow and approximately 15 to 20 ha of Cultural Thicket with native shrub plantings, and Woodland dominated by Sugar Maple. Salvage and relocate or replant rare plant species (Shag-bark Hickory, Common Water Flax-seed, Cup Plant and Loesel's Twayblade) to a suitable existing or created habitat in advance of site preparation activities. Include native forb seeds in seed mixture for Cultural Meadow re-planting. [EIS, Section 5.5.4.2; Table 5.15-1]
- Create new fish-free wetland ponds with riparian plantings in appropriate areas on the DN site. [EIS, Section 5.5.4.2]
- Wetlands will be incorporated into the new lake infill area after the Construction phase. [EIS, Sections 5.4.4.2 and 5.5.4.2]
- Include native forb seeds in seed mixture for Cultural Meadow re-planting. [EIS, Section 5.5.4.2; Table 5.15-1]
- Cultural meadow and cultural thicket habitat loss will be offset by developing restoration plans tailored to the needs of the Eastern Meadowlark, Bobolink, and Monarch including native grasslands consisting of tall vegetation species. [OPG Letter, CD# NK054-CORR-00531-00190]

Appendix B: Site Preparation Phase

Deliverable Title: D-P-3 Environmental Management and Protection Plans

EA Follow-up Commitments Related To Deliverable:

- Refer to Deliverable D-P-12: Environmental Monitoring and Environmental Assessment Follow-up.

JRP Recommendations (in accordance with GOC Response) To Be Addressed by Deliverable:

- OPG to perform a thorough evaluation of site layout opportunities before site preparation activities begin, in order to minimize the overall effects on the terrestrial and aquatic environments and maximize the opportunity for quality terrestrial habitat rehabilitation. [GOC Response to JRP Rec. 20]
- OPG to use best management practices to prevent or minimize the potential runoff of sediment and other contaminants into wildlife habitat associated with Coot's Pond during site preparation and construction phases. [GOC Response to JRP Rec. 21]
- OPG to compensate for the loss of ponds by designing compensation ponds that maximize ecological function, and not necessarily limited to "like-for-like". [GOC Response to Rec. 21]
- OPG to avoid disruption to breeding migratory birds on the site and avoid habitat destruction (e.g. vegetation clearing, initial grading) at a minimum between the period May 1 and July 31 of any year. [GOC Response to JRP Rec. 24; OPG Letter, CD# NK054-CORR-00531-00190]
- OPG to develop and implement a management plan for species at risk, as may be appropriate. [GOC Response to JRP Rec. 25]

Required Closure Response (if Deliverable Status is Closed):

- On February 5, 2022, OPG submitted to the CNSC the request for closure of various commitments under D-P-3, and on August 24, 2022 OPG received the CNSC acceptance for closure of these commitments, [OPG Letter: CD# NK054-CORR-00531-10632; CNSC Letter: CD# NK054-CORR-00531-10718].

D-P-3.8	Bank Swallow Mitigation Measures and Plans	Status: Closed

OPG Commitments To Be Addressed By Deliverable:

- Bank Swallow mitigation measures and plans to be developed in consultation with the CNSC, ECCC, MECP and CLOCA.
- When the Project site is developed, every effort should be made to minimize the destruction of the natural bluff, using the best available technology economically achievable. In particular, the bluff should remain intact until all site layout options for the selected reactor technology have been thoroughly evaluated. The bluff should only be removed if it is then determined that this is absolutely necessary for the development of the Project. The evaluation of site layout alternatives to be undertaken in consultation with relevant departments/agencies, including ECCC. [OPG Letter, CD# NK054-CORR-00531-00190]
- If the bounding case scenario is realized (i.e., all bluff habitat used by Bank Swallows east of the existing Darlington Nuclear Generating Station to the Darlington Nuclear (DN) site boundary would be lost), implement a plan that includes the following
    - Provision of artificial Bank Swallow habitat on the Darlington Nuclear (DN) site; (The detailed plan to implement this will be finalized once the site layout is prepared and site specific opportunities for artificial habitat creation are determined.)
    - Acquisition of lands containing existing colonies for study and protection;
    - Provision of artificial nesting habitat for related Chimney Swift and Purple Martins on the DN site;
    - Partner to undertake research into declining aerial foragers in Ontario, and
    - Integration of interpretive opportunities, such as, interpretive signage and observation decks. [EIS, Section 5.5.6.2; EIS IR 54]
- If the actual site development is less than the bounding case scenario, OPG intends to apply mitigation measures appropriate to the actual effect based on the actual site layout and associated effect. The preferred options will be the provision of artificial Bank Swallow habitat (item 1 above) plus a combination of items 3, 4 and 5 above. [EIS IR 54]

Appendix B: Site Preparation Phase

Deliverable Title: D-P-3 Environmental Management and Protection Plans

- Prior to site preparation activities, develop a Bank Swallow mitigation plan for implementation during the site preparation and construction phase, and verification of the implementation plan. This mitigation plan will include all relevant details of timing, assessing performance and function. Verification will be conducted through EA Follow-up. [EIS IR 191]
- Based on OPG's on-going monitoring of Bank Swallow colonies, refinements to the additional mitigation measures will be made considering evolving science and opportunities to build on OPG's Biodiversity Plan at Darlington. [EIS IR 54]

EA Follow-up Commitments Related To Deliverable:

- Refer to Deliverable D-P-12: Environmental Monitoring and Environmental Assessment Follow-up.

JRP Recommendations (in accordance with GOC Response) To Be Addressed by Deliverable:

- To avoid any unnecessary environmental damage to the bluff at Raby Head and fish habitat, no bluff removal or lake infill to occur during the site preparation stage unless a reactor technology has been selected and there is certainty that the Project will proceed. The GOC further notes that authorization under the Fisheries Act will be required prior to any lake infill taking place, and confirms that DFO will work with OPG to ensure that as a condition of that authorization, that no lake infill occurs unless there is certainty that the Project will proceed and appropriate mitigation measures and habitat compensation have been implemented. [GOC Response to JRP Rec. 5]
- OPG to implement the following identified Bank Swallow mitigation measures using an adaptive management approach, and determine required mitigation based on reasonable estimates of actual burrow loss
    - The acquisition of off-site nesting habitat;
    - The construction of artificial Bank Swallow nest habitat with the capacity to maintain a population which is at least equal to the number of breeding pairs currently supported by the bluff and as close to the original bluff site as possible. [GOC Response to JRP Rec. 27]
- GC expects that the acquisition of off-site nesting habitat should only be necessary if follow-up monitoring shows that on-site mitigation is unsuccessful, and notes that on-site mitigation may also include the enhancement of potential natural nesting sites within the Site Study Area. [GOC Response to JRP Rec. 27]

Required Closure Response (if Deliverable Status is Closed):

- On December 5, 2024, OPG submitted the request for closure of commitment D-P-3.8, and on March 24, 2025 OPG received CNSC acceptance for closure of this commitment, [OPG Letter: CD# NK054-CORR-00531-11117; CNSC Letter: CD# NK054-CORR-00531-11218].

D-P-3.9	Aquatic Environment Mitigation Measures and Plans	Status: Closed

OPG Commitments To Be Addressed By Deliverable:

- Aquatic Environment Mitigation measures and plans will be developed in consultation with appropriate regulatory agencies (CNSC, EC, MNR, CLOCA) to compensate for loss of habitat due to inland site preparation and construction activities (e.g. if implemented, activities resulting in alteration of or disruption of upper reaches of intermittent Lake Ontario tributary, Coot's Pond, upper reaches of intermittent tributaries of Darlington Creek)

Mitigation measures may include:

- Construction of a clear-span bridge in lieu of the box culvert crossing of Darlington Creek to avoid in-water works and the loss of creek habitat, if required; [EIS, Section 5.4.4.2]
- Through the use of appropriate setbacks and sediment and erosion controls during construction, the crossing would avoid harmful alteration, disruption or destruction (of fish habitat), if required; [EIS, Section 5.4.4.2]
- Alternatively (the preferred option), the Darlington Creek stream crossing can be avoided entirely by relocating the access route during detailed design; [EIS, Section 5.4.4.2]
- Fish salvage from work areas (catch and release), depending on extent of in-water work in areas such as lake infill, Coot's pond (only if required); and [EIS, Section 5.4.5]

Appendix B: Site Preparation Phase

Deliverable Title: D-P-3 Environmental Management and Protection Plans

- Salvage and re-use/relocation of aquatic plants and amphibians where practicable. [EIS, Section 5.4.4.2]

EA Follow-up Commitments Related To Deliverable:

- Refer to Deliverable D-P-12: Environmental Monitoring and Environmental Assessment Follow-up.

JRP Recommendations (in accordance with GOC Response) To Be Addressed by Deliverable:

- None.

Required Closure Response (if Deliverable Status is Closed):

- On February 5, 2022, OPG submitted to the CNSC the request for closure of various commitments under D-P-3, and on August 24, 2022 OPG received the CNSC acceptance for closure of these commitments, [OPG Letter: CD# NK054-CORR-00531-10632; CNSC Letter: CD# NK054-CORR-00531-10718].

D-P-3.10	Smog Alert Action Plan	Status: Closed

OPG Commitments To Be Addressed By Deliverable:

- The smog alert action plan will be developed in consultation with appropriate regulatory agencies (e.g., CNSC, HC and EC)

EA Follow-up Commitments Related To Deliverable:

- None.

JRP Recommendations (in accordance with GOC Response) To Be Addressed by Deliverable:

- OPG to develop a smog alert action plan for days when there are air quality or smog alerts. [GOC Response to JRP Rec. 8]

Required Closure Response (if Deliverable Status is Closed):

- On February 5, 2022, OPG submitted to the CNSC the request for closure of various commitments under D-P-3, and on August 24, 2022 OPG received the CNSC acceptance for closure of these commitments, [OPG Letter: CD# NK054-CORR-00531-10632; CNSC Letter: CD# NK054-CORR-00531-10718].

D-P-3.11	Plan to address potential new discoveries of Physical and Cultural Heritage Resources	Status: Closed

OPG Commitments To Be Addressed By Deliverable:

- OPG to have an appropriate plan in place to address the potential for new discoveries of physical and cultural heritage resources that may arise as site preparation progresses. [EIS IR 48]
- Should a licensed archaeologist be contracted to prepare the plan, it is incumbent on the archaeologist to provide the plan to the Ministry of Tourism, Culture and Sports (MTCS) for acceptance, as appropriate.

EA Follow-up Commitments Related To Deliverable:

- None.

JRP Recommendations (in accordance with GOC Response) To Be Addressed by Deliverable:

- None.

Required Closure Response (if Deliverable Status is Closed):

- On February 5, 2022, OPG submitted to the CNSC the request for closure of various commitments under D-P-3, and on August 24, 2022 OPG received the CNSC acceptance for closure of these commitments, [OPG Letter: CD# NK054-CORR-00531-10632; CNSC Letter: CD# NK054-CORR-00531-10718].

Appendix B: Site Preparation Phase		
Deliverable Title: D-P-3 Environmental Management and Protection Plans		
D-P-3.12	**Evidence of OPG review and acceptance of EPC plans**	**Status: Cancelled**
OPG Commitments To Be Addressed By Deliverable:		
• None.		

Appendix B: Site Preparation Phase

Deliverable Title: D-P-3 Environmental Management and Protection Plans

Number Legend

D Deliverable
P Site Preparation Phase
C Construction Phase
O Operation Phase

(e.g., D-P-3.1 = Deliverable - Site Preparation Phase - Deliverable Number)

Abbreviations and Acronyms

CLOCA	Central Lake Ontario Conservation Authority
CNSC	Canadian Nuclear Safety Commission
DFO	Fisheries and Oceans Canada
EC	Environment Canada
EIS	Environmental Impact Statement
EPC	Engineering, Procurement and Construction
GOC	Government of Canada
HADD	Harmful Alteration, Disruption or Destruction
IR	Information Request
JRP	Joint Review Panel
LC	Licence Condition
LTPSA	Licence to Prepare Site Application
MNRF	Ministry of Natural Resources and Forestry
MOE	Ministry of the Environment
MTCS	Ministry of Tourism, Culture and Sports
DNNP	Darlington New Nuclear Project
OPG	Ontario Power Generation
PRSL	Power Reactor Site Preparation Licence
WHMIS	Workplace Hazardous Materials Information System

References

[EIS] OPG Letter, A. Sweetnam to JRP Chair, “Environmental Assessment for the OPG New Nuclear at Darlington Project”, CD# NK054-CORR-00531-00037, September 30, 2009.

- Enclosure: Ontario Power Generation (OPG), 2009. Environmental Impact Statement New Nuclear – Darlington Environmental Assessment, Report No. NK054-REP-07730-00029, September 2009

[EIS IR 19] OPG Letter, Albert Sweetnam to JRP Chair, “OPG Response to Joint Review Panel Information Request February 2010”, CD# NK054-CORR-00531-00069, February 25, 2010.

[EIS IR 20] OPG Letter, Albert Sweetnam to JRP Chair, “OPG Response to Joint Review Panel Information Request February 3, 2010”, CD# NK054-CORR-00531-00074, March 18, 2010.

[EIS IR 21] OPG Letter, Albert Sweetnam to JRP Chair, “OPG Response to Joint Review Panel Information Request February 2010”, CD# NK054-CORR-00531-00069, February 25, 2010.

[EIS IR 48] OPG Letter, Albert Sweetnam to JRP Chair, “OPG Response to Joint Review Panel Information Request February 2010”, CD# NK054-CORR-00531-00069, February 25, 2010.

Appendix B: Site Preparation Phase

Deliverable Title: D-P-3 Environmental Management and Protection Plans

[EIS IR 54] OPG Letter, Albert Sweetnam to JRP Chair, "OPG Response to Joint Review Panel Information Request February 2010", CD# NK054-CORR-00531-00069, February 25, 2010.

[EIS IR 54 Resubmission] OPG Letter, A. Sweetnam to JRP Chair, "OPG Additional Responses to Joint Review Panel Information Request May 20, 2010", CD# NK054-CORR-00531-00122, July 30, 2010.

- Appendix 1A to Attachment A: EIS IR 54 (Resubmission) & IR 213: Environmental Component Mitigation Summary Tables.

[EIS IR 119] OPG Letter, Albert Sweetnam to JRP Chair, "OPG Response to Joint Review Panel Information Request March 29, 2010", CD# NK054-CORR-00531-00083, April 21, 2010.

[EIS IR 119 Resubmission] OPG Letter, Albert Sweetnam to JRP Chair, "OPG Response to Joint Review Panel Information Request May 20, 2010", CD# NK054-CORR-00531-00107, June 30, 2010.

[EIS IR 123] OPG letter, Albert Sweetnam to JRP Chair, "OPG Response to Joint Review Panel Information Request March 29, 2010", CD# NK054-CORR-00531-00083, April 21, 2010.

[EIS IR 125] OPG letter, Albert Sweetnam to JRP Chair, "OPG Response to Joint Review Panel Information Request March 29, 2010", CD# NK054-CORR-00531-00083 April 21, 2010.

[EIS IR 152] OPG Letter, Albert Sweetnam to JRP Chair, "OPG Response to Joint Review Panel Information Request April 28, 2010", CD# NK054-CORR-00531-00100, May 28, 2010.

[EIS IR 189] OPG Letter, Albert Sweetnam to JRP Chair, "OPG Response to Joint Review Panel Information Request June 29, 2010", CD# NK054-CORR-00531-00121, July 30, 2010.

[EIS 191] OPG Letter, Albert Sweetnam to JRP Chair, "OPG Response to Joint Review Panel Information Request June 29, 2010", CD# NK054-CORR-00531-00121, July 30, 2010.

[GOC Response to JRP Rec.] Government of Canada's Response to the Joint Review Panel Report for the Proposed Darlington New Nuclear Power Plant Project in Clarington Ontario, Doc. #1049, May 2, 2012.

[LTPSA] OPG Letter, A. Sweetnam to JRP Chair, "OPG New Nuclear at Darlington Project – Application for a Licence to Prepare Site", CD# NK054-CORR-00531-00035, September 30, 2009.

- Attachment 3: Application for Licence to Prepare Site for the Future Construction of OPG New Nuclear at Darlington

[OPG 2009] OPG Letter, A. Sweetnam to JRP Chair, "OPG New Nuclear at Darlington Project – Application for a Licence to Prepare Site", CD# NK054-CORR-00531-00035, September 30, 2009.

- Attachment 1: List of Documents Submitted as Part of the Licensing Basis for the Application for a Licence to Prepare Site – 1. Ontario Power Generation (OPG), 2009. Site Evaluation for OPG New Nuclear at Darlington – Nuclear Safety Considerations, Report No. NK054-REP-01210-00008, R01, September 14, 2009.

[OPG Letter, CD# NK054-CORR-00531-00190] OPG Letter, A. Sweetnam to JRP Chair, "OPG Review of Recommendations Made by Government Agencies", CD# NK054-CORR-00531-00190, March 14, 2011.
[OPG Letter, CD# NK054-CORR-00531-10530] OPG Letter, D. Townsend to C. Carrier, "DNNP – Submission of Aggregate Assessment Report and CNSC Staff's Prior Written Notification of Document Change: Darlington New Nuclear Project Commitments Report R004", CD# NK054-CORR-00531-10530, June 2020.

Appendix B: Site Preparation Phase

Deliverable Title: D-P-4 Quality Management Plan

Licence / Regulatory Requirement:

- PRSL 18.00/2031 LC 15.3 – CNSC acceptance of documents required for site preparation
- PRSL 18.00/2031 LC 15.1 – Mitigation measures and commitments for site preparation
- CNSC - Nuclear Safety and Control Act and associated regulations

Applicable Standard:

- CSA N286-12: Management System Requirements for Nuclear Facilities

Completion Timeline:

- To be completed prior to the commencement of PRSL licensed activities.

Deliverable Description:

#	Deliverables for Completion	Closure Criteria (To Who and When)	Required Response	Status
D-P-4.1	Quality Management Plan.	Provide to CNSC, for review and acceptance, no later than 3 months prior to commencement of PRSL licensed activities.	To be accepted by CNSC.	Closed
D-P-4.2	Evidence of OPG review and acceptance of EPC Quality Management Plan.	Provide to CNSC, for review and acceptance, no later than 3 months prior to commencement of PRSL licensed activities.	To be accepted by CNSC.	Cancelled

Deliverable Commitment Details:

D-P-4.1	**Quality Management Plan**	**Status: Closed**

OPG Commitments To Be Addressed By Deliverable:

OPG through its oversight will ensure the following:

- EPC will manage the quality of the activities performed by its subcontractors.[LTPSA Section 2.1.1]
- Contractors performing work for DNNP will have a Management System compliant with N286-12 or equivalent which includes project execution plans and acceptable quality control established for site preparation through to turnover to OPG. [LTPSA Section 2.2]
- EPC's Quality Management System (QMS) to include responsibilities for independent audits (in addition to those of performed by OPG) of implementation of the QMS, and requirements for ensuring sufficient number of trained and qualified personnel.[LTPSA Section 2.3]
- EPC will demonstrate the attributes of a positive nuclear safety culture at all times.[LTPSA Section 2.1.1]
- EPC to establish project planning controls office, a safety organization to facilitate safe work planning and field coaching [LTPSA Section 2.3]

EA Follow-up Commitments Related To Deliverable:

- None.

JRP Recommendations (in accordance with GOC Response) To Be Addressed By Deliverable:

- None.

Required Closure Response (if Deliverable Status is Closed):

- On February 16, 2022, OPG submitted to the CNSC the request for closure of commitment D-P-4.1, and on June 17, 2022, OPG received the CNSC acceptance for closure of this commitment, [OPG Letter: CD# NK054-CORR-00531-10636; CNSC Letter: CD# NK054-CORR-00531-10697].

Appendix B: Site Preparation Phase		
Deliverable Title: D-P-4 Quality Management Plan		
D-P-4.2	**Evidence of OPG review and acceptance of EPC Quality Management Plan.**	**Status: Cancelled**
OPG Commitments To Be Addressed By Deliverable:		
• None.		

Appendix B: Site Preparation Phase

Deliverable Title: D-P-4 Quality Management Plan

Number Legend

D Deliverable
P Site Preparation Phase
C Construction Phase
O Operation Phase

(e.g., D-P-3.1 = Deliverable - Site Preparation Phase - Deliverable Number)

Abbreviations and Acronyms

CNSC	Canadian Nuclear Safety Commission
DWMF	Darlington Waste Management Facility
EIS	Environmental Impact Statement
EPC	Engineering, Procurement and Construction
GOC	Government of Canada
IR	Information Request
JRP	Joint Review Panel
LC	Licence Condition
LTPSA	Licence to Prepare Site Application
DNNP	Darlington New Nuclear Project
OPG	Ontario Power Generation
PRSL	Power Reactor Site Preparation Licence

References

[LTPSA] OPG Letter, A. Sweetnam to JRP Chair, “OPG New Nuclear at Darlington Project – Application for a Licence to Prepare Site”, CD# NK054-CORR-00531-00035, September 30, 2009.

Attachment 3: Application for Licence to Prepare Site for the Future Construction of OPG New Nuclear at Darlington

Appendix B: Site Preparation Phase

Deliverable Title: D-P-5 Emergency Management and Fire Protection Plans

Licence / Regulatory Requirement:

- PRSL 18.00/2031 LC 15.3 – CNSC acceptance of documents required for site preparation
- PRSL 18.00/2031 LC 10.1 – Emergency preparedness and fire protection for site preparation
- PRSL 18.00/2031 LC 15.1 – Mitigation measures and commitments for site preparation
- CNSC - Nuclear Safety and Control Act and associated regulations

Applicable Standard:

- CSA N286-12: Management System Requirements for Nuclear Facilities

Completion Timeline:

- To be completed prior to the commencement of PRSL licensed activities.

Deliverable Description:

#	Deliverables for Completion	Closure Criteria (To Who and When)	Required Response	Status
D-P-5.1	DNNP Emergency Preparedness Plan, NK054-PLAN-01210-00002.	Provide to CNSC, for review and acceptance, no later than 3 months prior to commencement of PRSL licensed activities.	To be accepted by CNSC.	Closed
D-P-5.2	Emergency Response and Evacuation Plan.	Provide to CNSC, for review and acceptance, no later than 3 months prior to commencement of PRSL licensed activities.	To be accepted by CNSC.	Closed
D-P-5.3	Fire Prevention and Response Plan.	Provide to CNSC, for review and acceptance, no later than 3 months prior to commencement of PRSL licensed activities.	To be accepted by CNSC.	Closed
D-P-5.4	Evidence of OPG review and acceptance of EPC plans (D-P-5.2 and D-P-5.3).	Provide to CNSC for review and acceptance, no later than 3 months prior to commencement of PRSL licensed activities.	To be accepted by CNSC.	Cancelled

Deliverable Commitment Details:

D-P-5.1	**DNNP Emergency Preparedness Plan**	**Status: Closed**

OPG Commitments To Be Addressed By Deliverable:

- Work in partnership with the Province of Ontario and other appropriate agencies concerning health care and emergency preparedness. [Socio-Economic Effects TSD, Section 3.3.1.4]

EA Follow-up Commitments Related To Deliverable:

- Refer to Deliverable D-P-12 Environmental Monitoring and Environmental Assessment Follow-up.

JRP Recommendations (in accordance with GOC Response) To Be Addressed By Deliverable:

- None.

Required Closure Response (if Deliverable Status is Closed):

Appendix B: Site Preparation Phase

Deliverable Title: D-P-5 Emergency Management and Fire Protection Plans

- On March 31, 2021, OPG submitted to the CNSC the request for closure of commitment D-P-5.1. On August 18, 2021, OPG received the CNSC acceptance for closure of commitment D-P-5.1. [OPG Letter: CD# NK054-CORR-00531-10575; CNSC Letter: CD# NK054-CORR-00531-10600]

D-P-5.2	Emergency Response and Evacuation Plan	Status: Closed

OPG Commitments To Be Addressed By Deliverable:

- OPG will accept and monitor an emergency and fire response plan prepared by the Vendor. [EIS IR 54 Resubmission; Socio-Economic Effects TSD, Section 3.3.1.4]
- DNNP site personnel notification, sheltering and the DNNP site portion of a coordinated evacuation will be implemented through Vendor documentation. [LTPSA, Section 2.1.3]
- Accident/malfunction plans (for non-nuclear accidents) be developed in consultation with appropriate regulatory agencies, including EC, and that the plans be in place prior to any site preparation activities being undertaken. [OPG Letter, CD# NK054-CORR-00531-00190]
- OPG be required to explain how they will ensure contractors will meet OPG's stated commitments and the requirements of their accident/malfunction plans (for non-nuclear accidents). [OPG Letter, CD# NK054-CORR-00531-00190]
- Plan to describe processes / methods to ensure that the estimated incremental radiation dose (above background) on the DNNP site (which is bounded by the perimeter dose readings at DWMF and DNGS), remains below regulatory dose limits for persons who are non-Nuclear Energy Workers. [NK054-CORR-00531-10691]
- OPG will review Vendor's Safety plan to ensure the requirements of applicable law, good utility practice and the requirements of the application for the licence to prepare site are incorporated, including consideration of the proximity to Darlington Waste Management Facility and DNGS. Periodic audits and monitoring will be conducted. [LTPSA, Section 2.1.2]

EA Follow-up Commitments Related To Deliverable:

- None.

JRP Recommendations (in accordance with GOC Response) To Be Addressed By Deliverable:

- None.

Required Closure Response (if Deliverable Status is Closed):

- On November 25, 2021, OPG submitted to the CNSC the request for closure of commitment D-P-5.2, and on August 23, 2022 OPG received the CNSC acceptance for closure of this commitment, [OPG Letter: CD# NK054-CORR-00531-10627; CNSC Letter: CD# NK054-CORR-00531-10719].

D-P-5.3	Fire Prevention and Response Plan	Status: Closed

OPG Commitments To Be Addressed By Deliverable:

- OPG will accept and monitor an emergency and fire response plan prepared by the Vendor. [EIS IR 54 Resubmission; Socio-Economic Effects TSD, Section 3.3.1.4]
- OPG will work with the Municipality to upgrade potable water service (for fire protection) to the site as required. [LTPSA Section 1.2.2]
- Ensure the provision of on-site security, emergency health care and fire services for the protection of the construction workforce. [Socio-Economic Effects TSD, Section 3.3.1.4]
- Due to the limited quantities of fuel or lubricants that would be stored on-site during construction, and construction protocols developed to minimize the potential for fire, the risk from a fire is considered minimal during this phase. [EIS Table 7.2-1]

EA Follow-up Commitments Related To Deliverable:

Appendix B: Site Preparation Phase		
Deliverable Title: D-P-5 Emergency Management and Fire Protection Plans		
• None.		
JRP Recommendations (in accordance with GOC Response) To Be Addressed By Deliverable:		
• None.		
Required Closure Response (if Deliverable Status is Closed):		
• On November 25, 2021, a letter requesting closure of commitment D-P-5.3 was submitted to the CNSC, and on June 23, 2022, OPG received the CNSC acceptance for closure of this commitment, [OPG Letter: CD# NK054-CORR-00531-10627; CNSC Letter: CD# NK054-CORR-00531-10698].		
D-P-5.4	**Evidence of OPG review and acceptance of EPC plans (D-P-5.2 and D-P-5.3).**	**Status: Cancelled**
OPG Commitments To Be Addressed By Deliverable:		
• None.		

Appendix B: Site Preparation Phase

Deliverable Title: D-P-5 Emergency Management and Fire Protection Plans

Number Legend

D Deliverable
P Site Preparation Phase
C Construction Phase
O Operation Phase

(e.g., D-P-3.1 = Deliverable - Site Preparation Phase - Deliverable Number)

Abbreviations and Acronyms

CNSC	Canadian Nuclear Safety Commission
CSA	Canadian Standards Association
DNGS	Darlington Nuclear Generating Station
EA	Environmental Assessment
EC	Environment Canada
EIS	Environmental Impact Statement
EPC	Engineering, Procurement and Construction
GOC	Government of Canada
IR	Information Request
JRP	Joint Review Panel
LC	Licence Condition
LTPSA	Licence to Prepare Site Application
DNNP	Darlington New Nuclear Project
OPG	Ontario Power Generation
PRSL	Power Reactor Site Preparation Licence
TSD	Technical Support Document

References

[EIS] OPG Letter, A. Sweetnam to JRP Chair, “Environmental Assessment for the OPG New Nuclear at Darlington Project”, CD# NK054-CORR-00531-00037, September 30, 2009.

- Enclosure: Ontario Power Generation (OPG), 2009. Environmental Impact Statement New Nuclear – Darlington Environmental Assessment, Report No. NK054-REP-07730-00029, September 2009

[EIS IR 54 Resubmission] OPG Letter, A. Sweetnam to JRP Chair, “OPG Response to Joint Review Panel Information Request May 20, 2010”, CD# NK054-CORR-00531-00122, July 30, 2010.

- Appendix 1A to Attachment A: EIS IR 54 (Resubmission) & IR 213: Environmental Component Mitigation Summary Tables.

[LTPSA] OPG Letter, A. Sweetnam to JRP Chair, “OPG New Nuclear at Darlington Project – Application for a Licence to Prepare Site”, CD# NK054-CORR-00531-00035, September 30, 2009.

- Attachment 3: Application for Licence to Prepare Site for the Future Construction of OPG New Nuclear at Darlington

[OPG Letter, CD# NK054-CORR-00531-00190] OPG Letter, A. Sweetnam to JRP Chair, “OPG Review of Recommendations Made by Government Agencies”, CD# NK054-CORR-00531-00190, March 14, 2011.

Report

OPG Proprietary		
Document Number: NK054-REP-01210-00078		Usage Classification: N/A
Sheet Number: N/A	Revision Number: R010	Page: 86 of 197

Title:
DARLINGTON NEW NUCLEAR PROJECT COMMITMENTS REPORT

Appendix B: Site Preparation Phase
Deliverable Title: D-P-5 Emergency Management and Fire Protection Plans
[Socio-Economic Effects TSD] Socio-Economic Environment Assessment of Environmental Effects Technical Support Document New Nuclear – Darlington Environmental Assessment, Ontario Power Generation Inc., Report No.NK054-REP-07730-00019, September 2009.

Appendix B: Site Preparation Phase

Deliverable Title: D-P-6 Personnel Training Plan

Licence / Regulatory Requirement:

- PRSL 18.00/2031 LC 15.3 – CNSC acceptance of documents required for site preparation
- PRSL 18.00/2031 LC 1.1 – Personnel qualifications and competencies for site preparation
- PRSL 18.00/2031 LC 15.1 – Mitigation measures and commitments for site preparation
- CNSC - Nuclear Safety and Control Act and associated regulations

Applicable Standard:

- CSA N286-12: Management System Requirements for Nuclear Facilities

Completion Timeline:

- To be completed prior to the commencement of PRSL licensed activities.

Deliverable Description:

#	Deliverables for Completion	Closure Criteria (To Who and When)	Required Response	Status
D-P-6.1	N-PROC-TR-0008, Systematic Approach to Training.	Provide to CNSC, for review and acceptance, no later than 3 months prior to commencement of PRSL licensed activities.	To be accepted by CNSC.	Closed
D-P-6.2	Personnel Training Plan.	Provide to CNSC, for review and acceptance, no later than 3 months prior to commencement of PRSL licensed activities.	To be accepted by CNSC.	Closed
D-P-6.3	Evidence of OPG review and acceptance of EPC Personnel Training Plan (D-P-6.2).	Provide to CNSC, for review and acceptance, no later than 3 months prior to commencement of PRSL licensed activities.	To be accepted by CNSC.	Cancelled

Deliverable Commitment Details:

D-P-6.1	**Training Procedure**	**Status: Closed**

OPG Commitments To Be Addressed By Deliverable:

- OPG to have controls to ensure workers are trained and assessed to confirm that they have acquired the knowledge, skills, and competencies to perform their work assignments. These controls include:
  - the identification and definitions of qualifications and competencies required for each task including site specific requirements;
  - the verification of personnel qualifications and competencies against defined qualification and competency requirements prior to permitting personnel to perform work on the site; and
  - the documentation and maintenance of personnel qualification and competency records.

EA Follow-up Commitments Related To Deliverable:

- None.

JRP Recommendations (in accordance with GOC Response) To Be Addressed By Deliverable:

- None.

Required Closure Response (if Deliverable Status is Closed):

Appendix B: Site Preparation Phase		
Deliverable Title: D-P-6 Personnel Training Plan		
• On February 24, 2021, OPG submitted a letter to the CNSC requesting closure of commitment D-P-6.1. On April 29, 2022, OPG received CNSC acceptance for closure of commitment D-P-6.1. [OPG Letter: CD# NK054-CORR-00531-10561; CNSC Letter: CD# NK054-CORR-00531-10676]		
D-P-6.2	**Personnel Training Plan**	**Status: Closed**
OPG Commitments To Be Addressed By Deliverable:		
• OPG will ensure through its oversight that EPC's Quality Management System (QMS) to include responsibilities for independent audits (in addition to those of performed by OPG) of implementation of the QMS, and requirements for ensuring sufficient number of trained and qualified personnel.[LTPSA Section 2.3]		
EA Follow-up Commitments Related To Deliverable:		
• None.		
JRP Recommendations (in accordance with GOC Response) To Be Addressed By Deliverable:		
• None.		
Required Closure Response (if Deliverable Status is Closed):		
• On December 21, 2021, OPG submitted to the CNSC the request for closure of commitment D-P-6.2, and on June 9, 2022, OPG received the CNSC acceptance for closure of this commitment, [OPG Letter: CD# NK054-CORR-00531-10624; CNSC Letter: CD# NK054-CORR-00531-10695].		
D-P-6.3	**Evidence of OPG review and acceptance of EPC Personnel Training Plan**	**Status: Cancelled**
OPG Commitments To Be Addressed By Deliverables:		
• None.		

Appendix B: Site Preparation Phase

Deliverable Title: D-P-6 Personnel Training Plan

Number Legend

D Deliverable
P Site Preparation Phase
C Construction Phase
O Operation Phase

(e.g., D-P-3.1 = Deliverable - Site Preparation Phase - Deliverable Number)

Abbreviations and Acronyms

CNSC	Canadian Nuclear Safety Commission
CSA	Canadian Standards Association
EPC	Engineering, Procurement and Construction
GOC	Government of Canada
JRP	Joint Review Panel
LTPSA	Licence to Prepare Site Application
DNNP	Darlington New Nuclear Project
OPG	Ontario Power Generation
PRSL	Power Reactor Site Preparation Licence

References

[LTPSA] OPG Letter, A. Sweetnam to JRP Chair, “OPG New Nuclear at Darlington Project – Application for a Licence to Prepare Site”, CD# NK054-CORR-00531-00035, September 30, 2009.

Attachment 3: Application for Licence to Prepare Site for the Future Construction of OPG New Nuclear at Darlington

Appendix B: Site Preparation Phase

Deliverable Title: D-P-7 Site Security Plan

Licence / Regulatory Requirement:

- PRSL 18.00/2031 LC 15.3 – CNSC acceptance of documents required for site preparation
- PRSL 18.00/2031 LC 12.1 – Security for site preparation
- PRSL 18.00/2031 LC 15.1 – Mitigation measures and commitments for site preparation
- CNSC – Nuclear Safety and Control Act and associated regulations
- CNSC REGDOC-1.1.1: Site Evaluation and Site Preparation for New Reactor Facilities

Applicable Standard:

- CSA N286-12: Management System Requirements for Nuclear Facilities

Completion Timeline:

- To be completed prior to the commencement of PRSL licensed activities.

Deliverable Description:

#	Deliverables for Completion	Closure Criteria (To Who and When)	Required Response	Status
D-P-7.1	Security Plan for Site Preparation, NK054-PLAN-61400-00001.	Provide to CNSC, for review and acceptance, no later than 3 months prior to commencement of PRSL licensed activities.	To be accepted by CNSC.	Closed
D-P-7.2	Site Access and Security Protocol.	Provide to CNSC, for review and acceptance, no later than 3 months prior to commencement of PRSL licensed activities.	To be accepted by CNSC.	Closed
D-P-7.3	Evidence of OPG review and acceptance of EPC Site Access and Security Protocol.	Provide to CNSC, for review and acceptance, no later than 3 months prior to commencement of PRSL licensed activities.	To be accepted by CNSC.	Cancelled

Deliverable Commitment Details:

D-P-7.1	**Security Plan for Site Preparation**	**Status: Closed**

OPG Commitments To Be Addressed By Deliverable:

- Provisions will be in place to coordinate with DNGS security program to ensure that appropriate security measures are undertaken [LTPSA Section 6].
- Provision for interface with other emergency response programs to be incorporated into security procedures. [LTPSA Section 6]
- Appropriate measures to control access to prescribed equipment, and prevent loss are in place. [LTPSA Section 1.3]
- Unauthorized possession or theft etc. will be defined on identification of any such equipment that would be used during site preparation. [LTPSA Section 1.3]
- The DNNP Site Security Plan will provide description of fencing requirements for each phase of the project from site preparation onwards to ensure compliance with security requirements appropriate to the work. [LTPSA Section 1.2.2]
- Commitments to support the proposed measures to ensure compliance with the Nuclear Security and organizational structure currently expected in the area of security are detailed in a separate security protected submission. [LTPSA Section 6]

Appendix B: Site Preparation Phase

Deliverable Title: D-P-7 Site Security Plan

EA Follow-up Commitments Related To Deliverable:

- None.

JRP Recommendations (in accordance with GOC Response) To Be Addressed By Deliverable:

- None.

Required Closure Response (if Deliverable Status is Closed):

- On March 31, 2021, OPG submitted a letter to the CNSC requesting closure of commitment D-P-7.1. On January 6, 2022, OPG received CNSC acceptance for closure of commitment D-P-7.1.
  [OPG Letter: CD# NK054-CORR-00531-10591; CNSC Letter: CD# NK054-CORR-00531-10643]

D-P-7.2	Site Access and Security Protocol	Status: Closed

OPG Commitments To Be Addressed By Deliverables:

- Access control will be established during site preparation to create a construction island. [LTPSA Section 1.2.2]
- Security requirements will be incorporated into the fencing design. Examples include chain link fence or steel posts footed in concrete will be erected, or confirmed in place, around the project site perimeter. [LTPSA Section 1.2.2]
- Implementation of Good Industry Management Practice in the initial design and development of security fencing systems, to reduce the incidence of bird entanglement and entrapment to the extent practicable. [EIS Section 5.5.6.2; Table 5.15-1]
- Implement Good Industry Management Practice in the design and development of lighting systems that will, among other considerations (e.g., mitigation of bird strikes, navigation safety) serve to reduce, to the extent practicable, the night-time visibility of the overall site and its dominant features, including cooling towers. [EIS Section 5.5.6.2; Section 5.8.6.2; Table 5.15-1]

EA Follow-up Commitments Related To Deliverable:

- None.

JRP Recommendations (in accordance with GOC Response) To Be Addressed By Deliverable:

- None.

Required Closure Response (if Deliverable Status is Closed):

- On December 7, 2021, OPG submitted a letter to the CNSC requesting closure of commitment D-P-7.2. On March 9, 2022, OPG received CNSC acceptance for closure of commitment D-P-7.2.
  [OPG Letter: CD# NK054-CORR-00531-10630; CNSC Letter: CD# NK054-CORR-00531-10657]

D-P-7.3	Evidence of OPG review and acceptance of EPC Site Access and Security Protocol	Status: Cancelled

OPG Commitments To Be Addressed By Deliverable:

- None.

Appendix B: Site Preparation Phase

Deliverable Title: D-P-7 Site Security Plan

Number Legend

D Deliverable
P Site Preparation Phase
C Construction Phase
O Operation Phase

(e.g., D-P-3.1 = Deliverable - Site Preparation Phase - Deliverable Number)

Abbreviations and Acronyms

CNSC	Canadian Nuclear Safety Commission
CSA	Canadian Standards Association
DNGS	Darlington Nuclear Generating Station
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPC	Engineering, Procurement and Construction
GOC	Government of Canada
JRP	Joint Review Panel
LC	Licence Condition
LTPSA	Licence to Prepare Site Application
DNNP	Darlington New Nuclear Project
OPG	Ontario Power Generation
PRSL	Power Reactor Site Preparation Licence

References

[EIS] OPG Letter, A. Sweetnam to JRP Chair, “Environmental Assessment for the OPG New Nuclear at Darlington Project”, CD# NK054-CORR-00531-00037, September 30, 2009.

- Enclosure: Ontario Power Generation (OPG), 2009. Environmental Impact Statement New Nuclear – Darlington Environmental Assessment, Report No. NK054-REP-07730-00029, September 2009.

[LTPSA] OPG Letter, A. Sweetnam to JRP Chair, “OPG New Nuclear at Darlington Project – Application for a Licence to Prepare Site”, CD# NK054-CORR-00531-00035, September 30, 2009.

- Attachment 3: Application for Licence to Prepare Site for the Future Construction of OPG New Nuclear at Darlington.

Appendix B: Site Preparation Phase

Deliverable Title: D-P-8 Level 1 and Level 2 Project Management Schedule

Licence / Regulatory Requirement:

- PRSL 18.00/2031 LC 15.3 – CNSC acceptance of documents required for site preparation

Applicable Standard:

- CSA N286-12: Management System Requirements for Nuclear Facilities

Completion Timeline:

- To be completed prior to the commencement of PRSL licensed activities.

Deliverable Description:

#	Deliverables for Completion	Closure Criteria (To Who and When)	Required Response	Status
D-P-8.1	Level 1 and Level 2 Project Management Schedule	Provide to CNSC, for information, no later than 60 days prior to commencement of PRSL licensed activities.	None.	Closed
D-P-8.2	Evidence of OPG review and acceptance of EPC Level 1 and Level 2 Project Management Schedule	Provide to CNSC, for information, no later than 60 days prior to commencement of PRSL licensed activities.	None.	Cancelled

Deliverable Commitment Details:

D-P-8.1	Level 1 and Level 2 Project Management Schedule	Status: Closed

OPG Commitments To Be Addressed By Deliverables:

- OPG will advise the CNSC at least 30 days prior to commencement of licensed activities on site should these not start at the time the Licence to Prepare Site is issued. [LTPSA Section 2.1]

EA Follow-up Commitments Related to Deliverable:

- None.

JRP Recommendations (in accordance with GOC Response) To be Addressed By Deliverable:

- None.

Required Closure Response (if Deliverable Status is Closed):

- On June 15, 2022, OPG submitted to the CNSC the request for closure of commitment D-P-8.1, and on July 15, 2022, OPG received the CNSC acceptance for closure of this commitment, [OPG Letter: CD# NK054-CORR-00531-10688; CNSC Letter: CD# NK054-CORR-00531-10705].

D-P-8.2	Evidence of OPG review and acceptance of EPC Level 1 and Level 2 Project Management Schedule	Status: Cancelled

OPG Commitments To Be Addressed By Deliverables:

- None.

Appendix B: Site Preparation Phase

Deliverable Title: D-P-8 Level 1 and Level 2 Project Management Schedule

Number Legend

D Deliverable
P Site Preparation Phase
C Construction Phase
O Operation Phase

(e.g., D-P-3.1 = Deliverable - Site Preparation Phase - Deliverable Number)

Abbreviations and Acronyms

CNSC	Canadian Nuclear Safety Commission
CSA	Canadian Standards Association
EPC	Engineering, Procurement and Construction
GOC	Government of Canada
LTPSA	Licence to Prepare Site Application
DNNP	Darlington New Nuclear Project
OPG	Ontario Power Generation
PRSL	Power Reactor Site Preparation Licence

References

[LTPSA] OPG Letter, A. Sweetnam to JRP Chair, “OPG New Nuclear at Darlington Project – Application for a Licence to Prepare Site”, CD# NK054-CORR-00531-00035, September 30, 2009.

- Attachment 3: Application for Licence to Prepare Site for the Future Construction of OPG New Nuclear at Darlington.

Appendix B: Site Preparation Phase

Deliverable Title: D-P-9 Site Geotechnical and Seismic Hazard Investigation

Licence / Regulatory Requirement:

- PRSL 18.00/2031 LC 15.1 – Mitigation measures and commitments for site preparation
- PRSL 18.00/2031 LC 15.2 – Environmental assessment follow-up program for site preparation

Applicable Standard:

- CSA N286-12: Management System Requirements for Nuclear Facilities
- Canadian Dam Association “Dam Safety Guidelines 2007 (2013 Edition)”.
- CSA A23.3-19: Design of Concrete Structures
- CSA N287 Series Requirements for Concrete Containment Structure for CANDU Nuclear Power Plants
- CSA N289 Series Requirements for Seismic Design and Qualification of (CANDU) Nuclear Power Plants (if CANDU)
- National Building Code of Canada

Completion Timeline:

Site geotechnical and seismic hazard investigations are to be completed during site preparation phase. The deliverables for D-P-9.2 are to be completed prior to commence excavation and stockpiling. The deliverables for D-P-9.3 and D-P-9.4 are to be completed as part of the Construction Licence Application.

Deliverable Description:

#	Deliverables for Completion	Closure Criteria (To Who and When)	Required Response	Status
D-P-9.1	Site Geotechnical and Seismic Hazard Investigation Plan.	Provide to CNSC, for information, prior to execution of the plan.	None.	Closed
D-P-9.2	Site geotechnical investigation report(s) detailing the findings and results from the site investigation for excavation and stockpiling.	Provide to CNSC, for information, upon completion of the site investigation activity, and no later than 60 days prior to commence excavation and stockpiling.	None.	Closed
D-P-9.3	Site geotechnical investigation report(s) detailing the findings and results from the site investigation for detailed design of foundations and structures.	Provide to CNSC, for information, upon completion of the site investigation activity, as part of the Construction Licence Application.	None.	Closed
D-P-9.4	Site seismic hazard investigation report(s) detailing the findings and results from the site investigation.	Provide to CNSC, for information, upon completion of the site investigation activity, as part of the Construction Licence Application.	None.	Closed
D-P-9.5	Technical Reports on Geotechnical Design Considerations	Provide to CNSC, for information, upon completion of the site investigation activity, and no later than 60	None.	Closed

Appendix B: Site Preparation Phase

Deliverable Title: D-P-9 Site Geotechnical and Seismic Hazard Investigation

		days prior to commencement of Construction		
D-P-9.5(a)	Slope Stability Analysis	Provide to CNSC, for information, upon completion of the Unit 2/3/4 site investigation activity, as part of the submission of the licence to construct amendment for subsequent units	None	Open

Deliverable Commitment Details:

D-P-9.1	**Site Geotechnical and Seismic Hazard Investigation Plan**	**Status: Closed**

OPG Commitments To Be Addressed By Deliverable:

- The Site Geotechnical and Seismic Hazard Investigation plan will be developed in consultation with the CNSC [CNSC Letter, CD# NK054-CORR-00531-00251]
- Since only four boreholes exist in the areas for new nuclear construction, descriptions and conclusions developed at this time will need to be reviewed during the confirmation stage as part of detailed design phase for DNNP. [OPG 2009, Section 2.5.1]
- Additional field investigation at the planned earth structure locations will be necessary for detailed analyses and design as part of the confirmatory stage in order to, for example, ensure that the anticipated earth structures are stable against slope failure and significant movements. [OPG 2009, Section 2.5.4]
- OPG will maintain a co-operative relationship with St. Marys Cement, including an existing agreement to limit ground vibration levels to 3.0 mm/second at the property boundary between Darlington and St. Marys. This agreement is in effect for as long as St. Marys is licensed to conduct blasting operations at its site. [OPG 2009, Section 4.10]
- Bedrock excavation will require blasting, or hoe ramming if blasting is determined to create too much vibration. The effects of blasting on the adjacent existing power plants and structures will have to be considered prior to implementation. [OPG Report, CD# NK054-REP-01210-00011]
- Collecting baseline soil quality data at the proposed northeast waste stockpile/landfill area prior to the placement of non-radiological waste and follow up with soil quality monitoring of the site at site preparation, construction, and operation stages of the facility [CNSC Rec. 4 PMD 11-P1.3, Table B-1, OPG Letter, CD# NK054-CORR-00531-00190]

EA Follow-up Commitments Related To Deliverable:

- Refer to Deliverable D-P-12: Environmental Monitoring and Environmental Assessment Follow-up.

JRP Recommendations (in accordance with GOC Response) To Be Addressed by Deliverable:

- OPG to undertake a detailed site geotechnical investigation prior to commencing site preparation activities. The geologic elements of this investigation should include, but not be limited to [GOC Response to JRP. Rec. 10, OPG Letter CD# NK054-CORR-00531-00190]:
  - Collection of site-wide information on soil physical properties;
  - Determining the mechanical and dynamic properties of overburden material across the site;
  - Mapping of geological structures to improve the understanding of the site geological structure model;
  - Confirming the lack of karstic features in the local bedrock at the site; and
  - Confirming the conclusion reached concerning the liquefaction potential in underlying granular materials.
- The geotechnical and seismic hazard elements of the detailed site geotechnical investigation to be performed by OPG include, but not be limited to [GOC Response to JRP Rec. 38, OPG Letter CD# NK054-CORR-00531-00190]:

Appendix B: Site Preparation Phase

Deliverable Title: D-P-9 Site Geotechnical and Seismic Hazard Investigation

Prior to site preparation:

- Demonstration that there are no undesirable subsurface conditions at the Project site. The overall site liquefaction potential shall be assessed with the site investigation data; and
- Confirmation of the absence of paleoseismologic features at the site and, if present, further assessment to reduce the overall uncertainty in the seismic hazard assessment during the design of the Project must be conducted.

During site preparation and/or prior to construction:

- verification and confirmation of the absence of surface faulting in the overburden and bedrock at the site.

Prior to construction:

- verification of the stability of the cut slopes and dyke slopes under both static and dynamic loads with site/Project-specific data during the design of the cut slopes and dykes or before their construction;
- assessment of potential liquefaction of the northeast waste stockpile by using the data obtained from the pile itself upon completion of site preparation;
- measurement of the shear strength of the overburden materials and the dynamic properties of both overburden and sedimentary rocks to confirm the site conditions and to perform soil-structure interaction analysis if necessary;
- assessment of the potential settlement in the quaternary deposits due to the groundwater drawdown caused by future St. Marys Cement quarry activities; and
- assessment of the effect of the potential settlement on buried infrastructures in the deposits during the design of these infrastructures.

Required Closure Response (if Deliverable Status is Closed):

- On August 12, 2021, OPG submitted a letter to the CNSC requesting closure of commitment D-P-9.1. On September 13, 2021, OPG received CNSC acceptance for closure of commitment D-P-9.1. [OPG Letter: CD# NK054-CORR-00531-10594; CNSC Letter: CD# NK054-CORR-00531-10606]

D-P-9.2	Site Geotechnical Studies and Investigation Report for Excavation and Stockpiling	Status: Closed

OPG Commitments To Be Addressed By Deliverable:

- Collecting baseline soil quality data at the proposed northeast waste stockpile/landfill area prior to the placement of non-radiological waste and follow up with soil quality monitoring of the site at site preparation, construction, and operation stages of the facility [CNSC Rec. #4 PMD 11-P1.3, Table B-1, OPG Letter CD# NK054-CORR-00531-00190]

EA Follow-up Commitments Related To Deliverable:

- None.

JRP Recommendations (in accordance with GOC Response) To Be Addressed by Deliverable:

- OPG to undertake a detailed site geotechnical investigation prior to commencing site preparation activities. The geologic elements of this investigation should include, but not be limited to [GOC Response to JRP. Rec. 10, OPG Letter CD# NK054-CORR-00531-00190]:
  - Collection of site-wide information on soil physical properties;
  - Determining the mechanical and dynamic properties of overburden material across the site;
  - Mapping of geological structures to improve the understanding of the site geological structure model;
  - Confirming the lack of karstic features in the local bedrock at the site; and
  - Confirming the conclusion reached concerning the liquefaction potential in underlying granular materials.

Appendix B: Site Preparation Phase

Deliverable Title: D-P-9 Site Geotechnical and Seismic Hazard Investigation

Required Closure Response (if Deliverable Status is Closed):

- On June 06, 2023, OPG submitted a letter to the CNSC requesting closure of commitment D-P-9.2. On August 29, 2023, OPG received CNSC acceptance for closure of commitment D-P-9.2. [OPG Letter: CD# NK054-CORR-00531-10820; CNSC Letter: CD#NK054-CORR-00531-10847]

D-P-9.3	Site Geotechnical Studies and Investigation Reports	Status: Open

OPG Commitments To Be Addressed By Deliverable:

- The embedment depth of the reactor foundations will be founded on the sound bedrock located at approximately 64 masl (14 m below the planned ground surface). The perimeter walls of the buildings housing the reactors will be surrounded by compacted engineered fill and competent till deposits and as such, the reactor foundations and the power block structures will be designed to be capable of withstanding the impact from normal and extreme conditions. [OPG 2009, Section 2.5.3, Section 6.0, Section 3.11]
- The foundations for the reactors, and associated structures should be founded on sound bedrock and competent native soils. As such, the soils and bedrock present at the site for DNNP together with the planned foundations are expected to be capable of withstanding the impact from the extreme conditions considered. [OPG 2009, Section 3.7]
- For permanent structures embedded in the bedrock, the possibility of methane gas will be addressed in the design. [OPG 2009, Section 2.5.3]
- During future detailed design analysis, slopes will be designed according to all applicable codes and standards, including appropriate consideration of the Canadian Dam Association “Dam Safety Guidelines 2007”. [LTPS IR 18]
- Results from the confirmatory stage of the Site Investigation and Monitoring to be provided in support of detailed analyses and design and to confirm the conclusions made in the Site Evaluation. For example; the precise value of the allowable bearing capabilities of the shallow or deep foundations, will depend on the localized soil and groundwater conditions which will need to be determined in the confirmatory stage. [OPG 2009, Section 2.5.3]

EA Follow-up Commitments Related To Deliverable:

- None.

JRP Recommendations (in accordance with GOC Response) To Be Addressed by Deliverable:

- The geotechnical and seismic hazard elements of the detailed site geotechnical investigation to be performed by OPG include, but not be limited to:
  - Demonstration that there are no undesirable subsurface conditions at the project site. The overall site liquefaction potential shall be assessed with the site investigation data [GOC Response to JRP Rec.38 OPG, Letter CD# NK054-CORR-00531-00190];
  - Verification and confirmation of the absence of surface faulting in the overburden and bedrock at the site [GOC Response to JRP Rec. 38, OPG Letter CD# NK054-CORR-00531-00190]; and
  - Measurement of the shear strength of the overburden materials and the dynamic properties of both overburden and sedimentary rocks to confirm the site conditions and to perform soil-structure interaction analysis if necessary [GOC Response to JRP Rec. 38, OPG Letter CD# NK054-CORR-00531-00190].

Required Closure Response (if Deliverable Status is Closed):

- On February 26, 2024, OPG submitted a letter requesting closure of commitment D-P-9.3. On June 28, 2024, OPG received CNSC acceptance for closure of commitment D-P-9.3 [OPG Letter: CD# NK054-CORR-00531-10899; CNSC Letter: CD# NK054-CORR-00531-11039]
- On August 28, 2024, OPG submitted a letter responding to CNSC questions on the closure letter for D-P-9.3. [OPG Letter: CD# NK054-CORR-00531-11054]

Appendix B: Site Preparation Phase

Deliverable Title: D-P-9 Site Geotechnical and Seismic Hazard Investigation

D-P-9.4	Site Seismic Hazard Studies and Investigation Reports	Status: Open

OPG Commitments To Be Addressed By Deliverable:

- The seismic effects of St. Marys' blasting occurring nearer to the DN site will be accounted for in the plant design. [OPG 2009, Section 4.10; LTPS IR 16]
- High spectral frequency exceedance of design seismic response spectra will be mitigated by industry standard engineering design of plant structures and equipment. [OPG 2009, Section 3.6.5]
- An appropriate level for Seismic Design Extension Conditions and Seismic Beyond Design Basis Conditions will be defined for DNNP. These conditions will be implemented for applicable aspects of geotechnical and seismic assessment and qualification. [Table 6 of the Aggregate Assessment Report provided in R-45].
- Design Basis Earthquake ground motion values will be defined for DNNP. [Table 6 of the Aggregate assessment Report provided in R-45].

EA Follow-up Commitments Related To Deliverable:

- None.

JRP Recommendations (in accordance with GOC Response) To Be Addressed by Deliverable:

- The geotechnical and seismic hazard elements of the detailed site geotechnical investigation to be performed by OPG include, but not be limited to:
  - Confirmation of the absence of the paleoseismologic features at the site and, if present, further assessment to reduce the overall uncertainty in the seismic hazard assessment during design of the project must be conducted. [GOC Response to JRP Rec. 38, OPG Letter CD# NK054-CORR-00531-00190]

Required Closure Response (if Deliverable Status is Closed):

- On February 26, 2024, OPG submitted a letter requesting closure of commitment D-P-9.4. On June 28, 2024, OPG received CNSC acceptance for closure of commitment D-P-9.4 [OPG Letter: CD# NK054-CORR-00531-10899; CNSC Letter: CD# NK054-CORR-00531-11039]
- On August 28, 2024, OPG submitted a letter responding to CNSC questions on the closure letter for D-P-9.4. [OPG Letter: CD# NK54-CORR-00531-11054]

• D-P-9.5	Geotechnical Reports for Design Considerations	Status: Closed

OPG Commitments To Be Addressed By Deliverable:

- None.

EA Follow-up Commitments Related To Deliverable:

- None.

JRP Recommendations (in accordance with GOC Response) To Be Addressed by Deliverable:

- The geotechnical and seismic hazard elements of the detailed site geotechnical investigation to be performed by OPG include, but not be limited to:
  - assessment of potential liquefaction of the northeast waste stockpile by using the data obtained from the pile itself upon completion of site preparation [GOC Response to JRP Rec. 38, OPG Letter CD# NK054-CORR-00531-00190];
  - assessment of the potential settlement in the quaternary deposits due to the groundwater drawdown caused by future St. Marys Cement quarry activities [GOC Response to JRP Rec. 38, OPG Letter CD# NK054-CORR-00531-00190]; and
  - assessment of the effect of the potential settlement on buried infrastructures in the deposits during the design of these infrastructures [GOC Response to JRP Rec. 38, OPG Letter CD# NK054-CORR-00531-00190].

Required Closure Response:

Appendix B: Site Preparation Phase		
Deliverable Title: D-P-9 Site Geotechnical and Seismic Hazard Investigation		
• On October 31, 2024, OPG provided a submission to the CNSC requesting closure of commitment D-P-9.5. On January 17, 2025, OPG received CNSC comments [OPG Letter: CD# NK054-CORR-00531-11037; CNSC Letter: CD# NK054-CORR-00531-11181]. • On March 11, 2025 OPG provided a response letter requesting closure of commitment D-P-9.5. On August 19, 2025, OPG received CNSC acceptance for closure of commitment D-P-9.5. [OPG Response Letter: CD# NK054-CORR-00531-11195, CNSC Response Letter: NK054-CORR-00531-11361] • On October 15, 2025, OPG submitted a letter responding to CNSC questions on the closure letter for D-P-9.5 [OPG Letter: NK054-CORR_00531-11416].		
D-P-9.5(a)	**Slope Stability Analysis**	**Status: Open**
OPG Commitments To Be Addressed By Deliverable:		
• None.		
EA Follow-up Commitments Related To Deliverable:		
• None.		
JRP Recommendations (in accordance with GOC Response) To Be Addressed by Deliverable:		
• The geotechnical and seismic hazard elements of the detailed site geotechnical investigation to be performed by OPG include, but not be limited to: o verification of the stability of the cut slopes and dyke slopes under both static and dynamic loads with site/project-specific data during the design of the cut slopes and dykes or before their construction [GOC Response to JRP Rec. 38, OPG Letter CD# NK054-CORR-00531-00190];		

Appendix B: Site Preparation Phase

Deliverable Title: D-P-9 Site Geotechnical and Seismic Hazard Investigation

Number Legend

D Deliverable
P Site Preparation Phase
C Construction Phase
O Operation Phase

(e.g., D-P-3.1 = Deliverable - Site Preparation Phase - Deliverable Number)

Abbreviations and Acronyms

CNSC	Canadian Nuclear Safety Commission
CSA	Canadian Standards Association
EA	Environmental Assessment
EPC	Engineering, Procurement and Construction
GOC	Government of Canada
IR	Information Request
JRP	Joint Review Panel
LTPS	Licence to Prepare Site
DNNP	Darlington New Nuclear Project
OPG	Ontario Power Generation
PRSL	Power Reactor Site Preparation Licence

References

[GOC Response to JRP Rec.] Government of Canada's Response to the Joint Review Panel Report for the Proposed Darlington New Nuclear Power Plant Project in Clarington Ontario, Doc. #1049, May 2, 2012.

[LTPS IR 16] OPG Letter, A. Sweetnam to JRP Chair, “Response to Joint Review Panel Information Requests February 3, 2010”, CD# NK054-CORR-00531-00069, February 25, 2010.

[LTPS IR 18] OPG Letter, A. Sweetnam to JRP Chair, ”OPG Response to Joint Review Panel Information Request February 3, 2010”, CD# NK054-CORR-00531-00074, March 18, 2010.

[OPG 2009] OPG Letter, A. Sweetnam to JRP Chair, “OPG New Nuclear at Darlington Project – Application for a Licence to Prepare Site”, CD# NK054-CORR-00531-00035, September 30, 2009.

- Attachment 1: List of Documents Submitted as Part of the Licensing Basis for the Application for a Licence to Prepare Site – 1. Ontario Power Generation (OPG), 2009. Site Evaluation for OPG New Nuclear at Darlington – Nuclear Safety Considerations, Report No. NK054-REP-01210-00008, R01, September 14, 2009.

[OPG Letter, CD# NK054-CORR-00531-00190] OPG Letter, A. Sweetnam to JRP Chair, “OPG Review of Recommendations Made by Government Agencies”, CD# NK054-CORR-00531-00190, March 14, 2011.

[CNSC Letter, CD# NK054-CORR-00531-00251] CNSC Letter, D. Newland to A. Sweetman, “Submission of Revised Darlington New Nuclear Project Commitments Report”, CD# NK054-CORR-00531-00251, February 15, 2013.

[OPG Report, CD# NK054-REP-01210-00011] OPG Report, “Site Evaluation of the OPG New Nuclear at Darlington. Part 6: Evaluation of Geotechnical Aspects”, August 31, 2009, CD# NK054-REP-01210-00011.

[OPG Letter, CD# NK054-CORR-00531-10530] OPG Letter, D. Townsend to C. Carrier, **“**DNNP – Submission of Aggregate Assessment Report and CNSC Staff’s Prior Written Notification of Document Change: Darlington New Nuclear Project Commitments Report R004”, CD# NK054-CORR-00531-10530, June 2020.

Appendix B: Site Preparation Phase

Deliverable Title: D-P-10 Traffic Management Plan

Licence / Regulatory Requirement:

- PRSL 18.00/2031 LC 15.3 – CNSC acceptance of documents required for site preparation
- PRSL 18.00/2031 LC 9.1 – Environmental protection for site preparation
- PRSL 18.00/2031 LC 15.1 – Mitigation measures and commitments for site preparation
- PRSL 18.00/2031 LC 15.2 – Environmental assessment follow-up program for site preparation

Applicable Standard:

- Ministry of Transportation (MTO): A Guideline for Highway Improvements Associated with Development, dated May 2005.
- Ministry of Transportation (MTO): General Guidelines for the Preparation of Traffic Impact Studies, dated January 2009.
- MTO Safety Standards

Completion Timeline:

- To be completed prior to the commencement of PRSL licensed activities.

Deliverable Description:

#	Deliverables for Completion	Closure Criteria (To Who and When)	Required Response	Status
D-P-10.1	Traffic Management Plan.	Provide to CNSC, for information, no later than 60 days prior to commencement of PRSL licensed activities.	None.	Closed
		Provide to Municipality of Clarington, for review and acceptance, no later than 3 months prior to commencement of proposed activities, as part of the application submission for Site Plan Approval under the Planning Act, Section 41(4). *[As applicable subject to Municipal Host Agreement]*	Site Plan Approval to be granted by Municipality of Clarington.	
D-P-10.2	Evidence of OPG review and acceptance of EPC Traffic Management Plan.	Provide to CNSC, for information, no later than 60 days prior to commencement of PRSL licensed activities.	None.	Cancelled

Deliverable Commitment Details:

D-P-10.1	**Traffic Management Plan**	**Status: Closed**

OPG Commitments To Be Addressed By Deliverable:

- Traffic management plans will be developed in consultation with Municipality of Clarington, Region of Durham and Ministry of Transportation (MTO).
- A Traffic Management Plan will be implemented with the objective of reducing disruption and maintaining safe traffic conditions during the Site Preparation and Construction phase. [EIS Section 5.9.2.7; Section 5.11.4.2; Section 5.11.5.2; Section 5.11.7.2; Table 5.15-1]
- As part of the Traffic Management Plan:

Appendix B: Site Preparation Phase

Deliverable Title: D-P-10 Traffic Management Plan

- OPG will collaborate with the responsible agencies to ensure that the Project-related traffic is fully considered in the design and implementation of off-site road improvements. [EIS Section 5.9.2.7; Table 5.15-1; EIS IR 54]
- OPG will collaborate within a framework of specific undertakings between the appropriate parties to identify system deficiencies and facilitate improvement with respect to traffic system safety and degradation related to the Project [EIS Section 5.9.2.7; Table 5.15-1]
- It was assumed that parking on-site will be provided to all construction workers, operations staff and other related worker site trips. In the event that off-site parking facilities are used, then leased agreements between the Vendor and parking facilities operators will be arranged. Should any of these parking arrangements affect the Traffic Management Plan that is agreed to between OPG and the Municipality of Clarington then the Plan will be amended to reflect these conditions; [EIS IR 223]
- Residential properties along transportation routes affected by the DNNP Plan during the Site Preparation and Construction phase will be managed in the Traffic Management plan for use in Nuisance Effects Management Plans; [EIS IR 54 Resubmission]
- Traffic Management Plan to identify transportation routes affected by DNNP and supported by Nuisance Effects Management Plan; [EIS Section 5.11.5.2; Section 5.11.7.2; Table 5.15-1; EIS IR 54]

EA Follow-up Commitments Related To Deliverable:

- Refer to Deliverable D-P-12: Environmental Monitoring and Environmental Assessment Follow-up.

JRP Recommendations (in accordance with GOC Response) To Be Addressed By Deliverable:

- The Traffic Management Plan will address the following: [GOC Response to JRP Rec. 47; OPG Letter, CD# NK054-CORR-00531-00190]
  - Contingency plans to address the possibility that the assumed road improvements do not occur;
  - Consideration of the effect of truck traffic associated with excavated material disposal on traffic operations and safety;
  - Further analysis of queuing potential onto Hwy 401; and
  - Consideration of a wider range of mitigating measures, such as transportation demand management, transit service, transit service provisions, and geometric improvements at the Highway 401/Waverley Road interchange).

Required Closure Response (if Deliverable Status is Closed):

- On January 24, 2022, OPG submitted to the CNSC the request for closure of commitment D-P-10.1, and on April 19, 2022, OPG received the CNSC acceptance for closure of this commitment, [OPG Letter: CD# NK054-CORR-00531-10634; CNSC Letters: CD# NK054-CORR-00531-10670] and NK054-CORR-00531-10847.

D-P-10.2	Evidence of OPG review and acceptance of EPC Traffic Management Plan.	Status: Cancelled

OPG Commitments To Be Addressed By Deliverable:

- None.

Appendix B: Site Preparation Phase

Deliverable Title: D-P-10 Traffic Management Plan

Number Legend

D Deliverable
P Site Preparation Phase
C Construction Phase
O Operation Phase

(e.g., D-P-3.1 = Deliverable - Site Preparation Phase - Deliverable Number)

Abbreviations and Acronyms

CNSC	Canadian Nuclear Safety Commission
DNGS	Darlington Nuclear Generating Station
EA	Environmental Assessment
EC	Environment Canada
EIS	Environmental Impact Statement
EPC	Engineering, Procurement and Construction
GOC	Government of Canada
IR	Information Request
JRP	Joint Review Panel
LC	Licence Condition
DNNP	Darlington New Nuclear Project
OPG	Ontario Power Generation
PRSL	Power Reactor Site Preparation Licence

References

[EIS] OPG Letter, A. Sweetnam to JRP Chair, “Environmental Assessment for the OPG New Nuclear at Darlington Project”, CD# NK054-CORR-00531-00037, September 30, 2009.

- Enclosure: Ontario Power Generation (OPG), 2009. Environmental Impact Statement New Nuclear – Darlington Environmental Assessment, Report No. NK054-REP-07730-00029, September 2009

[EIS IR 54] OPG Letter, Albert Sweetnam to JRP Chair, “OPG Response to Joint Review Panel Information Request February 2010”, CD# NK054-CORR-00531-00069, February 25, 2010.

[EIS IR 54 Resubmission] OPG Letter, A. Sweetnam to JRP Chair, “OPG Additional Responses to Joint Review Panel Information Request May 20, 2010”, CD# NK054-CORR-00531-00122, July 30, 2010.

[EIS IR 223] OPG letter, Albert Sweetnam to JRP Chair, ”OPG Response to Information Request from the Joint Review Panel July 29, 2010”, CD# NK054-CORR-00531-00126, August 13, 2010.

[GOC Response to JRP Rec.] Government of Canada’s Response to the Joint Review Panel Report for the Proposed Darlington New Nuclear Power Plant Project in Clarington Ontario, Doc. #1049, May 2, 2012.

[OPG Letter, CD# NK054-CORR-00531-00190] OPG Letter, A. Sweetnam to JRP Chair, “OPG Review of Recommendations Made by Government Agencies”, CD# NK054-CORR-00531-00190, March 14, 2011.

Appendix B: Site Preparation Phase

Deliverable Title: D-P-11 Archaeological Excavation Reports

Licence / Regulatory Requirement:

- PRSL 18.00/2031 LC 15.1 – Mitigation measures and commitments for site preparation
- MTCS - Part VI of the Ontario Heritage Act, R.S.O, 1990, c 0.18.

Applicable Standard:

- MTCS – 2011 Standards and Guidelines for Consultant Archaeologists

Completion Timeline:

- To be completed prior to the commencement of PRSL licensed activities.

Deliverable Description:

#	Deliverables for Completion	Closure Criteria (To Who and When)	Required Response	Status
D-P-11.1	Brady Site (AlGq-83) Stage 4 Preliminary Excavation Report, NK054-REP-07730-0447275	Provide to MTCS, for review and acceptance, prior to commencement of PRSL licensed activities.	To be accepted by MTCS.	Closed
D-P-11.2	Brady Site (AlGq-83) Stage 4 Final Report, NK054-REP-07730-0410242	Provide to MTCS, for review and acceptance, prior to commencement of PRSL licensed activities.	To be accepted by MTCS.	Closed
D-P-11.3	Crumb Site (AlGq-86) Stage 4 Preliminary Excavation Report, NK054-REP-07730-0431810	Provide to MTCS, for review and acceptance, prior to commencement of PRSL licensed activities.	To be accepted by MTCS.	Closed
D-P-11.4	Crumb Site (AlGq-86) Stage 4 Final Report, NK054-REP-07730-0431811	Provide to MTCS, for review and acceptance, prior to commencement of PRSL licensed activities.	To be accepted by MTCS.	Closed
D-P-11.5	Copies of the reports (D-P-11.1 to D-P-11.4) noted above and copies of MTCS letters of acceptance for the reports	Provide to CNSC, for information, to demonstrate completion of commitment, prior to commencement of PRSL licensed activities.	None.	Closed

Deliverable Commitment Details:

D-P-11.1 to D-P-11.5	**Archaeological Excavation Reports**	**Status: Closed**

OPG Commitments To Be Addressed By Deliverable:

Physical and Cultural Heritage (Built Heritage and Cultural Landscapes)

- As a result of physical disturbance during the Site Preparation and Construction phases, two Euro-Canadian archaeological resources, identified as Site H1 (Brady, AlGq-83) and Site H7 (Crumb, AlGq-86) will experience total displacement.
- Qualified specialists to undertake a controlled removal and recording of archaeological site context, cultural features and artifacts to document the cultural heritage value or interest of the site and to preserve its information for future study. [EIS, Section 5.10.2.2; Table 5.15-1]
- Should the placement of surplus excavated soil in the vicinity of the Northwest Landfill Area encroach into the area thought to be occupied by the Burk Cemetery and Burk Pioneer Cemetery Monument and Plaque, the cemetery, and the monument and plaque will be protected. [EIS Section 5.10.3.2; Table 5.15-1]

EA Follow-up Commitments Related To Deliverable:

Appendix B: Site Preparation Phase
Deliverable Title: D-P-11 Archaeological Excavation Reports
• None.
JRP Recommendations (in accordance with GOC Response) To Be Addressed By Deliverable:
• None.
Required Closure Response (if Deliverable Status is Closed):
• On January 25, 2013, letters of acceptance from the Ministry of Tourism, Culture and Sports (MTCS) for Final Stage 4 Reports for the Brady and Crumb sites were forwarded to the CNSC. On October 22, 2021, OPG received the CNSC confirmation for closure of commitment D-P-11.5 [OPG Letter: CD# NK054-CORR-00531-00246, CNSC Letter: CD# NK054-CORR-00531-10619]

Appendix B: Site Preparation Phase

Deliverable Title: D-P-11 Archaeological Excavation Reports

Number Legend

D Deliverable
P Site Preparation Phase
C Construction Phase
O Operation Phase

(e.g., D-P-3.1 = Deliverable - Site Preparation Phase - Deliverable Number)

Abbreviations and Acronyms

CNSC	Canadian Nuclear Safety Commission
DNNP	Darlington New Nuclear Project
EA	Environmental Assessment
EIS	Environmental Impact Statement
GOC	Government of Canada
JRP	Joint Review Panel
LC	Licence Condition
MTCS	Ministry of Tourism, Culture and Sports
DNNP	Darlington New Nuclear Project
OPG	Ontario Power Generation
PRSL	Power Reactor Site Preparation Licence

References

[EIS] OPG Letter, A. Sweetnam to JRP Chair, “Environmental Assessment for the OPG New Nuclear at Darlington Project”, CD# NK054-CORR-00531-00037, September 30, 2009.

- Enclosure: Ontario Power Generation (OPG), 2009. Environmental Impact Statement New Nuclear – Darlington Environmental Assessment, Report No. NK054-REP-07730-00029, September 2009

Appendix B: Site Preparation Phase

Deliverable Title: D-P-12 Environmental Monitoring and Environmental Assessment Follow-up

Licence / Regulatory Requirement:

- PRSL 18.00/2031 LC 15.3 – CNSC acceptance of documents required for site preparation.
- PRSL 18.00/2031 LC 15.1 – Mitigation measures and commitments for site preparation
- PRSL 18.00/2031 LC 15.2 – Environmental assessment follow-up program for site preparation
- CEA Agency / CNSC - Canadian Environmental Assessment Act, Section 14(c)

Applicable Standard:

- CAN/CSA ISO 14001-15: Environmental Management Systems
- CSA N288.4-19: Environmental Monitoring Program at Class 1 Nuclear Facilities and Uranium Mines and Mills

Completion Timeline:

Environmental Monitoring and Environmental Assessment Follow-up Plan and methodology reports for each affected environment component to be completed prior to the commencement of relevant licensed activities. The deliverable under D-P-12.1(a) is to be completed prior to the LTC Application. The methodology report under D-P-12.3 to be completed prior to commencement of licensed activities associated with shoreline protection and in-water works. The methodology report under D-P-12.4 to be completed prior to the commencement of the licensed activities with potential adverse impact to the aquatic environment. The methodology report under D-P-12.9 will be completed prior to the commencement of the licensed activities for the construction phase.

Deliverable Description:

#	Deliverables for Completion	Closure Criteria (To Who and When)	Required Response	Status
D-P-12.1	Environmental Monitoring and Environmental Assessment Follow-up Plan, NK054-PLAN-07730-00014	Provide to CNSC, for review and acceptance, no later than 3 months prior to commencement of PRSL licensed activities.	To be accepted by CNSC.	Closed
D-P-12.1(a)	Environmental Impact Statement Review	Provide to CNSC, for review and acceptance, prior to the Construction Licence Application.	To be accepted by CNSC.	Closed
D-P-12.2	Methodology Reports for Environmental Monitoring and EA Follow-up for Atmospheric Environment	Provide to CNSC, for review and acceptance, no later than 3 months prior to commencement of PRSL licensed activities.	To be accepted by CNSC.	Closed
D-P-12.3	Methodology Reports for Environmental Monitoring and EA Follow-up for. Surface Water Environment	Provide to CNSC, for review and acceptance, no later than 3 months prior to commencement of licensed activities associated with shoreline protection and in-water works.	To be accepted by CNSC.	Closed
D-P-12.4	Methodology Reports, for Environmental Monitoring and EA Follow-up for Aquatic Environment	Provide to CNSC, for review and acceptance, no later than 3 months prior to commencement of the licensed activities with potential adverse impact to the aquatic environment.	To be accepted by CNSC.	Open

Appendix B: Site Preparation Phase				
Deliverable Title: D-P-12 Environmental Monitoring and Environmental Assessment Follow-up				
D-P-12.5	Methodology Reports for Environmental Monitoring and EA Follow-up for Terrestrial Environment	Provide to CNSC, for review and acceptance, no later than 3 months prior to commencement of PRSL licensed activities.	To be accepted by CNSC.	Closed
D-P-12.6	Methodology Reports for Environmental Monitoring and EA Follow-up for Geological and Hydrogeological Environment	Provide to CNSC, for review and acceptance, no later than 3 months prior to commencement of PRSL licensed activities.	To be accepted by CNSC.	Closed
D-P-12.7	Methodology Reports for Environmental Monitoring and EA Follow-up for Land Use	Provide to CNSC, for review and acceptance, no later than 3 months prior to commencement of PRSL licensed activities.	To be accepted by CNSC.	Closed
D-P-12.8	Methodology Reports for Environmental Monitoring and EA Follow-up for Traffic and Transportation	Provide to CNSC, for review and acceptance, no later than 3 months prior to commencement of PRSL licensed activities.	To be accepted by CNSC.	Closed
D-P-12.9	Methodology Reports for Environmental Monitoring and EA Follow-up for Health – Non-Human Biota and Human Health	Provide to CNSC, for review and acceptance, no later than 3 months prior to commencement of the licensed activities for the construction phase.	To be accepted by CNSC.	Closed

Deliverable Commitment Details

D-P-12.1	**Environmental Monitoring and Environmental Assessment Follow-up**	**Status: Closed**

OPG Commitments To Be Addressed By Deliverable:

- After the EA follow-up program is finalized, it will be submitted to the CNSC for review and acceptance. Following acceptance, OPG will then be responsible for ensuring the elements as described in the final follow-up program are implemented. Funding for the EA follow-up program will also be the responsibility of OPG. [EIS Section 11.2; EIS IR 160]
- Refinement of the program will be carried out through a consultative process that will consider the review of this EIS and related licence submissions and it will culminate with details of the scope of each follow-up program element. As they may be relevant in each specific follow-up program element, details of adaptive management actions will also be included. [EIS Section 11.2 and Table 11.6-1; EIS IR 160; EIS IR 161]
- Adaptive management will be inherent in the design and implementation of the EA follow-up and monitoring programs. Therefore, within the follow-up monitoring program, an assessment of the effects on the embayment would be undertaken if there are indications of potential adverse effects. Results of the monitoring would be evaluated to confirm the EIS conclusions. [EIS IR 246]
- Specific adaptive management elements will be confirmed with the CNSC at each licensing step in the Project. [EIS Section 2.9.2; EIS IR 146]
- The Environmental follow-up and monitoring program will be incorporated into site preparation phase environmental monitoring programs (as applicable to site preparation activities), to ensure these activities and mitigation measures conform with the outcome of the EA. [LTPSA, Sections 4.2 and Section 4.5]

JRP Recommendations (in accordance with GOC Response) To Be Addressed By Deliverable:

Appendix B: Site Preparation Phase

Deliverable Title: D-P-12 Environmental Monitoring and Environmental Assessment Follow-up

- None.

Required Closure Response (if Deliverable Status is Closed):

- On February 15, 2022, OPG submitted a letter to the CNSC requesting closure of commitments under D-P-12. On April 27, 2022, OPG received CNSC acceptance for closure of commitment D-P-12.1. [OPG Letter: CD# NK054-CORR-00531-10635; CNSC Letter: CD# NK054-CORR-00531-10674]

D-P-12.1(a)	Environmental Impact Statement Review	**Status: Closed**

OPG Commitments To Be Addressed By Deliverable:

- Once the specific technology is selected and design information is available, OPG will comprehensively review the EIS to ensure that the results of the EIS remain valid. If this review indicates either a gap or a condition not bounded by the EIS, OPG will initiate corrective actions as necessary. This may include mitigation options. [EIS IR 240 Resubmission 2].

Required Closure Response (if Deliverable Status is Closed):

- On May 1, 2024, OPG submitted a letter to the CNSC requesting closure of commitment D-P-12.1(a). On June 24, 2024, OPG received CNSC acceptance for closure of commitment D-P-12.1(a). [OPG letter: CD# NK054-CORR-00531-11004; CNSC Letter: CD # NK054-CORR-00531-11036].

D-P-12.2	**Atmospheric Environment – Methodology Reports**	**Status: Closed**

OPG Commitments To Be Addressed by Deliverable:

- Measure Total Suspended Particulate (TSP), PM10 and PM2.5 during site preparation and construction activities to periodically confirm the effectiveness of the Dust Management Plan and verify EIS predictions. [EIS Table 11.6-2]
  - Duration: Throughout site preparation phase and throughout site construction phase;
  - Frequency: 24-hour sample collected on 6 day cycle;
  - Location: Similar locations to baseline monitoring locations (where appropriate).
- Measure noise levels during site preparation and construction activities to periodically confirm the effectiveness of the Noise Management Plan and verify EIS predictions. [EIS Table 11.6-2]

JRP Recommendations (in accordance with GOC Response) To Be Addressed by Deliverable:

- Prior to site preparation, OPG to develop a follow-up and adaptive management program for air contaminants (such as, Acrolein, NO_2, SO_2, SPM, PM2.5 and PM10) [GOC Response to JRP Rec. 8]
- Over the life of the Project, OPG to conduct ambient air monitoring in the local study area on an ongoing basis to ensure that air quality remains at levels that are not likely to cause adverse effects to human health. [GOC Response to JRP Rec. 56]

Required Closure Response (if Deliverable Status is Closed):

- On February 15, 2022, OPG submitted to the CNSC the request for closure of commitment D-P-12.2, and on August 19, 2022, OPG received the CNSC acceptance for closure of this commitment, [OPG Letter: CD# NK054-CORR-00531-10635; CNSC Letter: CD# NK054-CORR-00531-10717].

D-P-12.3	**Surface Water Environment - Methodology Reports**	**Status: Closed**

OPG Commitments To Be Addressed by Deliverable:

- A Follow-up and Monitoring program to be implemented to ensure that water and sediment quality in Lake Ontario is being adequately protected as in-water work is conducted. [OPG Letter, CD# NK054-CORR-00531-00190]
- Undertake post construction water quality sampling in Lake Ontario focused on verifying the effects of the project as predicted in the EIS. [EIS Table 11.6-2]

Appendix B: Site Preparation Phase

Deliverable Title: D-P-12 Environmental Monitoring and Environmental Assessment Follow-up

- Sediment sampling to be undertaken in areas where in-water works may disturb sediments in order to identify if any contaminated sediments (i.e. in excess of sediment criteria) exist which may warrant additional protection measures. [OPG Letter, CD# NK054-CORR-00531-00190]
- To verify the effects of the EIS, sample storm water discharges from the DNNP following a plan (with regard for parameters and frequency) appropriate for the facility. [EIS, Table 11.6-2]
    - Duration: Post-construction phase (minimum 1 year);
    - Frequency: Variable (to consider parameters and criteria);
    - Location: Sampling locations will be similar to baseline sampling program plus additional sampling station in embayment area created between lake infill area and St. Marys.
- The effects on near neighboring riparian landowners, shore processes, and aquatic resources as the result of the Project, will be further assessed by a coastal engineer when a vendor is selected and the detailed engineering design of the shoreline works is available. It is expected that the coastal engineer's assessment will confirm OPG's assessment of no predicted effects on near neighbouring riparian uses. The effects of the project will also be confirmed through the Project's Follow-up and Monitoring Program. [EIS IR 204]
- The conclusions of the EA associated with the Surface Water Environment will be confirmed as noted in the preliminary EA Follow-up Monitoring Program on pages 11-8 to 11-9 (Table 11.6.2, Preliminary EA Follow-up Program Elements) of the EIS. [EIS IR 143]
- If the Cooling Tower option is to be considered as the preferred technology to be implemented for the Project, then OPG should further assess potential environmental and socio-economic effects downstream in the St. Lawrence River that arise from reduced Lake Ontario outflows. This assessment should be reviewed by relevant agencies, including ECCC. [OPG Letter, CD# NK054-CORR-00531-00190] (Note: Cooling tower option is not selected for DNNP [See D-C-1.1 and OPG Letter, CD# NK054-CORR-00531-00253])
- A Follow-up and Monitoring program to be developed in consultation with ECCC and other regulatory departments/agencies in order to validate the behaviour and predicted effects of the thermal plume. [Letter, CD# NK054-CORR-00531-00190]
- For the once through cooling option, monitor performance of new intake (e.g., velocities and associated effects on substrates current deflection) and new discharge diffuser (discharge velocities and associated effects on substrates and current deflection; thermal plumes) during commissioning. [EIS Table 11.6-2]
- For the once through cooling option, periodically monitor lake water temperatures near the surface and at the bottom to verify the performance of the intake and diffuser. [EIS Table 11.6-2]
- An adaptive management plan has been proposed to address potential issues associated with the proposed infill area including the entrance to Darlington Creek. For instance, the potential creation of nuisance algae growth conditions due to temperature increases or the creation of a thermal barrier at the east end of the proposed infill may require modification of the design to enhance circulation. The general lake infill area which includes an area near the Darlington Creek mouth will be monitored, and if nuisance algae conditions occur (or thermal barriers to fish migration), design modifications may be implemented where practicable. [EIS IR 262]. A follow-up and monitoring program to ensure that the project will not impact negatively on drinking water and recreational water quality. [OPG Letter, CD# NK054-CORR-00531-00190]

JRP Recommendations (in accordance with GOC Response) To Be Addressed by Deliverable:

- OPG to collect water and sediment quality data for any future embayment area that may be formed as a consequence of shoreline modifications in the vicinity of the outlet of Darlington Creek. This data should serve as the reference information for OPG's post-construction commitment to conduct water and sediment quality monitoring of the embayment area. [GOC *R*esponse to JRP Rec. 12]
- OPG to collect and assess water and sediment quality data for a comprehensive number of shoreline and offshore locations in the site study area prior to commencing in-water works. This data should be used to establish a reference for follow-up monitoring. [GOC Response to JRP Rec. 13]
- Prior to issuance of a Fisheries Act Authorization for in-water works, DFO requires OPG to have a water and sediment quality monitoring program for:
    - any future embayment area; [GOC Response to JRP Rec. 12]

Appendix B: Site Preparation Phase

Deliverable Title: D-P-12 Environmental Monitoring and Environmental Assessment Follow-up

- shoreline and offshore locations; [GOC Response to JRP Rec. 13]
- in receiving waters. [GOC Response to JRP Rec. 15]

This program is required to assess whether OPG continues to meet the intent of section 36 of the Fisheries Act.

- In the event that a once through condenser cooling system is chosen for the project, prior to operation, OPG is to include the following in the surface water risk assessment:
  - the surface combined thermal and contaminant plume; and
  - the physical displacement effect of altered lake currents as a hazardous pulse exposure to fish species whose larvae passively drift through the area, such as lake herring, lake whitefish, emerald shiner and yellow perch.

  If the risk assessment result predicts a potential hazard then the CNSC shall convene a follow-up monitoring scoping workshop with ECCC, DFO and any other relevant authorities to develop an action plan. OPG to update a comprehensive surface water risk assessment as recommended, however an assessment of the combined thermal and contaminant plume should consider not only the surface area of the plume, but its vertical extent as well. [GOC Response to JRP Rec. 35]

Required Closure Response:

- On December 18, 2024, OPG submitted to CNSC the request for closure of commitment D-P-12.3. On May 15, 2025 OPG received CNSC comments on D-P-12.3. OPG provided a response to comments from the CNSC on July 14, 2025. [OPG Letters: CD# NK054-CORR-00531-11085, CD# NK054-CORR-00531-11319; CNSC Letter: CD# NK054-CORR-00531-11269]
- On November 20, 2025, OPG received CNSC acceptance for closure of commitment D-P-12.3. [CNSC Letter: CD# NK054-CORR-00531-11473].

D-P-12.4	Aquatic Environment – Methodology Reports	Status: Open

OPG Commitments To Be Addressed by Deliverable:

- Consistent with the Authorization for Works or Undertakings Affecting Fish Habitat conditions: [OPG Letter, CD# NK054-CORR-00531-00190]
  - Monitor fish and other aquatic biota contained in the infill area and determine losses associated with infill construction.
    - Duration: During infill Construction phase;
    - Frequency: to be determined;
    - Location: Similar to baseline monitoring locations (as appropriate).
  - Monitor silt and sediment transport as it relates to aquatic biota and habitat as a result of construction activities associated with infill and partial bluffs.
    - Duration: During construction phase;
    - Frequency: spring, summer, and fall;
    - Location: Similar to baseline monitoring locations (as appropriate).
  - Document post-construction conditions to confirm success of habitat restoration and compensation plans. The monitoring program will be to the satisfaction of DFO.
- As part of the detailed design of the lake infill, the potential effects on the Aquatic Habitat associated with shoreline processes will be considered and a plan developed to monitor these effects. [EIS, Section 5.4.4.2]
- An Adaptive Management Strategy will be implemented to address changes to the environment, associated with aquatic ecosystem over time.[EIS Section 5.4.5.2]
- For the once-through lake water cooling option, periodically monitor data on cooling water discharge temperature and plume characteristics interpreted in relation to fish habitat and susceptibility of Valued Ecosystem Components species post construction verification of the EIS conclusions. [EIS Table 11.6-2]
- OPG will establish an Adaptive Management System for the algae hazard to the cooling water intake at DNNP. Technical expectations for the DNNP includes a model based hazard monitoring system to define threshold levels of algal biomass that would trigger more intense monitoring leading into the proposed contingency measures. [OPG Letter, CD# NK054-CORR-00531-00190]

Appendix B: Site Preparation Phase

Deliverable Title: D-P-12 Environmental Monitoring and Environmental Assessment Follow-up

JRP Recommendations (in accordance with GOC Response) To Be Addressed by Deliverable:

- OPG to continue conducting adult fish community surveys in the site study area and reference locations on an ongoing basis. These surveys shall be used to confirm that the results of 2009 gillnetting and 1998 shoreline electrofishing reported by OPG, and the additional data collected in 2010 and 2011, are representative of existing conditions, taking into account natural year-to-year variability. [GOC Response to Rec. 28; OPG Letter, CD# NK054-CORR-00531-00190]
- Specific attention should be paid to baseline gillnetting monitoring in spring to verify the findings on fish spatial distribution and relatively high native fish species abundance in the embayment area, such as white sucker and round whitefish. The shoreline electrofishing habitat use study is needed to establish the contemporary baseline for later use to test for effects of lake infill armouring, if employed, and the effectiveness of mitigation. [GOC Response to Rec. 28; OPG Letter, CD# NK054-CORR-00531-00190]
- OPG to continue the research element of the proposed Round Whitefish Action Plan (RWAP) for the specific purpose of better defining the baseline condition, including the population structure, genome and geographic distribution of the round whitefish population as a basis from which to develop testable predictions of effects, including cumulative effects. [GOC Response to JRP Rec. 29]
- In the event that a once-through condenser cooling system is chosen for the Project, prior to the construction of in-water structures, OPG to conduct:
    - Additional impingement sampling at the existing Darlington Nuclear Generating Station to verify the 2007 results and deal with inter-year fish abundance variability and sample design inadequacies; and
    - Additional entrainment sampling at the existing Darlington Nuclear Generating Station to better establish the current conditions. [GOC Response to JRP Rec. 30; OPG Letter, CD# NK054-CORR-00531-00190]

  The program should be designed to guard against a detection limit bias by including in the analysis of entrainment losses those fish species whose larvae and eggs are captured in larval tow surveys for the seasonal period of the year in which they occur. A statistical optimization analysis will be needed to determine if there is a cost-effective entrainment survey design for round whitefish larvae. [GOC Response to Rec. 30; OPG Letter, CD# NK054-CORR-00531-00190]
- DFO will work with the CNSC, and the MNRF to develop an impingement and entrainment sampling program. The Government of Canada would also like to note that authorization under the Fisheries Act will be required prior to any lake infill taking place and commits that DFO will work with OPG to ensure that the impingement and entrainment sampling program is developed and implemented as a condition of that authorization. [GOC Response to JRP Rec.30]
- OPG to conduct an impingement and entrainment follow-up program at the existing Darlington Nuclear Generating Station and the Project site to confirm the prediction of adverse effects, including cumulative effects, and the effectiveness of mitigation. For future entrainment sampling for round whitefish, a statistical probability analysis will be needed to determine if unbiased and precise sample results can be produced. DFO will work with the CNSC and OPG to develop an impingement and entrainment study on the existing Darlington Nuclear Generating Station and at the proposed Project site to confirm predicted adverse effects and will further ensure implementation through its regulatory process and conditions of authorization under the Fisheries Act. [GOC Response to JRP Rec. 33; OPG Letter, CD# NK054-CORR-00531-00190]
- Prior to construction, enhanced resolution thermal plume modeling is to be conducted by OPG, taking into account possible future climate change effects. ECCC is committed to reviewing the information provided by OPG, and will rely on DFO authorization for a HADD associated with the intake or outfall to ensure that OPG undertakes this modelling. DFO will work with ECCC, and CNSC to incorporate the results from the thermal plume modeling into the determination of the appropriate location for the intake and diffuser structures to mitigate adverse effects. DFO will ensure implementation through conditions of a Fisheries Act authorization. [GOC Response to JRP Rec. 34]

Appendix B: Site Preparation Phase

Deliverable Title: D-P-12 Environmental Monitoring and Environmental Assessment Follow-up

- In the event that a once through condenser cooling system is chosen for the project, prior to operation, OPG is to include the following in the surface water risk assessment:
  - the surface combined thermal and contaminant plume; and
  - the physical displacement effect of altered lake currents as a hazardous pulse exposure to fish species whose larvae passively drift through the area, such as lake herring, lake whitefish, emerald shiner and yellow perch.

If the risk assessment result predicts a potential hazard then the CNSC shall convene a follow-up monitoring scoping workshop with ECCC, DFO and any other relevant authorities to develop an action plan. OPG to update a comprehensive surface water risk assessment as recommended, however an assessment of the combined thermal and contaminant plume should consider not only the surface area of the plume, but its vertical extent as well. [GOC Response to JRP Rec. 35]

- In the event that a once-through condenser cooling system is chosen for the Project, during operation, OPG is to undertake adult fish monitoring of large-bodied and small-bodied fish to confirm the effectiveness of mitigation measures and verify the predictions of no adverse thermal and physical diffuser jet effects. DFO is committed to working with OPG to develop their fish and fish habitat monitoring and follow-up program and ensuring implementation through conditions of authorization under the Fisheries Act. [GOC Response to JRP Rec. 36]
- Prior to construction, OPG to determine the total area of permanent aquatic effects from the following, to properly scale mitigation and scope follow-up monitoring:
  - the thermal plume + 2°C above ambient temperature;
  - the mixing zone and surface plume contaminants;
  - physical displacements from altered lake currents; and
  - infill and construction losses and modifications.

GOC would further support the inclusion of cumulative effects assessment in this assessment, including the effects of impingement and entrainment and climate change. DFO is committed to working with the CNSC and OPG to ensure that any permanent aquatic habitat effects are mitigated and appropriate habitat compensation is developed and implemented as a condition of any Fisheries Act authorization. [GOC Response to Rec. 37]

- Prior to construction, OPG will: factor the algal hazard assessment into a more detailed biological evaluation of moving the intake and diffuser deeper offshore as part of planned siting studies and the cost-benefit analysis of the cooling system. [GOC Response to JRP Rec. 40]
- Prior to Operation OPG will establish an adaptive management program for algal hazard to the project cooling water system intake that includes the setup of thresholds for further actions.
- During operation, OPG is to monitor aquatic habitat and biota for potential cumulative effects from the thermal loading and contaminant plume of the discharge structures of the existing Darlington Nuclear Generating Station and the Project. OPG will also be required to undertake an aquatic monitoring program as a condition of any Fisheries Act authorization. [GOC Response to Rec. 61]

Required Closure Response:

- On October 17, 2024, OPG submitted to CNSC the request for closure of commitment D-P-12.4, [OPG Letter: CD# NK054-CORR-00531-11086].

D-P-12.5	Terrestrial Environment – Methodology Reports	Status: Closed

OPG Commitments To Be Addressed By Deliverable:

- Monitor conditions to confirm the EIS predictions of habitat restoration post construction. [EIS, Table 11.6-2]
- OPG to undertake an adaptive management approach as part of a Follow-up and Monitoring Program for nesting Bank Swallows on site, involving creation of new banks of predetermined characteristics for the birds to nest in, monitoring the results in terms of numbers of successful nests created, and adapting the best design for the creation of additional sites. [OPG Letter, CD# NK054-CORR-00531-00190]
- Verify the results (of the bank swallow mitigation plan) predicted in the EIS during initial operation of the DNNP [EIS, Table 11.6-2]
- Periodically conduct wildlife mortality studies during site preparation and construction. [EIS, Table 11.6-2]

Appendix B: Site Preparation Phase

Deliverable Title: D-P-12 Environmental Monitoring and Environmental Assessment Follow-up

  - Duration: Throughout site preparation phase and site construction phase;
  - Frequency: Estimated total of 20 monitoring events annual (removal study conducted to calibrate);
  - Location: Local Study Area.
- Further site and species specific information pertaining to Bobolink will be required. [OPG Letter, CD# NK054-CORR-00531-00190]
- OPG to develop a follow-up program to verify the effectiveness of mitigation measures for mammals. [OPG Letter, CD# NK054-CORR-00531-00190]
- Further work to be done to determine whether proposed activities will have an effect on the Least Bittern. [OPG Letter, CD# NK054-CORR-00531-00190]

JRP Recommendations (in accordance with GOC Response) To Be Addressed By Deliverable:

- OPG to develop a follow-up program for insects, amphibians and reptiles, and mammal species and communities as appropriate, with a focus for this follow-up program on species at risk and the use of this follow-up program to verify the conclusions of the Ecological Risk Assessment. [GOC Response to JRP Rec. 22]
- OPG to collaborate with ECCC to develop a follow-up program for bird communities should natural draft cooling towers be chosen for the condenser cooling system, and include consideration of potential impacts from habitat disturbance, as well as from bird collision impacts, in the scope of that program. [GOC Response to JRP Rec. 23]
- OPG to conduct more sampling to confirm the presence of Least Bittern before site preparation activities begin. [GOC Response to JRP Rec. 25]

Required Closure Response (if Deliverable Status is Closed):

- On February 15, 2022, OPG submitted to the CNSC the request for closure of commitment D-P-12.2, and on August 19, 2022, OPG received the CNSC acceptance for closure of this commitment, [OPG Letter: CD# NK054-CORR-00531-10635; CNSC Letter: CD# NK054-CORR-00531-10717].

D-P-12.6	Geological and Hydrogeological Environment – Methodology Reports	Status: Closed

OPG Commitments To Be Addressed By Deliverable:

- Monitor groundwater flow and quality to confirm EIS predictions [EIS, Table 11.6-2]
  - Duration: Prior to and throughout site preparation phase and throughout site construction phase. During plant commissioning activities (assumed to be 2 years);
  - Frequency: Two monitoring events per year prior to commissioning. During commissioning, quarterly sampling events;
  - Location: Site Study Area.
- Confirm EIS predictions post construction of on-site groundwater regime. [EIS, Table 11.6-2]
  - Duration: Operation and Maintenance phase (early life period);
  - Frequency: Update groundwater flow modeling following at least 1 year of quarterly monitoring data. Repeat after 5 years;
  - Location: Site Study Area.
- Confirm base flow estimates in Darlington Creek at the beginning of the Operations phase. [EIS, Table 11.6-2]
  - Duration: Prior to site preparation phase (to confirm baseline conditions) and at completion of site construction phase;
  - Frequency: Quarterly flow monitoring
  - Location: Darlington Creek at minimum of 3 locations adjacent to the DN Site.
- OPG will continue to monitor groundwater quality, particularly for radionuclides, both on the Project site and at off-site locations (as a component of the REMP) given that atmospheric deposition is the primary source of tritium in groundwater. [OPG Letter, CD# NK054-CORR-00531-00190]

Appendix B: Site Preparation Phase

Deliverable Title: D-P-12 Environmental Monitoring and Environmental Assessment Follow-up

JRP Recommendations (in accordance with GOC Response) To Be Addressed By Deliverable:

- OPG to develop and implement a follow-up program for soil quality during all stages of the project. [GOC Response to JRP Rec.11]
- OPG to provide an assessment of the ingress and transport of contaminants in groundwater on site during successive phases of the Project as part of the Construction Licence Application. This assessment shall include consideration of the impact of wet and dry deposition of all contaminants of potential concern and gaseous emissions on groundwater quality. OPG to conduct enhanced groundwater and contaminant transport modelling for the assessment. For clarity, GOC supports enhanced groundwater and contaminant transport modelling extending to appropriate model boundaries, which may not necessarily be site boundaries. [GOC Response to JRP Rec. 17]
- OPG to expand the scope of the groundwater monitoring program to monitor transitions in groundwater flows that may arise as a consequence of grade changes during the site preparation and construction phases of the Project. The design of the grade changes should guide the determination of the required monitoring locations, frequency of monitoring and the required duration of the program for the period of transition to stable conditions following the completion of construction and the initial period of operation. [GOC Response to JRP Rec. 19]

Required Closure Response (if Deliverable Status is Closed):

- On February 15, 2022, OPG submitted to the CNSC the request for closure of commitment D-P-12.2, and on August 19, 2022, OPG received the CNSC acceptance for closure of this commitment, [OPG Letter: CD# NK054-CORR-00531-10635; CNSC Letter: CD# NK054-CORR-00531-10717].

D-P-12.7	Land Use – Methodology Reports	Status: Closed

OPG Commitments To Be Addressed By Deliverable:

- OPG will continue to monitor land use activity in proximity to the DNNP site and consult with Municipality of Clarington and the Regional Municipality of Durham on proposed land use changes and effects on implementation of emergency plans. [EIS Section 5.8.5.2; Table 5.15-1; Table 11.6-2; EIS IR 54 Resubmission]
- Confirm projected population, at the end of the site preparation and construction activities, to ensure that emergency response plan is consistent with the projections. [EIS Table 11.6-2]
  - Location: At completion of site preparation phase and at completion of site construction phase;
  - Frequency: One-time event, two occurrences;
  - Location: Regional and Local Study Areas.
- OPG will continue to monitor planning developments near its facilities, and participate as required. [OPG 2009, Section 8.0]

JRP Recommendations (in accordance with GOC Response) To Be Addressed By Deliverable:

- None.

D-P-12.8	Traffic and Transportation Environment – Methodology Reports	Status: Closed

OPG Commitments To Be Addressed By Deliverable:

- As part of the Traffic Management Plan, undertake a pre-Project road condition assessment as a baseline for considering incremental Project-related degradation. Follow with periodic inspections of road conditions to document changes relative to baseline during construction. [EIS Table 11.6-2]
  - Duration: Prior to and throughout site preparation phase and throughout site construction phase;
  - Frequency: Annual event;
  - Locations: Key roadways in Local Study Area subject to truck traffic associated with the Project.
- As part of the Traffic Management Plan, at the beginning of the Operation and Maintenance phase, verify road safety as predicted in the Environmental Impact Statement. [EIS Table 11.6-2]

Appendix B: Site Preparation Phase

Deliverable Title: D-P-12 Environmental Monitoring and Environmental Assessment Follow-up

- Duration: Beginning of operation and maintenance phase;
- Frequency: One-time event;
- Locations: Key roadways in LSA subject to truck traffic associated with the Project.

- The Traffic and Transportation Environment and EA follow-up program will align with the Traffic Management Plan (D-P-10.1) as needed.

JRP Recommendations (in accordance with GOC Response) To Be Addressed By Deliverable:

- In the event that a once-through condenser cooling system is chosen for the Project, prior to construction, TC will work with OPG to develop a follow-up program to verify the accuracy of the prediction of no significant adverse effects to boating safety from the establishment of an increased prohibitive zone. OPG must also develop an adaptive management program, if required, to mitigate potential effects to small watercraft. If an adaptive management program is required, TC can provide support and expertise to OPG in its development. [GOC Response to JRP Rec. 51]

Required Closure Response (if Deliverable Status is Closed):

- On February 15, 2022, OPG submitted to the CNSC the request for closure of commitment D-P-12.2, and on August 19, 2022, OPG received the CNSC acceptance for closure of this commitment, [OPG Letter: CD# NK054-CORR-00531-10635; CNSC Letter: CD# NK054-CORR-00531-10717].

D-P-12.9	Health – Human and Non-Human Biota – Methodology Reports	Status: Closed

OPG Commitments To Be Addressed By Deliverable:

- No residual adverse effects on non-human biota are predicted. However, if follow-up and monitoring programs conducted for other environmental components suggest changes or conditions that may lead to effects on non-human biota, the Ecological Risk Assessment will be updated, including the identification of mitigation measures or other actions that may be appropriate to address such effects. [EIS Table 11.6-2]
- A Follow-up and Monitoring program to be established to confirm the predictions that the Project will not result in significant ecological risk arising from conventional and radiological substances, and that the Radiological Environmental Monitoring Program be revised, in consultation with relevant government agencies, including ECCC. [OPG Letter, CD# NK054-CORR-00531-00190]
- The chemical emissions from the nuclear facility will be evaluated during the design process and, if necessary, the Ecological Risk Assessment and the Human Health Risk Assessment will be updated, and any identified risks or areas which require further study will be included in the Environmental Assessment Follow-up Monitoring program.[EIS IR 240 Resubmission 2]
- If the Cooling Tower option is adopted, an Ecological Risk Assessment to be conducted on the blowdown pond if there is a risk that wildlife will use or drink from the pond. [OPG Letter, CD# NK054-CORR-00531-00190] (Note: Cooling tower option was not selected for DNNP [See D-C-1.1 closure and OPG Letter, CD# NK054-CORR-00531-00253])

JRP Recommendations (in accordance with GOC Response) To Be Addressed By Deliverable:

- OPG to conduct a detailed assessment of predicted effluent releases from the Project. The assessment should include but not be limited to effluent quantity, concentration, points of release and a description of effluent treatment, including demonstration that the chosen option has been designed to achieve best available treatment technology and techniques economically achievable. [GOC Response to JRP Rec.14]
- OPG to develop a comprehensive assessment of hazardous substance releases and the required management practices for hazardous chemicals on site once a reactor technology has been chosen. [GOC Response to JRP Rec. 26]

Socio-Economic Environment

OPG Commitments To Be Addressed By Deliverable:

Appendix B: Site Preparation Phase
Deliverable Title: D-P-12 Environmental Monitoring and Environmental Assessment Follow-up
• Refer to Deliverable D-P-17: Communications, Consultation and Stakeholder Relations Program/Plan. • The environmental monitoring and EA follow-up activities will be addressed by Deliverable D-P-17.1 Communications, Consultation and Stakeholder Relations Program/Plan for the purposes of efficiency in the Program/Plan's scope of activities.
JRP Recommendations (in accordance with GOC Response) To Be Addressed By Deliverable:
• Refer to Deliverable D-P-17: Communications, Consultation and Stakeholder Relations Program/Plan
Required Closure Response (if Deliverable Status is Closed):
• On January 31, 2024, OPG submitted to the CNSC the request for closure of commitment D-P-12.9, and on March 14, 2024, OPG received the CNSC acceptance for closure of this commitment, [OPG Letter: CD# NK054-CORR-00531-10930; CNSC Letter: CD# NK054-CORR-00531-10965].

Appendix B: Site Preparation Phase

Deliverable Title: D-P-12 Environmental Monitoring and Environmental Assessment Follow-up

Number Legend

D Deliverable
P Site Preparation Phase
C Construction Phase
O Operation Phase

(e.g., D-P-3.1 = Deliverable - Site Preparation Phase - Deliverable Number)

Abbreviations and Acronyms

CNSC	Canadian Nuclear Safety Commission
DFO	Fisheries and Oceans Canada
EA	Environmental Assessment
ECCC	Environment and Climate Change Canada
EIS	Environmental Impact Statement
GOC	Government of Canada
IR	Information Request
JRP	Joint Review Panel
LC	Licence Condition
LTPSA	Licence to Prepare Site Application
DNNP	Darlington New Nuclear Project
OPG	Ontario Power Generation
PRSL	Power Reactor Site Preparation Licence
TC	Transport Canada

References

[EIS] OPG Letter, A. Sweetnam to JRP Chair, “Environmental Assessment for the OPG New Nuclear at Darlington Project”, CD# NK054-CORR-00531-00037, September 30, 2009.

- Enclosure: Ontario Power Generation (OPG), 2009. Environmental Impact Statement New Nuclear – Darlington Environmental Assessment, Report No. NK054-REP-07730-00029, September 2009

[EIS IR 54 Resubmission] OPG Letter, A. Sweetnam to JRP Chair, “OPG Additional Responses to Joint Review Panel Information Request May 20, 2010”, CD# NK054-CORR-00531-00122, July 30, 2010.

[EIS IR 143] OPG letter, Albert Sweetnam to JRP Chair, ”OPG Response to Joint Review Panel Information Request April 28, 2010”, CD# NK054-CORR-00531-00104, June 11, 2010.

[EIS IR 146] OPG letter, Albert Sweetnam to JRP Chair, ”OPG Response to Joint Review Panel Information Request April 28, 2010”, CD# NK054-CORR-00531-00100, May 28, 2010.

[EIS IR 160] OPG letter, Albert Sweetnam to JRP Chair, ”OPG Response to Joint Review Panel Information Request May 20, 2010”, CD# NK054-CORR-00531-00122, July 30, 2010.

[EIS IR 161] OPG letter, Albert Sweetnam to JRP Chair, ”OPG Response to Joint Review Panel Information Request May 20, 2010”, CD# NK054-CORR-00531-00122, July 30, 2010.

[EIS IR 204] OPG letter, Albert Sweetnam to JRP Chair, ”OPG Response to Joint Review Panel Information Request June 29, 2010”, CD# NK054-CORR-00531-00121, July 30, 2010.

Appendix B: Site Preparation Phase

Deliverable Title: D-P-12 Environmental Monitoring and Environmental Assessment Follow-up

[EIS IR 220] OPG letter, A. Sweetnam to JRP Chair, ”OPG Response to Joint Review Panel Information Request July 08, 2010, CD# NK054-CORR-00531-00120”, July 30, 2010.

[EIS IR 240 Resubmission 2] OPG Letter, A. Sweetnam to JRP Chair, “Response to Information Request from the Joint Review Panel December 14, 2010”, CD# NK054-CORR-00531-00178, January 14, 2011.

[EIS IR 246] OPG letter, Albert Sweetnam to JRP Chair, ”OPG Response to Information Request from the Joint Review Panel August 19, 2010”, CD# NK054-CORR-00531-00135, August 30, 2010.

[EIS IR 262] OPG letter, Albert Sweetnam to JRP Chair, ”OPG Response to Information Request from the Joint Review Panel October 27 and November 3, 2010, CD# NK054-CORR-00531-00166 ”, November 8, 2010.

[GOC Response to JRP Rec.] Government of Canada’s Response to the Joint Review Panel Report for the Proposed Darlington New Nuclear Power Plant Project in Clarington Ontario, Doc. #1049, May 2, 2012.

[LTPSA] OPG Letter, A. Sweetnam to JRP Chair, “OPG New Nuclear at Darlington Project – Application for a Licence to Prepare Site”, CD# NK054-CORR-00531-00035, September 30, 2009.

- Attachment 3: Application for Licence to Prepare Site for the Future Construction of OPG New Nuclear at Darlington

[OPG 2009] OPG Letter, A. Sweetnam to JRP Chair, “OPG New Nuclear at Darlington Project – Application for a Licence to Prepare Site”, CD# NK054-CORR-00531-00035, September 30, 2009.

- Attachment 1: List of Documents Submitted as Part of the Licensing Basis for the Application for a Licence to Prepare Site – 2. Ontario Power Generation (OPG), 2009. Emergency Preparedness Site Evaluation for OPG New Nuclear at Darlington, Report No. NK054-REP-03490-00001, R001, August 25, 2009.

[OPG Letter, CD# NK054-CORR-00531-00190] OPG Letter, A. Sweetnam to JRP Chair, “OPG Review of Recommendations Made by Government Agencies”, CD# NK054-CORR-00531-00190, March 14, 2011.

Appendix B: Site Preparation Phase

Deliverable Title: D-P-13 Preliminary Decommissioning Plan and Financial Guarantee

Licence / Regulatory Requirement:

- PRSL 18.00/2031 LC 11.2 – Preliminary decommissioning plan for site preparation
- PRSL 18.00/2031 LC 15.1 – Mitigation measures and commitments for site preparation
- PRSL 18.00/2031 LC G.5 – Financial guarantee for site preparation
- CNSC – Nuclear Safety and Control Act and associated regulations

Applicable Standard:

- CSA N286-12: Management System Requirements for Nuclear Facilities
- CSA N294-09: Decommissioning of Facilities Containing Nuclear Substances
- CNSC G-206 Financial Guarantees for the Decommissioning of Licensed Activities
- CNSC G-219: Decommissioning Planning for Licensed Activities

Completion Criteria:

- To be completed prior to commencement of PRSL licensed activities.

Deliverable Description:

#	Deliverables for Completion	Closure Criteria (To Who and When)	Required Response	Status
D-P-13.1	Preliminary Decommissioning Plan	Provide to CNSC for review and acceptance no later than 3 months prior to the commencement of PRSL licensed activities.	None	Closed
D-P-13.2	Financial Guarantee	Provide to CNSC, for Commission review and approval no later than 3 months prior to commencement of PRSL licensed activities.	To be accepted by CNSC	Closed

Deliverable Commitment Details:

D-P-13.1	**Preliminary Decommissioning Plan**	**Status: Closed**

OPG Commitments To Be Addressed By Deliverables:

- Should it be necessary, ensure decommissioning after site preparation will be performed by a qualified contractor with emergency response, contingency for uncontrolled releases, environmental monitoring and visual effects management. [LTPSA Section 1.6; OPG 2009]
- OPG will update the Preliminary Decommissioning Plan when OPG applies for authorization to commence site preparation activities. [OPG Letter, NK054-CORR-00531-10464]

EA Follow-up Commitments Related To Deliverable:

- None.

JRP Recommendations (in accordance with GOC Response) To Be Addressed By Deliverable:

- OPG to maintain a preliminary decommissioning plan for site preparation in accordance with the requirements of CSA Standard N294-09, which provides direction on the decommissioning of licensed facilities and activities consistent with Canadian and international recommendations. OPG to revise the preliminary decommissioning plan once a reactor technology is selected. [GOC Response to JRP Rec. 6].

Appendix B: Site Preparation Phase

Deliverable Title: D-P-13 Preliminary Decommissioning Plan and Financial Guarantee

- Required Closure Response (if Deliverable Status is Closed):
- On November 12, 2021, OPG submitted a letter to the CNSC requesting closure of commitment D-P-13.1. On April 14, 2022, OPG received CNSC acceptance for closure of commitment D-P-13.1. [OPG Letter: CD# NK054-CORR-00531-10622; CNSC Letter: CD# NK054-CORR-00531-10668]
-

D-P-13.2	Financial Guarantee	Status: Closed

OPG Commitments To Be Addressed By Deliverables:

- When OPG applies for authorization to commence site preparation activities, OPG will propose an appropriate financial guarantee in accordance with G-206 that is commensurate with the decommissioning financial liabilities. [OPG Letter, CD# NK054-CORR-00531-10451; LTPSA Section 1.6]
- OPG will propose an appropriate financial instrument commensurate with decommissioning financial liabilities, if OPG decides to apply for a licence amendment to allow more substantive work on the DNNP site. [OPG Letter, CD# NK054-CORR-00531-10451]

EA Follow-up Commitments Related To Deliverable:

- None.

JRP Recommendations (in accordance with GOC Response) To Be Addressed By Deliverable:

- OPG to establish a financial guarantee for the site preparation stage, however, the financial guarantee must be sufficient to cover the cost of decommissioning work outlined in the preliminary decommissioning plan referenced in JRP Recommendation 6. [GOC Response to JRP Rec. 7]

Required Closure Response (if Deliverable Status is Closed):

- Commitment D-P-13.2 closed based on the Record of Decision June 7, 2022, CD# NK054-CORR-00531-10694.

Appendix B: Site Preparation Phase

Deliverable Title: D-P-13 Preliminary Decommissioning Plan and Financial Guarantee

Number Legend

D Deliverable
P Site Preparation Phase
C Construction Phase
O Operation Phase

(e.g., D-P-3.1 = Deliverable - Site Preparation Phase - Deliverable Number)

Abbreviations and Acronyms

CNSC	Canadian Nuclear Safety Commission
CSA	Canadian Standards Association
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPC	Engineering, Procurement and Construction
GOC	Government of Canada
IR	Information Request
JRP	Joint Review Panel
LC	Licence Condition
LTPSA	Licence to Prepare Site Application
DNNP	Darlington New Nuclear Project
OPG	Ontario Power Generation
PRSL	Power Reactor Site Preparation Licence

References

[EIS] OPG Letter, A. Sweetnam to JRP Chair, “Environmental Assessment for the OPG New Nuclear at Darlington Project”, CD# NK054-CORR-00531-00037, September 30, 2009.

- Enclosure: Ontario Power Generation (OPG), 2009. Environmental Impact Statement New Nuclear – Darlington Environmental Assessment, Report No. NK054-REP-07730-00029, September 2009

[GOC Response to JRP Rec.] Government of Canada’s Response to the Joint Review Panel Report for the Proposed Darlington New Nuclear Power Plant Project in Clarington Ontario, Doc. #1049, May 2, 2012.

[LTPSA] OPG Letter, A. Sweetnam to JRP Chair, “OPG New Nuclear at Darlington Project – Application for a Licence to Prepare Site”, CD# NK054-CORR-00531-00035, September 30, 2009.

- Attachment 3: Application for Licence to Prepare Site for the Future Construction of OPG New Nuclear at Darlington

[OPG 2009] Ontario Power Generation, Preliminary Decommissioning Plan OPG New Nuclear at Darlington Site – Site Preparation, NK054-PLAN-00960-00001 R002, September 25, 2009.

[OPG Letter, CD# NK054-CORR-00531-10451] OPG Letter, W. S. Woods to C. Carrier, “Darlington New Nuclear Project: Preliminary Decommissioning Plan”, CD# NK054-CORR-00531-10451, December 1, 2017.

[OPG Letter, CD# NK054-CORR-00531-10464] OPG Letter, M. Knutson to C. Carrier, “DNNP – Site Preparation Licence Midterm Report”, CD# NK054-CORR-00531-10464, October 11, 2018.

Appendix B: Site Preparation Phase

Deliverable Title: D-P-14 Fish Habitat Compensation Plan

Licence / Regulatory Requirement:

- PRSL 18.00/2031 LC 15.1 – Mitigation measures and commitments for site preparation
- PRSL 18.00/2031 LC 15.2 – Environmental assessment follow-up program for site preparation
- DFO - Fisheries Act

Applicable Standard:

- DFO Fish and Fish Habitat Protection Policy Statement (DFO 2019)

Completion Timeline:

- To be completed prior to submission of application for DFO authorization.

Deliverable Description:

#	Deliverables for Completion	Closure Criteria (To Who and When)	Required Response	Status
D-P-14.1	Fish Habitat Compensation Plan for construction	Provide to DFO, for review and acceptance, prior to the commencement of the proposed activities, as part of the application for DFO authorization under the Fisheries Act, Sections 34.4(2) and 35(2).	Authorization to be granted by DFO.	Closed
	Fish Habitat Compensation Plan for operations	Provide to DFO, for review and acceptance, prior to Phase A Commissioning, as part of the application for DFO authorization under the Fisheries Act, Sections 34.4(2) and 35(2).	Authorization to be granted by DFO.	Open

Deliverable Commitment Details:

D-P-14.1	**Fish Habitat Compensation Plan**	**Status: Open**

OPG Commitments To Be Addressed By Deliverables:

- OPG commits to continue to work with DFO, MNRF, and CLOCA staff to complete compensation plan and to carry out all activities related to project within the designated time frames and conditions specified in the authorization under Sections 35(2). [Application for DFO Authorization]
- The final Fish Habitat Compensation Plan will also contain components that will address the requirements under section 35(2) of the Fisheries Act (HADD) and under section 34.4(2) of the Fisheries Act (for the destruction of fish by any means other than fishing). [EIS, Section 5.4.4.2; Table 5.15-1; EIS IR 215; Application for DFO Authorization]
- OPG will finalize and implement a Fish Habitat Compensation Plan in a manner consistent with No Net Loss guiding principle. [Application for DFO Authorization; OPG Letter, CD# NK054-CORR-00531-00190]
- In accordance with DFO Fish and Fish Habitat Protection Policy Statement (DFO 2019), Ontario Power Generation (OPG) intends to undertake measures to compensate for and mitigate against the loss of fish and fish habitat arising from the New Nuclear at Darlington (NND) Project. [Application for DFO Authorization]
- Baseline information on Round Whitefish preferred habitat will be used as an input into some of the physical compensation projects as appropriate. Once data from the baseline studies for the Round Whitefish Action Plan are generated, these options will be reviewed to determine if they are suitable for this species and/or other species or groups of species (e.g., forage fish) of interest. [Aquatic Environment Compensation Report]

Appendix B: Site Preparation Phase

Deliverable Title: D-P-14 Fish Habitat Compensation Plan

- Habitat requirements of forage species to be finalized - compensation projects to provide conditions favored by forage species.[Application for DFO Authorization]
- Fish habitat compensation, will be developed either on-site or off-site as opportunity allows to offset the loss of direct and indirect fish habitat and to satisfy requirements of a section 35(2) Fisheries Act authorization. [Application for DFO Authorization]
- Each identified "pass" option will be further assessed for feasibility, considering objectives of the compensation plan, practicality of implementing, and cost effectiveness. A coastal engineer will provide input and review on the design. [Application for DFO Application]
- Final compensation plan will include short- and long-term mitigation measures details and specifications as appropriate. [Application for DFO Application]
- Compensation plan will include design details as appropriate, and construction and compensation monitoring requirements. [Application for DFO Application]
- Other mitigation measures provided in Aquatic Environment - Assessment of Environmental Effects TSD (OPG 2009b) to be included in final compensation plan respecting nuisance effects related to the lake infill. [Application for DFO Authorization]
- Fish Habitat compensation plans will be prepared in consultation with DFO and other Regulatory stakeholders for the destruction of fish habitat due to intake and diffuser construction. The final mitigation/compensation plan will fulfill the requirements for an authorization under section 35(2) of the Act (for Harmful Alteration, Disruption or Destruction of fish habitat (HADD)). [Application for DFO Authorization]
- Impingement and entrainment issues to be included as a component of the overall compensation plan. [Application for DFO Authorization]
- The area of the thermal discharge mixing zone will be taken into account as a physical habitat disruption (primarily turbulence, but also temperature to some extent) and be included in fish habitat offsetting measures, such as habitat improvement initiatives, within a Fisheries Act Authorization. [CNSC Letter, CD# NK054-CORR-00531-00251]

EA Follow-up Commitments Related To Deliverable:

- Refer to Deliverable D-P-12: Environmental Monitoring and Environmental Assessment Follow-up.

JRP Recommendations (in accordance with GOC Response) To Be Addressed By Deliverable:

- To avoid any unnecessary environmental damage to the bluff at Raby Head and fish habitat, no bluff removal or lake infill to occur during the site preparation stage unless a reactor technology has been selected and there is certainty that the Project will proceed. The GOC further notes that authorization under the Fisheries Act will be required prior to any lake infill taking place, and confirms that DFO will work with OPG to ensure that as a condition of that authorization, that no lake infill occurs unless there is certainty that the Project will proceed and appropriate mitigation measures and habitat compensation have been implemented. [GOC Response to JRP Rec. 5]
- OPG to perform a thorough evaluation of site layout opportunities before site preparation activities begin, in order to minimize the overall effects on the terrestrial and aquatic environments and maximize the opportunity for quality terrestrial habitat rehabilitation. As part of the conditions of authorization under the Fisheries Act, DFO commits to working with OPG to ensure overall impacts to aquatic habitat are minimized with appropriate mitigation and habitat compensation. [GOC Response to JRP Rec. 20]
- DFO will work with OPG to ensure that the HADD of fish habitat associated with the proposed lake infill is limited to the area within the two-meter depth contour of Lake Ontario. The extent of the HADD as well as appropriate mitigation and habitat compensation will be included in the conditions of authorization under the Fisheries Act. [GOC Response to JRP Rec. 31]

Required Closure Response (if Deliverable Status is Closed):

Appendix B: Site Preparation Phase

Deliverable Title: D-P-14 Fish Habitat Compensation Plan

- On November 18 2024, OPG submitted an Application for Authorization Under the Fisheries Act for Construction of the DNNP In-Water Works to the DFO and CNSC. On December 3, 2024 OPG submitted to CNSC the request for closure of commitment D-P-14.1. [OPG Letter: CD# NK054-CORR-00531-11111]
- On July 25, 2025, OPG received CNSC acceptance for closure of D-P-14.1 [CNSC Letter: NK054-CORR-00531-11344].
- On September 12, 2025, OPG submitted a letter responding to CNSC questions on the closure letter for D-P-14.1. [OPG Letter: NK054-CORR-00531-11372]

Appendix B: Site Preparation Phase

Deliverable Title: D-P-14 Fish Habitat Compensation Plan

Number Legend

D Deliverable
P Site Preparation Phase
C Construction Phase
O Operation Phase

(e.g., D-P-3.1 = Deliverable - Site Preparation Phase - Deliverable Number)

Abbreviations and Acronyms

CNSC	Canadian Nuclear Safety Commission
CLOCA	Central Lake Ontario Conservation Authority
DFO	Fisheries and Oceans Canada
EA	Environmental Assessment
ECCC	Environment and Climate Change Canada
EIS	Environmental Impact Statement
EPC	Engineering, Procurement and Construction
GOC	Government of Canada
HADD	Harmful Alteration, Disruption or Destruction
IR	Information Request
JRP	Joint Review Panel
LTPSA	Licence to Prepare Site Application
MNRF	Ministry of Natural Resources and Forestry
DNNP	Darlington New Nuclear Project
OPG	Ontario Power Generation
PRSL	Power Reactor Site Preparation Licence

References

[Application for DFO Authorization] OPG Letter, A. Sweetnam to R. DesJardine, “Application for Authorization for Works or Undertakings Affecting Fish Habitat – Habitat File No. PE-07-1092”, CD# NK054-CORR-00539.4-00001, September 30, 2009.

[Aquatic Environment Compensation Report] OPG Letter, A. Sweetnam to JRP Chair, “OPG Update to the Joint Review Panel and Submission of the Aquatic Environment Compensation Report”, CD# NK054-CORR-00531-00131, August 30, 2010.

- Attachment 2: Aquatic Environment Compensation Report

[EIS] OPG Letter, A. Sweetnam to JRP Chair, “Environmental Assessment for the OPG New Nuclear at Darlington Project”, CD# NK054-CORR-00531-00037, September 30, 2009.

- Enclosure: Ontario Power Generation (OPG), 2009. Environmental Impact Statement New Nuclear – Darlington Environmental Assessment, Report No. NK054-REP-07730-00029, September 2009

[EIS IR 215] OPG letter, Albert Sweetnam to JRP Chair, ”OPG Response to Joint Review Panel Information Request July 08, 2010”, CD# NK054-CORR-00531-00120, July 30, 2010.

[GOC Response to JRP Rec.] Government of Canada’s Response to the Joint Review Panel Report for the Proposed Darlington New Nuclear Power Plant Project in Clarington Ontario, Doc. #1049, May 2, 2012.

Appendix B: Site Preparation Phase

Deliverable Title: D-P-14 Fish Habitat Compensation Plan

[OPG Letter, CD# NK054-CORR-00531-00190] OPG Letter, A. Sweetnam to JRP Chair, “OPG Review of Recommendations Made by Government Agencies”, CD# NK054-CORR-00531-00190, March 14, 2011.

Appendix B: Site Preparation Phase

Deliverable Title: D-P-15 Round Whitefish Action Plan

Licence / Regulatory Requirement:

- PRSL 18.00/2031 LC 15.1 – Mitigation measures and commitments for site preparation
- PRSL 18.00/2031 LC 15.2 – Environmental assessment follow-up program for site preparation
- DFO - Fisheries Act

Applicable Standard:

Completion Timeline:

- To be completed prior to the commencement of lake infilling activities.

Deliverable Description:

#	Deliverables for Completion	Closure Criteria (To Who and When)	Required Response	Status
D-P-15.1	Round Whitefish Action Plan	Provide to DFO, for review and acceptance, no later than 60 days prior to the commencement of lake infilling activities, as part of the DFO Authorization under Fisheries Act, Sections 32 and 35(2) to inform fish habitat compensation requirements and mitigation options.	Authorization to be granted by DFO	Closed

Deliverable Commitment Details:

D-P-15.1	Round Whitefish Action Plan	Status: Closed

OPG Commitments To Be Addressed By Deliverables:

- Additional discussions about what studies are necessary under the RWAP to be undertaken amongst relevant government agencies, including EC. [OPG Letter, CD# NK054-CORR-00531-00190]
- Workshops to be held with OPG and appropriate government agencies to identify and develop an implementation plan for the collection of outstanding data needs, which will be incorporated into the RWAP. [OPG Letter, CD# NK054-CORR-00531-00190]
- A workshop be held to finalize the RWAP and the plan be included in regulatory approvals to ensure full implementation. [OPG Letter, CD# NK054-CORR-00531-00190]
- The cumulative effects of habitat destruction arising from any lake infilling, the incidental destruction of habitat that may occur in the artificial embayment, mortality from entrainment and impingement, and effects resulting from climate change should be factored into the overall potential effect upon Round Whitefish populations in addition to thermal discharge effects. [OPG Letter, CD# NK054-CORR-00531-00190]
- OPG is committed to ensure the protection of Round Whitefish and its spawning habitat by assuming such habitat exists in the vicinity of the proposed discharge. Round Whitefish habitat and spawning behaviour will be confirmed through studies to be undertaken in the Round Whitefish Action Plan. [EIS IR 260]
- The results of the Round Whitefish Action Plan will be used to identify preferred habitat and spawning locations in the vicinity of DNNP. The confirmed Round Whitefish spawning habitat will be considered in determining the appropriate thermal discharge mitigation options. While OPG has taken a precautionary approach and has assumed Round Whitefish spawning habitat exists in calculating thermal effects, the occurrence and extent of preferred Round Whitefish spawning habitat will be confirmed through the Round Whitefish Action Plan. [EIS IR 260]

Baseline Population Studies

- OPG is committed to undertaking the 2011 spring larval sampling program and will continue to work with DFO and CNSC to clarify the objectives and scope of the spring sampling work and to reach agreement on a sampling methodology. (*field work completed, reports to follow*) [EIS IR 259]

Appendix B: Site Preparation Phase

Deliverable Title: D-P-15 Round Whitefish Action Plan

- Baseline population studies conducted in 2011 to include gillnetting and larval drift sampling; [OPG Letter, CD# NK054-CORR-00531-00190]
- Studies that determine if there are meta populations of Round Whitefish or lake wide population. [OPG Letter, CD# NK054-CORR-00531-00190]
- While the exact terms of reference for the RWAP has yet to be finalized, it is anticipated to include studies to examine thermal thresholds for Round Whitefish egg and larvae development, and will enable the determination of whether there is spawning habitat conditions for Round Whitefish within the area proposed for the diffuser. The potential area of the diffuser can then be assessed to determine whether spawning conditions exist and how effects on these areas can be avoided. [EIS IR 260]

EA Follow-up Commitments Related to Deliverable:

- Refer to Deliverable D-P-12 Environmental Monitoring and Environmental Assessment Follow-up.

JRP Recommendations (in accordance with GOC Response) To Be Addressed By Deliverable:

- OPG to continue conducting adult fish community surveys in the site study area and reference locations on an ongoing basis. These surveys shall be used to confirm that the results of 2009 gillnetting and 1998 shoreline electrofishing reported by OPG, and the additional data collected in 2010 and 2011, are representative of existing conditions, taking into account natural year-to-year variability. [GOC Response to Rec. 28; OPG Letter, CD# NK054-CORR-00531-00190]
- Specific attention should be paid to baseline gillnetting monitoring in spring to verify the findings on fish spatial distribution and relatively high native fish species abundance in the embayment area, such as white sucker and round whitefish. The shoreline electrofishing habitat use study is needed to establish the contemporary baseline for later use to test for effects of lake infill armouring, if employed, and the effectiveness of mitigation. [GOC Response to Rec. 28; OPG Letter, CD# NK054-CORR-00531-00190]
- The RWAP to be developed and finalized in consultation with DFO, EC, CNSC, and MNR. This plan, as a condition of a Fisheries Act authorization, will form part of the ongoing monitoring program and feed into an adaptive management plan to protect the round whitefish population into the future. [GOC Response to JRP Rec. 29]
- OPG to continue the research element of the proposed Round Whitefish Action Plan (RWAP) for the specific purpose of better defining the baseline condition, including the population structure, genome and geographic distribution of the round whitefish population as a basis from which to develop testable predictions of effects, including cumulative effects. [GOC Response to JRP Rec. 29]
- In the event that a once-through condenser cooling system is chosen for the Project, prior to the construction of in-water structures, OPG to conduct:
    - Additional impingement sampling at the existing Darlington Nuclear Generating Station to verify the 2007 results and deal with inter-year fish abundance variability and sample design inadequacies; and
    - Additional entrainment sampling at the existing Darlington Nuclear Generating Station to better establish the current conditions. [GOC Response to JRP Rec. 30; OPG Letter, CD# NK054-CORR-00531-00190]
- The program should be designed to guard against a detection limit bias by including in the analysis of entrainment losses those fish species whose larvae and eggs are captured in larval tow surveys for the seasonal period of the year in which they occur. A statistical optimization analysis will be needed to determine if there is a cost-effective entrainment survey design for round whitefish larvae. [GOC Response to Rec. 30; OPG Letter, CD# NK054-CORR-00531-00190]
- DFO will work with the CNSC, and the MNR to develop an impingement and entrainment sampling program. The Government of Canada would also like to note that authorization under the Fisheries Act will be required prior to any lake infill taking place and commits that DFO will work with OPG to ensure that the impingement and entrainment sampling program is developed and implemented as a condition of that authorization. [GOC Response to JRP Rec.30]

Appendix B: Site Preparation Phase
Deliverable Title: D-P-15 Round Whitefish Action Plan
Required Closure Response (if Deliverable Status is Closed):
• On February 24, 2022, OPG submitted to the CNSC the request for closure of commitment D-P-15.1, and on May 11, 2022, OPG received the CNSC acceptance for closure of this commitment, [OPG Letter: CD# NK054-CORR-00531-10603; CNSC Letter: CD# NK054-CORR-00531-10686].

Appendix B: Site Preparation Phase

Deliverable Title: D-P-15 Round Whitefish Action Plan

Number Legend

D Deliverable
P Site Preparation Phase
C Construction Phase
O Operation Phase

(e.g., D-P-3.1 = Deliverable - Site Preparation Phase - Deliverable Number)

Abbreviations and Acronyms

CNSC	Canadian Nuclear Safety Commission
CLOCA	Central Lake Ontario Conservation Authority
DFO	Fisheries and Oceans Canada
EC	Environment Canada
EIS	Environmental Impact Statement
EPC	Engineering, Procurement and Construction
GOC	Government of Canada
IR	Information Request
JRP	Joint Review Panel
LTPSA	Licence to Prepare Site Application
MNR	Ministry of Natural Resources
DNNP	Darlington New Nuclear Project
OPG	Ontario Power Generation
PRSL	Power Reactor Site Preparation Licence
RWAP	Round Whitefish Action Plan

References

[EIS] OPG Letter, A. Sweetnam to JRP Chair, “Environmental Assessment for the OPG New Nuclear at Darlington Project”, CD# NK054-CORR-00531-00037, September 30, 2009.

- Enclosure: Ontario Power Generation (OPG), 2009. Environmental Impact Statement New Nuclear – Darlington Environmental Assessment, Report No. NK054-REP-07730-00029, September 2009

[EIS IR 215] OPG letter, Albert Sweetnam to JRP Chair, ”OPG Response to Joint Review Panel Information Request July 08, 2010”, CD# NK054-CORR-00531-00120, July 30, 2010.

[EIS IR 259] OPG letter, Albert Sweetnam to JRP Chair, “Response to Information Request from the Joint Review Panel October 8, 2010”, CD# NK054-CORR-00531-00154, November 19, 2010.

[EIS IR 260] OPG Letter, A. Sweetnam to JRP Chair, “Response to Joint Review Panel Information Request”, CD# NK054-CORR-00531-00172, November 19, 2010.

- Attachment: Thermal Plume: Potential Effects and Mitigation Options Report New Nuclear – Darlington.

[GOC Response to JRP Rec.] Government of Canada’s Response to the Joint Review Panel Report for the Proposed Darlington New Nuclear Power Plant Project in Clarington Ontario, Doc. #1049, May 2, 2012.

Appendix B: Site Preparation Phase
Deliverable Title: D-P-15 Round Whitefish Action Plan
[OPG Letter, CD# NK054-CORR-00531-00190] OPG Letter, A. Sweetnam to JRP Chair, "OPG Review of Recommendations Made by Government Agencies", CD# NK054-CORR-00531-00190, March 14, 2011.

Appendix B: Site Preparation Phase

Deliverable Title: D-P-16 Lake Infill Design

Licence / Regulatory Requirement:

- PRSL 18.00/2031 Section IV (i)(g) – Licensed Activities
- PRSL 18.00/2031 LC 15.1 – Mitigation measures and commitments for site preparation
- DFO - Fisheries Act
- TC - Canadian Navigable Waters Act
- MNRF- Public Lands Act

Applicable Standard:

- MOE: Fill Quality Guide and Good Management Practices for Shore Infilling in Ontario, 2011

Completion Timeline:

- To be completed prior to the commencement of lake infilling activity.

Deliverable Description:

#	Deliverables for Completion	Closure Criteria (To Who and When)	Required Response	Status
D-P-16.1	Lake Infill Design	Provide to CNSC, for review and acceptance, no later than 3 months prior to commencement of lake infilling activity.	To be accepted by CNSC.	Open
		Provide to DFO, for review and acceptance, no later than 3 months prior to commencement of lake infilling activity, as part of the DFO Authorization under Fisheries Act, Section 35(2).	Authorization to be granted by DFO	
		Provide to TC, for review and acceptance, no later than 3 months prior to commencement of lake infill activity, as part of the application submission for TC Approval.	Approval to be granted by TC	
		Provide to MNRF, for review and acceptance, no later than 3 months prior to commencement of lake infill activity, as part of the Land Use Permit application submission under the Public Lands Act (as part of the application process for the Transfer of Crown Land).	Permit to be granted by MNRF	
D-P-16.2	Evidence of OPG review and acceptance of Lake Infill Design.	Provide to CNSC, for review and acceptance, no later than 3 months prior to commencement of lake infill activity.	To be accepted by CNSC.	Open.

Deliverable Commitment Details:

D-P-16.1	**Lake Infill Design**	**Status: Open**

OPG Commitments To Be Addressed By Deliverable:

- In the EIS, recognition that a specific design will be prepared, and in that process, the in-design mitigation identified in the EA would be applied to address potential effects the EA had identified. In the case of the lake infill, the design would be provided to the appropriate regulatory agencies as part of the CNSC Licence to Prepare the Site / Authorization processes. [EIS IR 220]. Note: Lake infill is not required for the construction of

Appendix B: Site Preparation Phase

Deliverable Title: D-P-16 Lake Infill Design

Unit 1. The requirement for lake infill for Units 2-4 will be determined and any lake infill requirements will be fulfilled prior to any planned lake infill activity for Units 2-4.

- OPG will continue to work with Ontario Ministry of Natural Resources to acquire the necessary water lots prior to start of licensed activities. [LTPSA, Section 1.5]
- The Design (of the lake infill) will include shoreline stabilization of armour stone blocks or the equivalent will be installed. [LTPSA, Section 1.2.2]
- As part of the detailed design of the lake infill, the potential effects on the Aquatic Habitat associated with shoreline processes will be considered and a plan will be developed to monitor these effects. [EIS, Section 5.4.4.2]
- Good Industry Management Practices (e.g., Fill Quality Guide and Good Management Practices for Shore Infilling in Ontario, MECP 2011) will be implemented during any activities associated with lake dredging, lake infilling and lake blasting (for intake and discharge structure construction) to manage suspended sediment to meet appropriate regulatory requirements for discharge to Lake Ontario. [EIS, Section 5.3.7.2; Table 5.15-1]
- Sediment control plans will be developed in consultation with relevant regulatory agencies, including Environment Canada. [OPG Letter, CD# NK054-CORR-00531-00190]
- Adaptive management strategy will be included in lake infill design to address potential nuisance algal growth. The potential creation of nuisance algal growth conditions at the east end of the lake infill may require modification of the design to either enhance circulation or encourage the development of a coastal wetland area. [EIS IR 54 Resubmission; EIS IR 262]
- The EIS (section 5.4.4, page 5-49) also states that the conditions and effects associated with the lake infill area and any embayment that may be created will largely depend on the final configuration of the lake infill. The final lake infill design may be configured such that the size and shape of the embayment would not result in a Low Natural Dispersion Area. Accordingly, an adaptive management approach will be taken to address changes to the environment, associated with aquatic ecosystem over time. [EIS IR 246]
- Selection and placement of lake infill material will be undertaken consistent with the criteria presented in the Ontario Ministry of the Environment's Fill Quality Guide and Good Management Practices for Shore Infilling in Ontario, 2011 (as may be amended). [OPG Letter, CD# NK054-CORR-00531-00190]
- Capture and release fish from in-water work areas as work advances. [EIS, Section 5.4.5.2; Table 5.15-1]
- Salvage and relocate aquatic plants and biota where practicable, to a suitable existing or created habitat in advance of site preparation activities. [EIS, Section 5.4.4.2]
- The Lake infill footprint will be reduced to the minimum practicable. [Application for DFO Authorization]
- Other mitigation measures provided in *Aquatic Environment - Assessment of Environmental Effects TSD (OPG 2009b)* to be included in final Fish Habitat Compensation Plan respecting nuisance effects related to the lake infill. [Application for DFO Authorization]
- Fish Habitat Compensation Plan will include design details as appropriate, construction and compensation monitoring requirements. [Application for DFO Authorization]
- Electronic copies of the source documents will be made available upon request. (Referring to: EIS, AMEC Reports for Lake Infill and Docking Facility, Aquatic Environment Existing Conditions TSD, Aquatic Environment Effects TSD). [Application for TC Approval]
- The proposed Project work activities that are associated with Canadian Navigable Waters Act will be undertaken in the near shore (< 30m depth) area of Lake Ontario. [Application for TC Approval]

EA Follow-up Commitments Related To Deliverable:

- Refer to Deliverable D-P-12 Environmental Monitoring and Environmental Assessment Follow-up.

JRP Recommendations (in accordance with GOC Response) To Be Addressed By Deliverable:

- To avoid any unnecessary environmental damage to the bluff at Raby Head and fish habitat, no bluff removal or lake infill to occur during the site preparation stage unless a reactor technology has been selected and there is certainty that the Project will proceed. The GOC further notes that authorization under the Fisheries Act will be required prior to any lake infill taking place, and confirms that DFO will work with OPG to ensure that as a

Appendix B: Site Preparation Phase

Deliverable Title: D-P-16 Lake Infill Design

condition of that authorization, that no lake infill occurs unless there is certainty that the Project will proceed and appropriate mitigation measures and habitat compensation have been implemented. [GOC Response to JRP Rec. 5]

- DFO will work with OPG to ensure that the HADD of fish habitat associated with the proposed lake infill is limited to the area within the two-meter depth contour of Lake Ontario. The extent of the HADD as well as appropriate mitigation and habitat compensation will be included in the conditions of authorization under the Fisheries Act. [GOC Response to JRP Rec. 31]

D-P-16.2	**Evidence of OPG review and acceptance of Lake Infill Design.**	**Status: Open**

OPG Commitments To Be Addressed By Deliverable:

- None.

Appendix B: Site Preparation Phase

Deliverable Title: D-P-16 Lake Infill Design

Number Legend

D Deliverable
P Site Preparation Phase
C Construction Phase
O Operation Phase

(e.g., D-P-3.1 = Deliverable - Site Preparation Phase - Deliverable Number)

Abbreviations and Acronyms

CNSC	Canadian Nuclear Safety Commission
DFO	Fisheries and Oceans Canada
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPC	Engineering, Procurement and Construction
GOC	Government of Canada
HADD	Harmful Alteration, Disruption or Destruction
IR	Information Request
JRP	Joint Review Panel
LTPSA	Licence to Prepare Site Application
MNRF	Ministry of Natural Resources and Forestry
MOE	Ministry of the Environment
DNNP	Darlington New Nuclear Project
OPG	Ontario Power Generation
PRSL	Power Reactor Site Preparation Licence
TC	Transport Canada
TSD	Technical Support Document

References

[Application for DFO Authorization] OPG Letter, A. Sweetnam to R. DesJardine, “Application for Authorization for Works or Undertakings Affecting Fish Habitat – Habitat File No. PE-07-1092”, CD# NK054-CORR-00539.4-00001, September 30, 2009.

[Application for TC Approval] OPG Letter, A. Sweetnam to B. Putt, “Application for Approval for Proposed Works under the Navigable Waters Protection Act”, CD# NK054-CORR-00524-00001, September 30, 2009.

[Aquatic Environment Compensation Report] OPG Letter, A. Sweetnam to JRP Chair, “OPG Update to the Joint Review Panel and Submission of the Aquatic Environment Compensation Report”, CD# NK054-CORR-00531-00131, August 30, 2010.

- Attachment 2: Aquatic Environment Compensation Report

[EIS] OPG Letter, A. Sweetnam to JRP Chair, “Environmental Assessment for the OPG New Nuclear at Darlington Project”, CD# NK054-CORR-00531-00037, September 30, 2009.

- Enclosure: Ontario Power Generation (OPG), 2009. Environmental Impact Statement New Nuclear – Darlington Environmental Assessment, Report No. NK054-REP-07730-00029, September 2009

Appendix B: Site Preparation Phase

Deliverable Title: D-P-16 Lake Infill Design

[EIS IR 54 Resubmission] OPG Letter, A. Sweetnam to JRP Chair, "OPG Additional Responses to Joint Review Panel Information Request May 20, 2010", CD# NK054-CORR-00531-00122, July 30, 2010.

[EIS IR 220] OPG letter, A. Sweetnam to JRP Chair," OPG Response to Joint Review Panel Information Request July 08, 2010", CD# NK054-CORR-00531-00120, July 30, 2010.

[EIS IR 246] OPG letter, A. Sweetnam to JRP Chair," OPG Response to Information Request from the Joint Review Panel August 19, 2010", CD# NK054-CORR-00531-00135, August 30,2010.

[EIS IR 262] OPG letter, A. Sweetnam to JRP Chair," OPG Response to Information Request from the Joint Review Panel October 27 and November 3, 2010", CD# NK054-CORR-00531-00166, November 8, 2010.

[GOC Response to JRP Rec.] Government of Canada's Response to the Joint Review Panel Report for the Proposed Darlington New Nuclear Power Plant Project in Clarington Ontario, Doc. #1049, May 2, 2012.

[LTPSA] OPG Letter, A. Sweetnam to JRP Chair, "OPG New Nuclear at Darlington Project – Application for a Licence to Prepare Site", CD# NK054-CORR-00531-00035, September 30, 2009.

- Attachment 3: Application for Licence to Prepare Site for the Future Construction of OPG New Nuclear at Darlington

[OPG Letter, CD# NK054-CORR-00531-00190] OPG Letter, A. Sweetnam to JRP Chair, "OPG Review of Recommendations Made by Government Agencies", CD# NK054-CORR-00531-00190, March 14, 2011.

Appendix B: Site Preparation Phase

Deliverable Title: D-P-17 Communications, Consultation and Stakeholder Relations Program/Plan

Licence / Regulatory Requirement:

- PRSL 18.00/2031 LC 15.1 – Mitigation measures and commitments for site preparation
- PRSL 18.00/2031 LC 15.2 – Environmental assessment follow-up program for site preparation
- PRSL 18.00/2031 LC G.6 – Public information program for site preparation
- CNSC - Nuclear Safety and Control Act and associated regulations
- CNSC REGDOC-3.2.1: Public Information and Disclosure

Applicable Standard:

- N/A

Completion Timeline:

- To be completed prior to the commencement of PRSL licensed activities.

Deliverable Description:

#	Deliverables for Completion	Closure Criteria (To Who and When)	Required Response	Status
D-P-17.1	Communications, Consultation and Stakeholder Relations Program	Provide to CNSC, for information, to demonstrate completion, no later than 60 days prior to commencement of PRSL licensed activities.	None.	Closed

Deliverable Commitment Details:

D-P-17.1	**Communications, Consultation and Stakeholder Relations Program/Plan**	**Status: Closed**

OPG Commitments To Be Addressed By Deliverable:

Aboriginal Communications

- OPG to review the EIS results with identified First Nations, Metis councils and organizations once released, and explain the EIS as well as address any questions that Aboriginal Peoples may have. [Aboriginal Interests TSD, Section 8.3.3.8]
- OPG staff will maintain communications with responsive First Nations, Metis councils and organizations and support traditional knowledge information sharing throughout the site preparation and construction phase of the project. [Aboriginal Interests TSD, Section 8.1]
- The First nations of Alderville, Chippewas of Georgina Island and the Mohawks of the Bay of Quinte have expressed interest in future employment and training opportunities afforded by this potential Project. This interest has been documented and should the Project proceed, OPG will ensure that members of identified Aboriginal communities are informed of such opportunities. [Aboriginal Interests TSD, Section 9.3.2]
- As both the EA studies and the vendor selection programs continue, any updates to project information related to aspects of the Aboriginal Interests TSD will be shared with Aboriginal communities expressing a continued interest in the Project. [Aboriginal Interests TSD, Section 1.2]
- OPG is committed to developing long term mutually beneficial relationships with Aboriginal communities proximate to our existing and future operations. This includes consideration of employment and business contracting opportunities. [EIS IR 263]
- OPG staff will continue communicating with responsive First Nations, Metis councils and organizations following the submission of the EIS and Site Preparation Licence Application. [Aboriginal Interests TSD, Section 11.0]

Appendix B: Site Preparation Phase

Deliverable Title: D-P-17 Communications, Consultation and Stakeholder Relations Program/Plan

Public and Stakeholder Communications

- During the Site Preparation and Construction phase, OPG will maintain a communications and consultation program. This will consist of: [EIS Section 10.5.1]
  - Notification Advertisements and Letters,
  - Website,
  - Information Line,
  - Media Relations,
  - Open Houses/Community Information Sessions,
  - OPG Employee Consultation Activities,
  - Stakeholder Briefings and Interviews,
  - Workshops.
- Work with government, other electricity sector employers, labour groups and educational institutions through existing liaison mechanisms and programs during the Site Preparation, Construction, Operation and Maintenance phases. [EIS Section 5.11.4.2; Table 5.15-1]
- Information materials provided to the public throughout site preparation to be developed to ensure environmental and health and safety issues are effectively communicated; persons living in the vicinity are informed of general activities, effects and mitigations, and to provide up-to-date information. [LTPSA Section 5.3.1]
- OPG will continue to keep its neighbours and the broader public informed concerning activities at the Darlington Nuclear (DN) site as appropriate to each phase of the Project. [EIS Section 5.11.7.2; Table 5.15-1]
- OPG will continue to work with various stakeholders to deliver its community, recreational, educational and biodiversity initiatives. [EIS Section 5.11.7.2; Table 5.15-1]
- Public notification will be provided at the start of site preparation activities via advertisements, Darlington Neighbours, website. [LTPSA Section 5.3.2]
- The website will be updated, and the toll free number will be maintained. Responses will be provided to comments received. [LTPSA Section 5.3.2]
- Ongoing liaison with reporters and news editors (electronic and print media) will be initiated and maintained. [LTPSA Section 5.3.2]
- OPG employee consultation will be conducted using tools such as employee publication articles (electronic and hard copy), staff presentations and lunch and learn presentations. [LTPSA Section 5.3.2]
- Key stakeholder briefings and interviews will be conducted to present information and address comments and questions. Regular updates will be provided to Darlington Community Advisory Council and Durham Nuclear Health Committee [LTPSA Section 5.3.2]
- A public comment tracking system will be maintained to record and monitor comments received by the public and stakeholders involved in or affected by the site preparation activities.[LTPSA Section 5.3.3]
- The site preparation communication and consultation program will be under the direct oversight of OPG. [LTPSA Section 5.4]
- The OPG and the Municipality of Clarington Host Municipality Agreement entered into on August 31, 2009 will be maintained. [EIS Section 5.11.7.2]
- Continue to share information with local and regional economic development and Darlington Provincial Park officials with respect to the DNNP. [Socio-Economic Effects TSD, Section 3.3.2.3]
- OPG will seek to establish a resolution to address any effects on the upper and lower soccer fields. [EIS Section 5.11.7.2; Table 5.15-1]
- OPG will seek to re-establish full access to and use of the Waterfront Trail in stages once safe access can be provided. [EIS Section 5.11.7.2; Table 5.15-1]
- OPG will continue to engage the Regional Municipality of Durham with respect to the Regional Official Plan Amendment application to implement the Growing Durham Study, Preferred Growth Scenario and Policy Directions and proposed Future Land Uses in the Primary and Contiguous Zones. [EIS IR 54 Resubmission]

Appendix B: Site Preparation Phase

Deliverable Title: D-P-17 Communications, Consultation and Stakeholder Relations Program/Plan

- OPG will continue to share information with local and regional land use planners, economic development staff, and social service providers with respect to the timing and magnitude of its on-site labour force during site preparation and construction. [EIS Section 5.11.4.2; Table 5.15-1]
- OPG will seek to establish a resolution with recreational users of the DN site, should there be an effect. [EIS Section 5.11.7.2; Table 5.15-1]

EA Follow-up Commitments To be Addressed By Deliverable:

- Develop a follow-up Communication Plan as per the Environmental Impact Statement. [EIS Table 11.6-2]
- Conduct Public Attitude Research (PAR) of Local Study Area (LSA) and Regional Study Area (RSA) residents at the end of each phase of the project. [EIS Table 11.6-2]
    - Duration:
        - At completion of site preparation phase,
        - At completion of site construction phase,
        - Two years after commencement of operation and maintenance phase;
    - Frequency: One-time event, three distinct occurrences;
    - Location: Local Study Area.
- Undertake a door to door survey of the Darlington site neighbors at the start of the Construction phase and the Operation and Maintenance phase - survey of near residents living in the vicinity of the DN site, generally bounded by Courtice Road to the west, Baseline Road to the north, and Green Road to the east to verify Environmental Impact Statement assumptions. [EIS Table 11.6-2]
    - Duration: Prior to site construction phase and two years after commencement of Operations and Maintenance phase;
    - Frequency: One-time event, two occurrences;
    - Location: Local Study Area.
- Undertake a recreational user survey of the DN site recreational facilities at the start of the Construction phase and the Operation and Maintenance phase. [EIS Table 11.6-2]
    - Duration: During site construction phase, and not more than two years after commencement of operation and maintenance phase;
    - Frequency: Two seasonal surveys (i.e., spring and summer)
    - Location: Local Study Area

JRP Recommendations (in accordance with GOC Response) To be Addressed By Deliverable:

- Concurrently with site preparation activities, the CNSC coordinate discussions with OPG and key stakeholders on the effects of the project on housing supply and demand, community recreational facilities and programs, services and infrastructure as well as additional measures to help deal with the pressures on these community assets. [GOC Response to JRP Rec. 41]
- On an ongoing basis, OPG to pursue its strategy to ensure that Aboriginal students can benefit from the permanent job opportunities that will be available during the lifetime of the Project. In this regard, OPG should collaborate with various secondary and post-secondary education institutions as well as Aboriginal groups to ensure that such programs would be successful. Such programs are consistent with OPG's Aboriginal Relations Policy. [GOC Response to JRP Rec. 42]
- CNSC engage appropriate stakeholders, including OPG, Emergency Management Ontario, municipal governments and the Government of Ontario to develop a policy for land use around nuclear generating stations. [GOC Response to JRP Rec. 43]

Required Closure Response (if Deliverable Status is Closed):

- On November 11, 2021, OPG submitted a letter to the CNSC requesting closure of commitment D-P-17.1. On March 22, 2022, OPG received CNSC acceptance for closure of commitment D-P-17.1.
[OPG Letter: CD# NK054-CORR-00531-10623; CNSC Letter: CD# NK054-CORR-00531-10661]

Appendix B: Site Preparation Phase

Deliverable Title: D-P-17 Communications, Consultation and Stakeholder Relations Program/Plan

Number Legend

D Deliverable
P Site Preparation Phase
C Construction Phase
O Operation Phase

(e.g., D-P-3.1 = Deliverable - Site Preparation Phase - Deliverable Number)

Abbreviations and Acronyms

CNSC	Canadian Nuclear Safety Commission
DNGS	Darlington Nuclear Generating Station
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPC	Engineering, Procurement and Construction
GOC	Government of Canada
IR	Information Request
JRP	Joint Review Panel
LC	Licence Condition
LTPSA	Licence to Prepare Site Application
DNNP	Darlington New Nuclear Project
OPG	Ontario Power Generation
PRSL	Power Reactor Site Preparation Licence
TSD	Technical Support Document

References

[Aboriginal Effects TSD] Aboriginal Interests Technical Support Document New Nuclear – Darlington Environmental Assessment, Ontario Power Generation Inc., Report No.NK054-REP-07730-00026, August 2009.

[EIS] OPG Letter, A. Sweetnam to JRP Chair, “Environmental Assessment for the OPG New Nuclear at Darlington Project”, CD# NK054-CORR-00531-00037, September 30, 2009.

- Enclosure: Ontario Power Generation (OPG), 2009. Environmental Impact Statement New Nuclear – Darlington Environmental Assessment, Report No. NK054-REP-07730-00029, September 2009

[EIS IR 54 Resubmission] OPG Letter, A. Sweetnam to JRP Chair, “OPG Additional Responses to Joint Review Panel Information Request May 20, 2010”, CD# NK054-CORR-00531-00122, July 30, 2010.

[EIS IR 263] OPG letter, Albert Sweetnam to JRP Chair, “OPG Response to Information Requests from the Joint Review Panel November 3, 2010 and November 9, 2010”, CD# NK054-CORR-00531-00168, November 12, 2010.

[GOC Response to JRP Rec.] Government of Canada’s Response to the Joint Review Panel Report for the Proposed Darlington New Nuclear Power Plant Project in Clarington Ontario, Doc. #1049, May 2, 2012.

[LTPSA] OPG Letter, A. Sweetnam to JRP Chair, “OPG New Nuclear at Darlington Project – Application for a Licence to Prepare Site”, CD# NK054-CORR-00531-00035, September 30, 2009.

Appendix B: Site Preparation Phase

Deliverable Title: D-P-17 Communications, Consultation and Stakeholder Relations Program/Plan

- Attachment 3: Application for Licence to Prepare Site for the Future Construction of OPG New Nuclear at Darlington

[OPG Letter, CD# NK054-CORR-00531-00190] OPG Letter, A. Sweetnam to JRP Chair, “OPG Review of Recommendations Made by Government Agencies”, CD# NK054-CORR-00531-00190, March 14, 2011.

[Socio-Economic Effects TSD] Socio-Economic Environment Assessment of Environmental Effects Technical Support Document New Nuclear – Darlington Environmental Assessment, Ontario Power Generation Inc., Report No.NK054-REP-07730-00019, September 2009.

Appendix B: Site Preparation Phase

Deliverable Title: D-P-18 Proposed Layout of Structures in the Final Layout State (to the extent practicable)

Licence / Regulatory Requirement:

- REGDOC-1.1.1: Site Evaluation and Site Preparation for New Reactor Facilities
- PRSL 18.00/2031 LC 15.1 – Mitigation measures and commitments for site preparation

Applicable Standard:

- N/A

Completion Timeline:

- To be completed during site preparation phase prior to commence Phase 2 main site preparation activities.

Deliverable Description:

#	Deliverables for Completion	Closure Criteria (To Who and When)	Required Response	Status
D-P-18.1	Proposed Layout of Structures in the Final Layout State (to the extent practicable)	Provide to CNSC, for information purposes, no later than 60 days prior to commence Phase 2 main site preparation activities.	None.	Closed

Deliverable Commitment Details:

D-P-18.1	Proposed Layout of Structures in the Final Layout State (to the extent practicable)	Status: Closed

OPG Commitments To Be Addressed By Deliverable:

Additional details of the final site layout are to be produced for information purposes prior to the commencement of site preparation activities when a reactor technology has been selected. For the proposed plant design and proposed layout(s) of areas, structures and systems of the nuclear facility (or facilities), the following will be provided to the extent practical: [Table 6 of Aggregate Assessment Report provided in R-45]

- satellite or aerial photographs of the site and surrounding region, with a resolution scale of 1:1,440 or better, including the proposed exclusion zone and site boundary
- topographical map(s) for each site layout in 1:50,000 to no smaller than 1:250,000 scale for all structures and associated infrastructure (all drawings are to scale and include a legend)
- proposed layouts of labelled structures, including, where appropriate:
  - reactor building
  - turbine-generator block
  - auxiliary power buildings (for example, diesel generators) and related fuel storage
  - switchyard
  - cooling tower structures, water intakes and outlets
  - large structures (for example, machine shops or storage buildings for parts inventory) in the immediate vicinity to the proposed nuclear facility
- proposed conventional and radiological waste transfer and storage areas
- layouts of all site roads and proposed transmission corridors
- locations of transportation corridors in the vicinity of the site (for example, rail lines, shipping lanes, roads, proximity to airports)

EA Follow-up Commitments To be Addressed By Deliverable:

Appendix B: Site Preparation Phase
Deliverable Title: D-P-18 Proposed Layout of Structures in the Final Layout State (to the extent practicable)
• None.
JRP Recommendations (in accordance with GOC Response) To be Addressed By Deliverable:
None.
Required Closure Response (if Deliverable Status is Closed):
On September 28, 2022, a letter requesting closure of commitments D-P-18.1 was submitted to the CNSC with relevant deliverable documents. On November 29, 2022, OPG received CNSC acceptance of these deliverables and closure of the commitments. [OPG Letter: CD# NK054-CORR-00531-10692; CNSC Letter: CD# NK054-CORR-00531-10750 (e-Doc 6912766).

Appendix B: Site Preparation Phase

Deliverable Title: D-P-18 Proposed Layout of Structures in the Final Layout State (to the extent practicable)

Number Legend

D Deliverable
P Site Preparation Phase
C Construction Phase
O Operation Phase

(e.g., D-P-3.1 = Deliverable - Site Preparation Phase - Deliverable Number)

Abbreviations and Acronyms

CNSC	Canadian Nuclear Safety Commission
EA	Environmental Assessment
GOC	Government of Canada
JRP	Joint Review Panel
LC	Licence Condition
DNNP	Darlington New Nuclear Project
OPG	Ontario Power Generation
PRSL	Power Reactor Site Preparation Licence

References

[OPG Letter, CD# NK054-CORR-00531-10530] OPG Letter, D. Townsend to C. Carrier, “DNNP – Submission of Aggregate Assessment Report and CNSC Staff’s Prior Written Notification of Document Change: Darlington New Nuclear Project Commitments Report R004”, CD# NK054-CORR-00531-10530, June 2020.

Appendix C: Construction Phase

Appendix C: Construction Phase

Deliverable Title: D-C-1 EPC Condenser Cooling Water Design

Licence / Regulatory Requirement:

- MECP Environmental Protection Act and O. Reg. 255/11
- DFO Fisheries Act
- TC Canadian Navigable Waters Act
- CNSC - Nuclear Safety and Control Act and associated regulations
- MNRF- Public Lands Act

Applicable Standard:

- CSA N286-12: Management System Requirements for Nuclear Facilities

Completion Timeline:

- D-C-1.1: To be completed prior to the submissions of the Construction Licence Application.
- D-C-1.2 and D-C-1.3: To be completed prior to submission of application for DFO/TC/MNRF authorization.

Deliverable Description:

#	Deliverables for Completion	Closure Criteria (To Who and When)	Required Response	Status
D-C-1.1	Condenser Cooling Water Option Assessment Report and OPG's Final Decision on Best Available Technology Economically Achievable (BATEA).	Provide to CNSC, for review and acceptance, prior to the submission of the Construction Licence Application.	To be accepted by CNSC per Protocol.	Closed
D-C-1.2	EPC Condenser Cooling Water Design (excluding the Aquatic Cumulative Effect Assessment)	Provide to CNSC, for review and acceptance, no later than 3 months prior to the commencement of the CCW construction activities.	To be accepted by CNSC per Protocol.	Closed
		Provide to DFO, for review and acceptance, prior to commencement of proposed activities, as part of the application for DFO Authorization under Fisheries Act, Sections 34.4(2) and 35(2)	Authorization to be granted by DFO.	Closed
		Provide to TC, for review and acceptance, prior to commencement of proposed activities, as part of the application for TC Approval.	Approval to be granted by TC.	Closed
		Provided to MNRF, for review and acceptance, prior to commencement of proposed activities, as part of the application for Land Use Permit under the Public Lands Act (for Transfer of Crown Land)	Permit to be granted by MNRF.	Closed

Appendix C: Construction Phase				
Deliverable Title: D-C-1 EPC Condenser Cooling Water Design				
	Aquatic Cumulative Effect Assessment	Provide to CNSC, for review and acceptance, no later than 3 months prior to Phase A Commissioning	To be accepted by CNSC per Protocol.	Open
	Fisheries Act Authorization Application for Operation	Provide to DFO, for review and acceptance, prior to Phase A Commissioning, as part of the application for DFO Authorization under Fisheries Act, Sections 34.4(2) and 35(2).	Authorization to be granted by DFO.	Open
D-C-1.3	Evidence of OPG review and acceptance of EPC Condenser Cooling Water Design (D-C-1.2).	Provided to CNSC, for review and acceptance, no later than 3 months prior to the commencement of the CCW construction activities.	To be accepted by CNSC per Protocol.	Closed

Deliverable Commitment Details:

D-C-1.1	**Condenser Cooling Water Option Assessment Report**	**Status: Closed**

OPG Commitments To Be Addressed By Deliverable:

- Assessment of alternative means for CCW technologies applying the principle of BATEA should be conducted to allow decision-making through a weighting of factors. [OPG Letter, CD# NK054-CORR-00531-00190, Table C]
- Undertake a cost-benefit analysis, limited to the options of once through cooling and mechanical draft cooling as a prerequisite to the issuance of Fisheries Act Authorization for lake infill to the 2 meter depth. [OPG Letter, CD# NK054-CORR-00531-00199]

EA Follow-up Commitments Related To Deliverable:

- None.

JRP Recommendations (in accordance with GOC Response) To Be Addressed By Deliverable:

- OPG must undertake a formal quantitative cost-benefit analysis for cooling tower and once-through condenser cooling water systems, applying the principle of best available technology economically achievable. This analysis must take into account the fact that lake infill should not go beyond the two-metre depth contour and should include cooling tower plume abatement technology. GOC acknowledges that this analysis may be required earlier than indicated (prior to submitting Application for Licence to Construct) in the recommendation given the relationship between site layout and the choice of condenser cooling technology. GOC further acknowledges the connection of this Recommendation to JRP Rec. 31 and as such notes that DFO will work with OPG to ensure through its regulatory process and conditions of authorization under the Fisheries Act that any HADD is limited to the 2 metre depth contour of Lake Ontario. [GOC Response to JRP Rec. 3; GOC Response to JRP Rec. 31]

Required Closure Response (if Deliverable Status is Closed):

- OPG submitted to CNSC a Condenser Cooling Water Options Assessment Report based on a BATEA methodology, which demonstrated that the once-through cooling option is the preferred condenser cooling water system for DNNP from an evaluation of two condenser cooling options. On March 28, 2013, the CNSC response to this submission identified that OPG's submission satisfied Joint Review Panel recommendation #3, as accepted by the Government of Canada. Commitment D-C-1.1 is also satisfied by this submission. In their March 28th, 2013 letter CNSC provided several conditions that should be carried forward to the condenser cooling design stage which have been incorporated in Commitment D-C-1.2 of this report referencing NK054-CORR-00531-00253. [CNSC Letter, CD# NK054-CORR-00531-00253]

Appendix C: Construction Phase

Deliverable Title: D-C-1 EPC Condenser Cooling Water Design

D-C-1.2	EPC Condenser Cooling Water Design	Status: Open

OPG Commitments To Be Addressed By Deliverable:

Condenser Cooling Water - General

- OPG will continue to work with Ontario Ministry of Natural Resources to acquire the necessary water lots prior to start of licensed activities. [LTPSA, Section 1.5]
- The final Fish Habitat Compensation Plan will also contain components that will address the requirements under section 34.4(2) of the *Fisheries Act* (for the destruction of fish by any means other than fishing). [EIS, Section 5.4.4.2; Table 5.15-1; EIS IR 215]
- OPG will begin discussions with appropriate agencies as soon as practical respecting a regulation allowing the thermal discharge from the nuclear facility, and anticipates a process by which thermal discharge and diffuser design objectives are established. [EIS IR 260]
- Each identified “pass” option will be further assessed for feasibility, considering objectives of the compensation plan, and practicality of implementing, and cost effectiveness. A coastal engineer will provide input and review on the design. [Application for DFO Authorization]
- The area of the thermal discharge mixing zone must also be taken into account as a physical habitat disruption (primarily turbulence, but also temperature to some extent) and be included in fish habitat offsetting measures, such as habitat improvement initiatives, within a Fisheries Act Authorization. [CNSC Letter, CD# NK054-CORR-00531-00251]
- Impingement and entrainment issues to be included as a component of the overall compensation plan. [Application for DFO Authorization]. OPG commits that if the impingement and entrainment performance targets are not met when the New Nuclear Plant is operational, any difference in performance will be addressed through additional offsetting measures, such as habitat improvement initiatives within a Fisheries Act Authorization, that are acceptable to DFO and CNSC staff, as appropriate. [OPG Letter, NK054-CORR-00531-00242]
- Conduct underwater blasting program in compliance with applicable guidance to minimize incidental mortality to satisfy a Fisheries Act Section 34.4(2) Authorization. Blasting details to be determined once vendor selected and design details become available. [EIS, Section 5.4.5.2; Table 5.15-1; Application for DFO Authorization; Application for TC Approval]
- Underwater blasting mitigation methods will be incorporated as per DFO guidance (e.g., seasonal timing restrictions, fish deterrence, bubble curtains and design of charge size, placement and sequencing to minimize incidental mortality) authorization. Since the Project also results in HADD of fish habitat, the conditions associated with section 34.4(2) authorizations under the Fisheries Act will be included within the section 35(2) authorization. [EIS, Section 5.4.5.2; Table 5.15-1; Application for DFO Authorization; Application for TC Approval]
- Minor dredging will involve conventional equipment designated and operated for the purpose (suction/ mechanical). All dredged sediment will be offloaded and disposed of in accordance with applicable regulations.[Application for TC Approval]
- The proposed Project work activities that are associated with Canadian Navigable Waters Act will be undertaken in the near shore (<30 m depth) area of lake Ontario. [Application for TC Approval]
- Locate the cooling and/or service water intakes and discharge structures in less sensitive habitats removed from more productive nearshore habitats and spawning areas. [EIS, Section 5.4.4.2 and Section 5.4.5.2; Table 5.15-1; Application for TC Approval]

Once Through Cooling Design (selected for CCW – See OPG Letter, CD# NK054-CORR-00531-00253):

- Options for moving the intake into deeper water will be considered to decrease potential impacts to Round whitefish. [OPG Letter, CD# NK054-CORR-00531-00190]
- Field data will be collected as inputs into the thermal modeling that would support detailed design. The bathymetry of the lake would be determined in detail, as well as local currents, used to calibrate and verify the model. The water temperatures from surface through to lake bottom would be recorded at a range of local

Appendix C: Construction Phase

Deliverable Title: D-C-1 EPC Condenser Cooling Water Design

sites. Updated and locally focused meteorological data would also be collected, including parameters such as wind-speed, wind direction, cloud cover and humidity. [EIS IR 260]

- The DNNP intake structure will be at least as effective as the existing DNGS intake structure which has been designed to mitigate entrainment and impingement mortality. [EIS, Section 5.3.6.2 and Section 5.4.5.2; Table 5.15-1]. The impingement and entrainment performance targets for the intake system, as derived from the Condenser Cooling Water Option Assessment [OPG 2013], will be a 90 percent reduction in both impingement and entrainment mortality from that which would be achieved if a mechanical draft cooling tower system had been used. Fish mortality would be similar to a 90 percent reduction in impingement and entrainment relative to the accepted baseline (that is, unmitigated surface water intake with a standard 3/8-inch mesh travelling screen). [CNSC Letter, CD# NK054-CORR-00531-00253; OPG Letter, CD# NK054-CORR-00531-00242].
- The once-through cooling design will incorporate lake water intake and discharge structures (with mitigation measures) similar to DNGS but sized to the necessary water volumes. [EIS, Section 5.3.6.2 and Section 5.4.5.2; Table 5.15-1; Application for DFO Authorization]
- Design provisions to incorporate a live fish return system, should one be required in the future [CNSC Letter, CD# NK054-CORR-00531-00253]
- The design of the intake structure will demonstrate effective mitigation of hazards present in intake water such as microorganisms, macroscopic plants, algae, mollusks, frazil ice and will minimize entrainment of fish. [OPG 2009, Section 3.5]
- The intake structure will be designed to limit the velocity of the water in the vicinity of the intake, minimizing the impingement of fish and effects of local currents. [EIS, Section 5.3.6.2 and Section 5.4.5.2]
- Porous veneer intake structure considered for once through cooling (bounding scenario) to minimize intake velocity [DFO Application for Authorization]. The intake structure design will have an average intake approach velocity of 6 cm/s for a porous veneer design (as documented in the Condenser Cooling Water Option Assessment) [OPG 2013] or a maximum of 12 cm/s for a wedge wire screen design as measured “within the slots”; other intake structure designs will be reviewed on a case-by-case basis. [CNSC Letter, CD# NK054-CORR-00531-00253; OPG Letter, NK054-CORR-00531-00242]
- The once-through cooling discharge diffuser design for DNNP will be similar to that of the DNGS and limit the temperature increase to minimize thermal and flow effects of the plant cooling water discharge by dispersing the water over a larger area, thereby minimizing the effects on invertebrates. [EIS IR 202; EIS, Section 5.4.4.2; Section 5.4.5.2; Table 5.15-1].
- OPG commits that the discharge structure design will be optimized to have thermal effects on fish eggs and larvae that are less than or equal to the current DNGS diffuser [OPG Letter, NK054-CORR-00531-00242].
- Discharge tunnel performance to be similar to the existing DNGS structure [Application for DFO Authorization]. The design of the DNNP discharge system will meet the same performance objectives as the DNGS system:
    - Discharge structure will provide enough mixing of the discharge flow with the lake water so that the maximum surface temperature rise shall not exceed 2°C above the ambient surface temperature during winter operation. This objective was designed to restrict the formation of a sinking plume during winter and thus protect Round Whitefish eggs and larvae in the area.
    - Discharge structure will prevent the development of a dynamic barrier to longshore larval drift in the “Wave zone” which was defined by a 200m strip parallel to the shoreline. This objective was designed to allow movement of larval fish in this area. [OPG Letter, CD# NK054-CORR-00531-00242]
- Excavate openings for ports of the cooling water discharge diffuser into the lake floor using a method that will minimize deleterious effects to the environment. [EIS, Section 5.3.7.2; Table 5.15-1]
- The thermal discharge will not be deleterious, or it can be mitigated such that it causes minimal harm to fish. [EIS IR 260]
- The capability of the discharge design to meet the regulatory design objectives will be confirmed through the construction licensing process of the CNSC. [EIS IR 260]
- The diffuser depth will range from 10 m at the near shore to 20 m at the offshore end. The DNNP diffuser would be oriented perpendicular to the prevailing longshore currents to optimize performance. The diffuser

Appendix C: Construction Phase

Deliverable Title: D-C-1 EPC Condenser Cooling Water Design

location (including depth) will be based on the results of further aquatic studies to determine Round Whitefish habitat utilization and higher resolution thermal plume modelling. [EIS IR 260; EIS IR 260 Resubmission]]

- The final location of the DNNP diffuser will minimize recirculation effects with the existing diffuser. [EIS IR 260]
- The diffuser design, including the orientation of the diffuser ports and the jet velocities will ensure that the effects under stagnant current conditions will be beyond the preferred depths of Round Whitefish habitat identified within the Mixing Zone. This condition will be assessed as part of the detailed design to confirm the prediction of minimal effects. [EIS IR 260]
- The once-through cooling water system will be designed to include the optimal mix of the latest in mitigative technologies and techniques that have been demonstrated to be economically achievable at the industry level. [OPG Letter, CD# NK054-CORR-00531-00190]
- An economic evaluation of constructing the intake structure at a depth of 15 m is a part of the work to be assessed prior to the submission of the construction application to the CNSC. The precise location of the structures, detailed design of the intake structures and screens, the appropriate method of excavating the subterranean tunnels, construction of the cooling water intake structure, as well as the cost to construct and install will be confirmed as part of the construction licence to the CNSC. Similarly, detailed engineering design of the diffuser tunnel, diffuser ports and construction methodology will also have to be completed together with a cost estimate. [EIS IR 137]
- In the EIS, recognition that a specific design will be prepared, and in that process, the in-design mitigation identified in the EA would be applied to address potential effects the EA had identified. The in-water intake and discharge structures would be provided as appropriate to the appropriate regulatory agencies as part of the CNSC Licence to Construct / Authorization processes. [EIS IR 220]
- If the design requirements for the DNNP intake structure were to include a specific flow rate across the surface of the intake (as identified in EIS page 5.54), the subsequent design review would be required to demonstrate that it would meet that intake flow rate requirement. The final design would be submitted for approval and subsequently installed. As part of commissioning process, the structure would be tested in the field to verify the compliance with the flow rate requirement. During operations, the design would be periodically monitored to demonstrate that it continued to meet requirements. Reporting against the appropriate Licence requirement would occur in each licence step.[EIS IR 220]
- For the once through cooling option, monitor performance of new intake (e.g., velocities and associated effects on substrates current deflection) and new discharge diffuser (discharge velocities and associated effects on substrates and current deflection; thermal plumes) during commissioning. [EIS Table 11.6-2]
- OPG will work with ECCC to ensure that the thermal modelling and assessment of climate change scenarios, using the most up to date climate change prediction parameters, as input to the detailed design requirements for the DNNP diffuser. OPG will continue to work with ECCC regarding the thermal impacts of DNNP to address their policy objectives and be in compliance with applicable Federal statutes. [EIS IR 260]
- OPG will consult ECCC regarding the development of the thermal plume model design. [OPG Letter, CD# NK054-CORR-00531-00190]
- OPG's "Thermal Plume: Potential Effects and Mitigation Options Report" (TPPEMOR) adhered to the precautionary principal in assessing Round Whitefish spawning habitat at the Darlington Site. OPG has used a conservative assumption to treat all near shore habitat as Round Whitefish spawning habitat until studies validate or disprove this assumption. As illustrated in the TPPEMOR case, if the bounding scenario (non-mitigated) DNNP diffuser was in operation the current climate regime could potentially impact 8 ha, and under a changing climate this could increase to 28 ha with localized thermal impacts that would infrequently be outside of the mixing zone. OPG has indicated that the 28 ha would be representative of the cumulative climate change effects and will use higher resolution modelling to verify this to ensure the detailed diffuser design potential thermal effects outside of the mixing zone remain acceptable under climate change scenarios. [EIS IR 260 Resubmission]
- OPG agrees with ECCC that the final effects can only be determined based on the final placement and design of the diffuser. In the TPPEMOR, OPG has identified mitigation options available to ensure that thermal impacts can be minimized to an acceptable level. These potential thermal effects will be verified by the use of

Appendix C: Construction Phase

Deliverable Title: D-C-1 EPC Condenser Cooling Water Design

higher resolution thermal discharge modelling and further aquatic studies to determine Round Whitefish habitat utilization. This work will be used to develop the design criteria to mitigate thermal effects to ensure that the detailed diffuser design is acceptable to Federal Authorities. [EIS IR 260 Resubmission] Further discussion is required amongst OPG and relevant government agencies, including ECCC, on the appropriate methodology for calculating the Maximum Weekly Average Temperature (MWAT) and Short Term Maximum. [OPG Letter, CD# NK054-CORR-00531-00190]

- [OPG] recognizes that using the precautionary approach and ECCC guidance, there is not only a need to conduct a chronic and acute exposure, as was performed for the DNNP site, but to also conduct an ongoing MWAT assessment as compared to AWT (Average Weekly Temperatures). OPG proposes to use this as a component of the more detailed assessment during the design phase that will be similar to the one conducted in this study. The current assessment was conducted on a conceptual siting design for the diffuser. During final design, a number of mitigation measures will be considered that will significantly alter the exposures as calculated in the "Thermal Plume: Potential Effects and Mitigation Options Report" (TPPEMOR). These include consideration of the actual location of the diffuser (including depth), discharge velocity (i.e., jet velocity from the diffuser ports), the number of discharge ports, port size, and orientation and the distance between ports. As a result, the current assessment represents a conceptual level assessment of potential impacts that will be refined in the detailed design stage. It is expected that once detailed design options have been developed, an iterative approach will be used to assess thermal effects and develop a final design that minimizes the potential adverse effects on Round Whitefish. [EIS IR 260] OPG will implement a robust design that may include an option of having a constant delta-temperature. The Delta T options that are selected for modelling during the detailed design phase, model inputs for temperature increases between the intake and diffuser will be assessed in order to reach agreement on the preferred design result. Any measurable increases in predicted water temperatures noted during the detailed modelling assessment that present any risk of adverse effects will be addressed iteratively during the design process to mitigate to the extent practicable. Also, as necessary, emergency operation scenarios (typically relevant during periods devoid of sensitive life-stages) can be simulated once sufficient detailed design information is available for representation in the model. [EIS IR 260]

Cooling Towers Design (Note: Not selected for CCW. See OPG Letter, CD# NK054-CORR-00531-00253):

- Should natural draft cooling towers be incorporated into the Project, the design of the cooling towers will include implementation of Good Industry Management Practices during the design and construction of the DNNP to visually screen cooling towers from selected off-site vantage points (as their visual dominance is likely to affect both the municipal planning regime and land use development patterns and opportunities in the vicinity of the DN site.) [EIS, Section 5.8.5.2 and Section 5.8.6.2; Table 5.15-1]
- Implement Good Industry Management Practice in the design and development of lighting systems that will, among other considerations (e.g., mitigation of bird strikes, navigation safety) serve to reduce, to the extent practicable, the night-time visibility of the overall site and its dominant features, including cooling towers. [EIS, Section 5.5.6.2 and Section 5.8.6.2; Table 5.15-1]
- Cooling tower option will include fish deterrents and/or other mitigation to further reduce impingement and entrainment losses. [EIS, Section 5.4.5.2 and Section 5.4.5.3].
- Locate the cooling tower intake at a minimum water depth of 10 m to decrease effects to aquatic habitat. [EIS, Section 5.3.6.2; Table 5.15-1; Application for TC Approval]
- The cooling tower option will likely have a single port diffuser at a minimum water depth of 10 m. [EIS, Section 5.3.6.2; Table 5.15-1]
- Direct all cooling tower bleed-off to appropriate treatment and not discharge to the groundwater system. Discharge is likely to ultimately be to Lake Ontario via management measures designed to accommodate sufficient volume for the system. [EIS, Section 5.3.7.2; Table 5.15-1]
- Appropriate cycles of blowdown of condenser cooling tower water will be determined during detailed design (note 4 cycles of concentration was the bounding value used in the Environmental Assessment). [EIS IR 150]

Regulation for Deleterious Substance Discharge

Appendix C: Construction Phase

Deliverable Title: D-C-1 EPC Condenser Cooling Water Design

- To ensure compliance with the Fisheries Act (section 36(3)), the design of the discharge will either demonstrate no deleterious effect from the thermal characteristics of the discharge, or OPG will seek a regulation approving the thermal effluent, pursuant to the Fisheries Act. [EIS IR 260]
- OPG will begin discussions with appropriate agencies as soon as practical respecting a regulation allowing the deleterious substance discharges from the nuclear facility. [EIS IR 260]

EA Follow-up Commitments Related To Deliverable:

- Refer to Deliverable D-P-12: Environmental Monitoring and Environmental Assessment Follow-up.

JRP Recommendations (in accordance with GOC Response) To Be Addressed By Deliverable:

- In the event that a once-through condenser cooling system is chosen for the Project, prior to the construction of in-water structures, OPG to conduct:
    - Additional impingement sampling at the existing Darlington Nuclear Generating Station to verify the 2007 results and deal with inter-year fish abundance variability and sample design inadequacies; and
    - Additional entrainment sampling at the existing Darlington Nuclear Generating Station to better establish the current conditions. [GOC Response to JRP Rec. 30; OPG Letter, CD# NK054-CORR-00531-00190]

  The program should be designed to guard against a detection limit bias by including in the analysis of entrainment losses those fish species whose larvae and eggs are captured in larval tow surveys for the seasonal period of the year in which they occur. A statistical optimization analysis will be needed to determine if there is a cost-effective entrainment survey design for round whitefish larvae. [GOC Response to Rec. 30; OPG Letter, CD# NK054-CORR-00531-00190]
- DFO will work with the CNSC, and the MNRF to develop an impingement and entrainment sampling program. The Government of Canada would also like to note that authorization under the Fisheries Act will be required prior to any lake infill taking place and commits that DFO will work with OPG to ensure that the impingement and entrainment sampling program is developed and implemented as a condition of that authorization. [GOC Response to JRP Rec.30]
- OPG to mitigate the risk of adverse effects from operation, including impingement, entrainment and thermal excursions and plumes, by locating the system intake and diffuser structures in water beyond the nearshore habitat zone. Furthermore, OPG must evaluate other mitigative technologies for the system intake, such as live fish return systems and acoustic deterrents. DFO will work with ECCC and the CNSC to determine the appropriate location for the intake and diffuser structures, and to evaluate other mitigation options for both the intake and the diffuser structures, in order to mitigate adverse effects. DFO will work with OPG to ensure implementation through its regulatory process and conditions of authorization under the Fisheries Act. [GOC Response to JRP Rec. 32; OPG Letter, CD# NK054-CORR-00531-00190]
- Prior to construction, enhanced resolution thermal plume modeling is to be conducted by OPG, taking into account possible future climate change effects. ECCC is committed to reviewing the information provided by OPG and will rely on DFO authorization for a HADD associated with the intake or outfall to ensure that OPG undertakes this modelling. DFO will work with ECCC, and CNSC to incorporate the results from the thermal plume modeling into the determination of the appropriate location for the intake and diffuser structures to mitigate adverse effects. DFO will ensure implementation through conditions of a Fisheries Act authorization. [GOC Response to JRP Rec. 34]
- In the event that a once through condenser cooling system is chosen for the project, prior to operation, OPG is to include the following in the surface water risk assessment:
    - the surface combined thermal and contaminant plume; and
    - the physical displacement effect of altered lake currents as a hazardous pulse exposure to fish species whose larvae passively drift through the area, such as lake herring, lake whitefish, emerald shiner and yellow perch.

  If the risk assessment result predicts a potential hazard then the CNSC shall convene a follow-up monitoring scoping workshop with ECCC, DFO and any other relevant authorities to develop an action plan. OPG to

Appendix C: Construction Phase

Deliverable Title: D-C-1 EPC Condenser Cooling Water Design

update a comprehensive surface water risk assessment as recommended, however an assessment of the combined thermal and contaminant plume should consider not only the surface area of the plume, but its vertical extent as well. [GOC Response to JRP Rec. 35]

- In the event that a once-through condenser cooling system is chosen for the Project, during operation, OPG is to undertake adult fish monitoring of large-bodied and small-bodied fish to confirm the effectiveness of mitigation measures and verify the predictions of no adverse thermal and physical diffuser jet effects. DFO is committed to working with OPG to develop their fish and fish habitat monitoring and follow-up program and ensuring implementation through conditions of authorization under the Fisheries Act. [GOC Response to JRP Rec. 36]
- Prior to construction, OPG to determine the total area of permanent aquatic effects from the following, to properly scale mitigation and scope follow-up monitoring:
  - the thermal plume + 2°C above ambient temperature;
  - the mixing zone and surface plume contaminants;
  - physical displacements from altered lake currents; and
  - infill and construction losses and modifications.

  GOC would further support the inclusion of cumulative effects assessment in this assessment, including the effects of impingement and entrainment and climate change. DFO is committed to working with the CNSC and OPG to ensure that any permanent aquatic habitat effects are mitigated, and appropriate habitat compensation is developed and implemented as a condition of any Fisheries Act authorization. [GOC Response to Rec. 37] Prior to construction, OPG is to: factor the algal hazard assessment into a more detailed biological evaluation of moving the intake and diffuser deeper offshore as part of planned siting studies and the cost-benefit analysis of the cooling system. [GOC Response to JRP Rec. 40; OPG Letter, CD# NK054-CORR-00531-00190] Prior to Operation, OPG is to establish an adaptive management program for algal hazard to the Project cooling water system intake that includes the setup of thresholds for further actions.

Required Closure Response (if Deliverable Status is Closed):

- On September 5, 2024, OPG submitted a letter providing Part 1 of the Fulfillment report for Commitment D-C-1.2. On November 27, 2024, OPG submitted a letter providing Part 2 of the Fulfillment report for Commitment D-C-1.2, requesting closure of commitment D-C-1.2 and D-C-1.3. [OPG letters: CD# NK054-CORR- 00531-11029 and CD# NK054-CORR-00531-11100]
- On May 27, 2025 OPG received CNSC comments on D-C-1.2/1.3. On July 8, 2025, OPG provided responses to comments from the CNSC. [CNSC Letter: CD# NK054-CORR-00531-11280; OPG Letter: NK054-CORR-00531-11281]
- On August 29, 2025, OPG received CNSC acceptance for closure of commitments D-C-1.2 and D-C-1.3. On October 24, 2025, OPG submitted a letter responding to CNSC questions on the closure letter for D-C-1.2 and D-C-1.3. [CNSC Letter: CD# NK054-CORR-00531-11387; OPG Letter: CD# NK054-CORR-00531-11424]

D-C-1.3	Evidence of OPG review and acceptance of EPC Condenser Cooling Water Design	Status: Closed

OPG Commitments to Be Addressed by Deliverable:

- None.

Required Closure Response (if Deliverable Status is Closed):

- On November 27, 2024, OPG submitted a letter providing Part 2 of the Fulfillment report for Commitment D-C-1.2, requesting closure of commitment D-C-1.2 and D-C-1.3. [OPG letter: CD# NK054-CORR-00531-11100]
- On May 27, 2025 OPG received CNSC comments on D-C-1.2/1.3. On July 8, 2025, OPG provided responses to comments from the CNSC. [CNSC Letter: CD# NK054-CORR-00531-11280, e-Doc 7526496; OPG Letter: NK054-CORR-00531-11281]

Appendix C: Construction Phase
Deliverable Title: D-C-1 EPC Condenser Cooling Water Design
• On August 29, 2025, OPG received CNSC acceptance for closure of commitments D-C-1.2 and D-C-1.3. On October 24, 2025, OPG submitted a letter responding to CNSC questions on the closure letter for D-C-1.2 and D-C-1.3. [CNSC Letter: CD# NK054-CORR-00531-11387; OPG Letter: CD# NK054-CORR-00531-11424]

Appendix C: Construction Phase
Deliverable Title: D-C-1 EPC Condenser Cooling Water Design

Number Legend

D Deliverable
P Site Preparation Phase
C Construction Phase
O Operation Phase

(e.g., D-P-3.1 = Deliverable - Site Preparation Phase - Deliverable Number)

Abbreviations and Acronyms

BATEA	Best Available Technology Economically Achievable
CCW	Condenser Cooling Water
CNSC	Canadian Nuclear Safety Commission
CSA	Canadian Standards Association
ECCC	Environment and Climate Change Canada
EIS	Environmental Impact Statement
EPC	Engineering, Procurement and Construction
GOC	Government of Canada
IR	Information Request
JRP	Joint Review Panel
LTPSA	Licence to Prepare Site Application
MNRF	Ministry of Natural Resources and Forestry
DNNP	Darlington New Nuclear Project
OPG	Ontario Power Generation
PRSL	Power Reactor Site Preparation Licence
TC	Transport Canada
TPPEMOR	Thermal Plume: Potential Effects and Mitigation Options Report

References

[Application for DFO Authorization] OPG Letter, A. Sweetnam to R. DesJardine, “Application for Authorization for Works or Undertakings Affecting Fish Habitat – Habitat File No. PE-07-1092”, CD# NK054-CORR-00539.4-00001, September 30, 2009.

[Application for TC Approval] OPG Letter, A. Sweetnam to B. Putt, “Application for Approval for Proposed Works under the Navigable Waters Protection Act”, CD# NK054-CORR-00524-00001, September 30, 2009.

[Aquatic Environment Compensation Report] OPG Letter, A. Sweetnam to JRP Chair, “OPG Update to the Joint Review Panel and Submission of the Aquatic Environment Compensation Report”, CD# NK054-CORR-00531-00131, August 30, 2010.

- Attachment 2: Aquatic Environment Compensation Report

Appendix C: Construction Phase

Deliverable Title: D-C-1 EPC Condenser Cooling Water Design

[CNSC Letter, CD# NK54-CORR-00531-00251] CNSC Letter, D. Newland to A. Sweetnam, "Submission of Revised Darlington New Nuclear Project Commitments Report", e-Doc #4088333, CD #NK54-CORR-00531-00251, February 15, 2013.

[CNSC Letter, CD# NK054-CORR-00531-00253] CNSC Letter, D. Newland to W. Robbins, "OPG Decision on the Condenser Cooling Water Option for the Darlington New Nuclear Project", e-DOC #4092040, CD# NK054-CORR-00531-00253, March 28, 2013.

[EIS] OPG Letter, A. Sweetnam to JRP Chair, "Environmental Assessment for the OPG New Nuclear at Darlington Project", CD# NK054-CORR-00531-00037, September 30, 2009.

- Enclosure: Ontario Power Generation (OPG), 2009. Environmental Impact Statement New Nuclear – Darlington Environmental Assessment, Report No. NK054-REP-07730-00029, September 2009

[EIS IR 137] OPG Letter, A. Sweetnam to JRP Chair, "OPG Response to Joint Review Panel Information Request April 28, 2010", CD# NK054-CORR-00531-00100, May 28, 2010.

[EIS IR 150] OPG Letter, A. Sweetnam to JRP Chair, "OPG Response to Joint Review Panel Information Request April 28, 2010", CD# NK054-CORR-00531-00100, May 28, 2010.

[EIS IR 202] OPG Letter, A. Sweetnam to JRP Chair, "OPG Response to Joint Review Panel Information Request June 29, 2010", CD# NK054-CORR-00531-00121, July 30, 2010.

[EIS IR 215] OPG letter, A. Sweetnam to JRP Chair, "OPG Response to Joint Review Panel Information Request July 08, 2010", CD# NK054-CORR-00531-00120, July 30, 2010.

[EIS IR 220] OPG letter, A. Sweetnam to JRP Chair, "OPG Response to Joint Review Panel Information Request July 08, 2010, CD# NK054-CORR-00531-00120", July 30, 2010.

[EIS IR 260] OPG Letter, A. Sweetnam to JRP Chair, "Response to Joint Review Panel Information Request", CD# NK054-CORR-00531-00172, November 19, 2010.

- Attachment: Thermal Plume: Potential Effects and Mitigation Options Report New Nuclear – Darlington.

[EIS IR 260 Resubmission] OPG Letter, A. Sweetnam to JRP Chair, "Response to Information Request from the Joint Review Panel December 14, 2010", CD# NK054-CORR-00531-00178, January 14, 2011.

[GOC Response to JRP Rec.] Government of Canada's Response to the Joint Review Panel Report for the Proposed Darlington New Nuclear Power Plant Project in Clarington Ontario, Doc. #1049, May 2, 2012.

[OPG 2009] OPG Letter, A. Sweetnam to JRP Chair, "OPG New Nuclear at Darlington Project – Application for a Licence to Prepare Site", CD# NK054-CORR-00531-00035, September 30, 2009.

- Attachment 1: List of Documents Submitted as Part of the Licensing Basis for the Application for a Licence to Prepare Site – 1. Ontario Power Generation (OPG), 2009. Site Evaluation for OPG New Nuclear at Darlington – Nuclear Safety Considerations, Report No. NK054-REP-01210-00008, R01, September 14, 2009.

[OPG 2013] Ontario Power Generation, Condenser Cooling Water Option Assessment Report – OPG Darlington New Nuclear Project, NK054-REP-01210-00093-R002, January 31, 2013.

[OPG Letter, CD# NK054-CORR-00531-00190] OPG Letter, A. Sweetnam to JRP Chair, "OPG Review of Recommendations Made by Government Agencies", CD# NK054-CORR-00531-00190, March 14, 2011.

Appendix C: Construction Phase

Deliverable Title: D-C-1 EPC Condenser Cooling Water Design

[OPG Letter, CD# NK054-CORR-00531-00199] OPG Letter, A. Sweetnam to JRP Chair, "OPG New Nuclear at Darlington Public Hearing – Final Written Comments," CD# NK054-CORR-00531-00199, May 20, 2011.

[OPG Letter, CD# NK054-CORR-00531-00242] OPG Letter, A. Sweetnam to D. Newland, "Conditional Acceptance for OPG's Decision on the Condenser Cooling Water Option for the Darlington New Nuclear Project", CD# NK054-CORR-00531-00242, January 7, 2013.

[CNSC Letter, CD# NK054-CORR-00531-00253] CNSC Letter, D. Newland to W. Robbins, "OPG Decision on the Condenser Cooling Water Option for the Darlington New Nuclear Project", CD# NK054-CORR-00531-00253, March 28, 2013.

Appendix C: Construction Phase

Deliverable Title: D-C-2 Non-Radiological Effluent Documentation

Licence / Regulatory Requirement:

- CNSC: Nuclear Safety and Control Act and associated regulations
- DFO: Fisheries Act
- MOE: Ontario Water Resources Act
  CNSC: REGDOC-2.9.1, Environmental Protection: Environmental Principles, Assessments and Protection Measures.

Applicable Standard:

- CSA N286-12: Management System Requirements for Nuclear Facilities
- CAN/CSA ISO 14001-15: Environmental Management Systems
- HC: Guidelines for Canadian Drinking Water Quality
- HC: Guidelines for Canadian Recreational Water Quality
- MOE: Ontario Drinking Water Standards
- MOE: Stormwater Management Planning and Design Manual, 2003

Completion Timeline:

- D-C-2.1: To be completed prior to the submission of the relevant MECP Environmental Compliance Approval Applications.

Deliverable Description:

#	Deliverables for Completion	Completion Criteria (To Who and When)	Required Response	Status
D-C-2.1	Non-Radiological Effluent Documentation	Provided to MECP, for review and acceptance, as part of the Environmental Compliance Approval applications under the Ontario Water Resources Act, Section 53 for facility / process effluents, prior to Phase A commissioning	Approval to be granted by MECP	Open
		Provided to CNSC, for review and acceptance, as part of the Environmental Compliance Approval application for facility / process effluents, prior to Phase A commissioning	To be accepted by CNSC per Protocol	
D-C-2.2	EPC Non-Radiological Effluent Permit Application	Provided to MECP, for review and acceptance, prior to the commencement of EPC proposed construction activities, as part of the Environmental Compliance Approval applications under the Ontario Water Resources Act, Section 53 for construction activity effluents. (Specific milestone to be confirmed with MECP)	Approval to be granted by MECP	Closed
D-C-2.3	Evidence of OPG review and acceptance of Non-Radiological Effluent Management Program (D-C-2.1)	Provided to CNSC, for review and acceptance, as part of the Construction Licence Application	To be accepted by CNSC per Protocol	Cancelled

Deliverable Commitment Details:

D-C-2.1	**Non-Radiological Effluent Documentation**	**Status: Open**

OPG Commitments To Be Addressed By Deliverable:

- All water impacted by conventional contaminants, discharged from any liquid effluent stream (e.g., Inactive drainage System, Demineralized Water Treatment Sumps) to the environment (via the yard drainage system or

Appendix C: Construction Phase

Deliverable Title: D-C-2 Non-Radiological Effluent Documentation

directly to Lake Ontario or Darlington Creek) will be treated as necessary to meet regulatory requirements. [EIS Section 5.3.7.2; Table 5.15-1]

- Effluent that is released during construction and operation of the nuclear facilities will comply with all legal requirements, including the requirements in section 36 of the Fisheries Act. Treatment of all effluents, as necessary, to meet applicable quality standards will be carried out before discharge to the receiving environment occurs. The actual plant releases will be characterized in the detailed engineering design. [EIS IR 18]
- The storm water management system will be designed to meet the requirements of the National Building Code applicable at the time of construction. [EIS Section 6.2.1.3]
- For conventional parameters, effluents /emissions will be minimized through the application of Best Available Technology Economically Achievable (BATEA). [OPG Letter, CD# NK054-CORR-00531-00190]
- Project effluents, including storm water, will be treated to low levels so that the Project does not contribute nutrient loadings that may increase the risk of eutrophication. Appropriate effluent criteria will be developed during the detailed design phase, after a vendor (i.e. reactor technology) has been selected and there is a better understanding of the conventional chemicals that may be released from the facility (i.e. process effluents and storm water effluents). Effluent criteria will be developed in consultation with relevant regulatory agencies, including Environment Canada. [OPG Letter, CD# NK054-CORR-00531-00190]
- Test and treat intermittent releases of Steam Generator blowdown, if necessary, to comply with appropriate criteria for surface water discharge to Lake Ontario. [EIS Section 5.3.7.2; Table 5.15-1. Note: This item is not applicable to BWRX-300 as it does not have Steam Generator
- Blowdown water from the steam generators will be treated to remove impurities and then returned to the steam/feedwater cycle for reuse. [EIS IR 27]. Note: This item is not applicable to BWRX-300 as it does not have Steam Generator
- Test and treat all effluents associated with the Service Water System and the pumphouse trash racks of the once-through cooling water system, if necessary, to comply with appropriate criteria for surface water discharges to Lake Ontario. [EIS Section 5.3.7.2; Table 5.15-1]
- If a cooling tower option chosen, bleed-off will be directed to appropriate treatment and will not discharge to the groundwater system. Discharge is likely to ultimately be to Lake Ontario via management measures designed to accommodate sufficient volume for the system. [EIS Section 5.3.7.2; Table 5.15-1] (Note: Cooling tower option was not selected for DNNP [See D-C-1.1 closure and OPG Letter, CD# NK054-CORR-00531-00253])
- Appropriate cycles of blowdown of condenser cooling tower water will be determined during detailed design (note 4 cycles of concentration was the bounding value used in the EA). [EIS IR 150] (Note: Cooling tower option was not selected for DNNP [See D-C-1.1 closure and OPG Letter, CD# NK054-CORR-00531-00253])
- All domestic sewage will be directed to the municipal wastewater treatment plant. If waste streams other than domestic sewage are to be directed to the municipal wastewater treatment plant, connections will only be made with written authorization from Durham Region and in accordance with the Sewer Use By-law in effect at that time. [EIS Section 5.3.7.2; Table 5.15-1; EIS IR 197]
- Biocides used in the condenser cooling system will be treated such that they do not have an adverse effect on the lake. [EIS IR 271]
- When information from the vendor becomes available, Health Canada advises that a comprehensive water quality assessment be undertaken that incorporates the following information: [OPG Letter, CD# NK054-CORR-00531-00190]
  - a) total dissolved solids (TDS), turbidity, pH, temperature, ammonia, total organic carbon (TOC), dissolved organic carbon (DOC) and bromide as these parameters may have an impact on drinking water treatment.
  - b) a comparison of water quality parameters with relevant provincial standards/guidelines and/or Guidelines for Canadian Dinking Water Quality and the Guidelines for Canadian Recreational Water Quality, as appropriate;
  - c) specific measures for preventing contaminants from entering surface and groundwater.
  - d) detailed information regarding specific steps taken to minimize potential impacts of contamination on source water quality.

Appendix C: Construction Phase

Deliverable Title: D-C-2 Non-Radiological Effluent Documentation

e) measures as part of the follow-up and monitoring program to ensure that the project will not impact negatively on drinking water and recreational water quality; [*Refer to Deliverable D-P-12: Environmental Monitoring and Environmental Assessment Follow-up*]

f) a discussion to determine whether the type of water treatment used and/or the capacity of the water treatment plants will be able to address the predicted or possible changes in water quality. If a risk of impact to drinking water source cannot be eliminated by treatment, Health Canada advises that the measures that will be taken to manage this risk be described.

- Storm water, service water, active liquid effluent systems and inactive liquid effluent systems draining into Lake Ontario may contain contaminants. Good Industry Management Practices (e.g., MECP: Stormwater Management Planning and Design Manual, 2003) will be implemented during all phases of the DNNP with respect to storm water management. [EIS Section 5.3.7.2; Table 5.15-1]

EA Follow-up Commitments Related to Deliverable:

- Refer to Deliverable D-P-12: Environmental Monitoring and Environmental Assessment Follow-up.

JRP Recommendation (in accordance with GOC Response) To Be Addressed By Deliverable:

- OPG to conduct a detailed assessment of predicted effluent releases from the Project. The assessment should include but not be limited to effluent quantity, concentration, points of release and a description of effluent treatment, including demonstration that the chosen option has been designed to achieve best available treatment technology and techniques economically achievable. [GOC Response to JRP Rec. 14]
- OPG to establish toxicity testing criteria and provide the test methodology and test frequency for storm water. The GOC additionally supports the application of the recommended testing for process effluents. [GOC Response to JRP Rec. 16; OPG Letter, CD# NK054-CORR-00531-00190]
- OPG to provide an assessment of the ingress and transport of contaminants in groundwater on site during successive phases of the Project as part of the Construction Licence Application. This assessment shall include consideration of the impact of wet and dry deposition of all contaminants of potential concern and gaseous emissions on groundwater quality. OPG to conduct enhanced groundwater and contaminant transport modelling for the assessment. For clarity, GOC supports enhanced groundwater and contaminant transport modelling extending to appropriate model boundaries, which may not necessarily be site boundaries. [GOC Response to JRP Rec. 17]
- OPG to develop a comprehensive assessment of hazardous substance releases and the required management practices for hazardous chemicals on site once a reactor technology has been chosen. [GOC Response to JRP Rec. 26]

D-C-2.2	EPC Non-Radiological Effluent Permit Application	Status: Closed

OPG Commitments to Be Addressed By Deliverable:

- Effluent that is released during construction (and operation) of the nuclear facilities will comply with all legal requirements, including the requirements in section 36 of the Fisheries Act. Treatment of all effluents, as necessary, to meet applicable quality standards will be carried out before discharge to the receiving environment occurs. [EIS IR 18]
- Good Industry Management Practices (e.g., MECP: Stormwater Management Planning and Design Manual, 2003) will be implemented during all phases of the DNNP with respect to storm water management. [EIS Section 5.3.7.2; Table 5.15-1]
- Project effluents, including storm water, will be treated to low levels so that the Project does not contribute nutrient loadings that may increase the risk of eutrophication. [OPG Letter, CD# NK054-CORR-00531-00190]

EA Follow-up Commitments Related to Deliverable:

- Refer to Deliverable D-P-12: Environmental Monitoring and Environmental Assessment Follow-up.

Appendix C: Construction Phase		
Deliverable Title: D-C-2 Non-Radiological Effluent Documentation		
JRP Recommendation (in accordance with GOC Response) To Be Addressed By Deliverable:		
• None.		
Required Closure Response (if Deliverable Status is Closed):		
• On September 6, 2024, OPG submitted the request for closure of commitment D-C-2.2, and on November 1, 2024, OPG received the CNSC acceptance for closure of this commitment, [OPG Letter: CD# NK054-CORR-00531-11064; CNSC Letter: CD# NK054-CORR-00531-11127]		
D-C-2.3	**Evidence of OPG review and acceptance of Non-Radiological Effluent Management Program (D-C-2.1)**	**Status: Cancelled**
OPG Commitments to Be Addressed By Deliverable:		
• None.		

Appendix C: Construction Phase

Deliverable Title: D-C-2 Non-Radiological Effluent Documentation

Number Legend

D Deliverable
P Site Preparation Phase
C Construction Phase
O Operation Phase

(e.g., D-P-3.1 = Deliverable - Site Preparation Phase - Deliverable Number)

Abbreviations and Acronyms

CNSC	Canadian Nuclear Safety Commission
CLOCA	Central Lake Ontario Conservation Authority
ECCC	Environment and Climate Change Canada
EIS	Environmental Impact Statement
EPC	Engineering, Procurement and Construction
GOC	Government of Canada
IR	Information Request
JRP	Joint Review Panel
LTPSA	Licence to Prepare Site Application
MNRF	Ministry of Natural Resources and Forestry
DNNP	Darlington New Nuclear Project
OPG	Ontario Power Generation
TC	Transport Canada

References

[EIS] OPG Letter, A. Sweetnam to JRP Chair, “Environmental Assessment for the OPG New Nuclear at Darlington Project”, CD# NK054-CORR-00531-00037, September 30, 2009.

- Enclosure: Ontario Power Generation (OPG), 2009. Environmental Impact Statement New Nuclear – Darlington Environmental Assessment, Report No. NK054-REP-07730-00029, September 2009

[EIS IR 18] OPG letter, Albert Sweetnam to JRP Chair,” OPG Response to Joint Review Panel Information Request February 3, 2010”, CD# NK054-CORR-00531-00074, March 18, 2010.

[EIS IR 27] OPG letter, Albert Sweetnam to JRP Chair,” OPG Response to Joint Review Panel Information Request February 3, 2010”, CD# NK054-CORR-00531-00074, March 18, 2010.

[EIS IR 150] OPG letter, Albert Sweetnam to JRP Chair,” OPG Response to Joint Review Panel Information Request April 28,2010”, CD# NK054-CORR-00531-00100, May 28, 2010.

[EIS IR 197] OPG letter, Albert Sweetnam to JRP Chair,” OPG Response to Joint Review Panel Information Request June 29, 2010”, CD# NK054-CORR-00531-00121, July 30, 2010.

[EIS IR 271] OPG letter, Albert Sweetnam to JRP Chair, “OPG Response to Information Requests from the Joint Review Panel November 3, 2010, and November 9, 2010”, CD# NK054-CORR-00531-00168, November 12, 2010.

Appendix C: Construction Phase

Deliverable Title: D-C-2 Non-Radiological Effluent Documentation

[GOC Response to JRP Rec.] Government of Canada's Response to the Joint Review Panel Report for the Proposed Darlington New Nuclear Power Plant Project in Clarington Ontario, Doc. #1049, May 2, 2012.

[OPG Letter, CD# NK054-CORR-00531-00190] OPG Letter, A. Sweetnam to JRP Chair, "OPG Review of Recommendations Made by Government Agencies", CD# NK054-CORR-00531-00190, March 14, 2011.

Appendix C: Construction Phase

Deliverable Title: D-C-3 Preliminary Safety Analysis and Design

Licence / Regulatory Requirement:

- CNSC - Nuclear Safety and Control Act and associated regulations
- CNSC REGDOC-2.4.1: Deterministic Safety Analysis
- CNSC REGDOC-2.5.2, Version 1: Design of Reactor Facilities: Nuclear Power Plants
- CNSC REGDOC-2.4.2: Probabilistic Safety Assessment (PSA) version 2 for Nuclear Power Plants

Applicable Standard:

- CSA N286-12: Management System Requirements for Nuclear Facilities
- CSA N288.1: Guidelines for Calculating Derived Release Limits for Radioactive Material in Airborne and Liquid Effluents for Normal Operation of Nuclear Facilities
- IEEE 1023: Recommended Practice for the Application of Human Factors Engineering to Systems, Equipment, and Facilities of Nuclear Power Generating Stations and Other Nuclear Facilities

Completion Timeline:

- To be completed prior to the submission of the Construction Licence Application.

Deliverable Description:

#	Deliverables for Completion	Closure Criteria (To Who and When)	Required Response	Status
D-C-3.1	Preliminary Safety Analysis and Design	Provide to CNSC, for review and acceptance, as part of the Construction Licence Application	To be accepted by CNSC per Protocol	Open
D-C-3.1(a)	Detailed safety assessments related to the Independent Spent Fuel Storage Installation (ISFSI) and LLW & ILW Storage	Provide to CNSC for review and acceptance as part of the Operation Licence Application	To be accepted by CNSC per Protocol	Open
D-C-3.2	Evidence of OPG review and acceptance of Preliminary Safety Analysis and demonstration that reactor design fits within Plant Parameter Envelop (PPE) values.	Provide to CNSC, for review and acceptance, as part of the Construction Licence Application	To be accepted by CNSC per Protocol	Closed

Appendix C: Construction Phase

Deliverable Title: D-C-3 Preliminary Safety Analysis and Design

Deliverable Commitment Details:

D-C-3.1 Preliminary Safety Analysis and Design **Status: Open**

OPG Commitments To Be Addressed By Deliverable:

- The limitations identified in the assessment reports will be revisited when detailed safety analysis, including probabilistic safety analysis, takes place following selection of a reactor technology. Any limitations presented by data used in studies for event analysis will be documented. [Table 6 of Aggregate Assessment Report provided in R-45].

External Hazards

- The design will ensure that all identified potential flood hazards are mitigated. [OPG 2009, Table 3.8; Table 3.9; Table 3.10; Section 3.11 and Section 6.0]
- The design of the new plant must demonstrate that it can mitigate the identified hazards to ensure that the required safety goals are met. [OPG 2009, Executive Summary]
- The plant design will consider external events such as Aircraft Hazards, Transportation – Explosion Hazards and Toxic Gas Hazards, Missile Hazards and Electromagnetic Interference Hazards in assessing impact of Accidents and Malfunctions. [OPG 2009, Section 4.3; Section 4.5; Section 4.6.1; Section 4.6.2; and Section 4.9]
- The design aspects identified and considered during the development of the site evaluation studies are based on preliminary conceptual design information. The actual design features will be specified during the detailed design stage of the project including consideration of shear wave velocity, paleoseismology, seismotectonics and seismogenic potential, seismic hazards. [OPG 2009, Executive Summary, Section 1.0]
- Design documentation will demonstrate evidence that results of the site investigation program have been taken into account in the design and safety analysis.

Plant Parameter Envelope

- After the Licence to Prepare Site is issued the vendor will demonstrate to OPG's satisfaction that the design of the facility fits within the values used in the Plant Parameter Envelope. [LTPS IR 7]
- If the Nuclear Facility is not bounded by the Plant Parameter Envelope, the Envelope will be updated and appropriate assessment of the impacts will be undertaken or the design modified, as required. [LTPSA Section 1.3]
- The precise location of the Exclusion Zone and supporting calculations will be provided with the Construction Licence Application. The selected vendor to confirm Exclusion Zone boundary/site boundary will not be greater than 500 m from the exterior of any reactor building. [LTPSA Section 1.4; OPG 2009a]

Malfunctions and Accidents

- The new reactors will comply with the REGDOC-2.5.2, Version 1 safety goals. This sets limits on the performance of the reactors with respect to accident frequency and consequences of off-site releases. Review of the preliminary safety analyses for the reactor technologies under consideration provides confidence that the REGDOC-2.5.2, Version 1 safety goals will be met. SGB Small and Large Releases were developed in order to demonstrate that the reactor designs under consideration meet the intent of the REGDOC-2.5.2, Version 1 safety goals with respect to the impact of protective measures (i.e., temporary evacuation, long term relocation) on the local population. The assessment concluded that the impact of protective measures was consistent with the intent of the safety goals. [EIS Section 7.3.2.9]
- Accordingly, where assumptions were made to support the malfunctions and accidents assessment work, these assumptions will be confirmed against the actual project features during the detailed design phase to ensure that the effects assessment is bounding. This will be further verified in submissions to the CNSC in support of the application for a construction licence for DNNP. [EIS IR 152]
- All foreseeable radiological accidents/malfunctions that are capable of causing the Project to exceed typical historical doses and the measures to prevent or to mitigate these radiological releases will be identified. This should be provided during the detailed design phase. [OPG Letter, CD# NK054-CORR-00531-00190]

Appendix C: Construction Phase

Deliverable Title: D-C-3 Preliminary Safety Analysis and Design

- Detailed safety assessments of all credible accident scenarios will be undertaken during the construction licensing approval process for the expansion of the Darlington Waste Management Facility which will manage the nuclear waste from the new reactors. [EIS IR 178]. It should be noted that the expansion of the Darlington waste management facility to support the DNNP is no longer required as the DNNP will have an Independent Fuel Storage Installation (ISFSI). A new commitment D-C-3.1(a) has been created for this deliverable and will be closed as part of the LTO application to meet the requirements of REGDOC 1.1.3, Licence Application Guide: Licence to Operate a Nuclear Power Plant.
- Detailed analysis will confirm the assumption that radionuclides are to be retained within containment for a period of 24 hours before any releases to the environment or provide rationale for a different assumption. [OPG 2009, Section 5.2.2]
- A full evaluation against safety goals will be conducted for radiological releases once detailed information is available for the selected design to support construction license application.
- With respect to two accident scenarios listed in IR 122:
    - pool fire beside stacked low level waste containers; and
    - pool fire involving intermediate level waste (a resin liner);
    - drop of a refurbishment waste container; and. Note: This scenario is not applicable to BWRX-300 as it has a sixty-year design life and refurbishment is not anticipated.
    - drop of a steam generator. Note: This scenario is not applicable to BWRX-300 as it has no Steam Generator.

  Documentation of the appropriate scenarios will be confirmed once the vendor has been selected, and detailed design has been assessed. Specific calculations will be made as part of the safety analysis which would be filed with the CNSC at the appropriate time. Details of these two assessments would become available in future at the appropriate licensing stage. [EIS IR 122]
- DNNP will be designed and operated with a Criticality Safety Program, meeting all regulatory requirements, which will ensure that inadvertent criticality is prevented both during normal operations and abnormal conditions (or credible accidents). [EIS IR 177]
- A realistic nuclear accident will be modeled to more accurately determine environmental effects and doses to workers and the public, once the reactor design has been selected. [OPG Letter, CD# NK054-CORR-00531-00190]

EA Follow-up Commitments Related to Deliverable:

- None.

JRP Recommendations (in accordance with GOC Response) To Be Addressed By Deliverable:

Appendix C: Construction Phase

Deliverable Title: D-C-3 Preliminary Safety Analysis and Design

- Prior to construction, OPG to undertake additional rail safety studies, monitor the potential effects and determine the need for mitigation associated with the Project. [GOC Response to JRP Rec. 49]
- Prior to construction, OPG will conduct a risk assessment on train derailment, jointly with the railway company. This assessment should include: [GOC Response to JRP Rec. 50; OPG Letter, CD# NK054-CORR-00531-00190]
    - an assessment of the risks associated with a derailment or other rail incident that could affect the Project.
    - an analysis of the risks associated with a security threat, such as a bomb being placed on a train running on the tracks that bisect the Project.
    - a comparative evaluation of the effectiveness of various mitigation measures or combination of measures (e.g. blast wall, retaining wall, recessed tracks, berm and railway speed restrictions within the vicinity of the site);
    - a determination of the design criteria necessary to ensure the effectiveness of these measures (e.g., the appropriate height, strength, material and design of a blast wall); and
    - a critical analysis to confirm that these measures, when properly designed and implemented, would be sufficient to provide protection to the Project site in the event of a derailment at full speed or other adverse incident.

  TC is committed to provide assistance and experience to the CNSC and other parties if required during the risk assessment and in the evaluation of any proposed mitigation measures.
- Prior to construction, OPG to undertake an assessment of the off-site effects of a severe accident. The assessment should determine if the off-site health and environmental effects considered in this EA bound the effects that could arise in the case of the selected reactor technology. [GOC Response to JRP Rec. 57]
- Prior to construction, the CNSC to confirm that dose acceptance criteria specified in REGDOC-2.5.2, Version 1 at the reactor site boundary – in the cases of design basis accidents for the Project's selected reactor technology – will be met. [GOC Response to JRP Rec. 58].
- Prior to construction, OPG to evaluate the cumulative effect of a common-cause severe accident in the site study area. The CNSC has established a task force to examine the lessons learned from the Japan Earthquake and will evaluate the operational, technical and regulatory implications of the nuclear event in Japan in relation to Canadian nuclear power plants. [GOC Response to JRP Rec. 63]

Required Closure Response (if Deliverable Status is Closed):

- On May 29, 2024, OPG submitted a letter requesting closure of commitment D-C-3.1 and on November 1, 2024, OPG received CNSC comments. [OPG Letter: CD# NK054-CORR-00531-11012; CNSC Letter: CD# NK054-CORR-00531-11137].
- On March 17, 2025 OPG provided responses to CNSC comments. On July 15, 2025 CNSC provided additional feedback. [OPG Letter: CD# NK054-CORR-00531-11204; CNSC Letter: CD# NK054-CORR-00531-11330].
- On September 11, 2025, OPG provided responses to CNSC feedback OPG Letter: CD# NK054-CORR-00531-11374]

D-C-3.1(a)	Detailed safety assessments related to the Independent Spent Fuel Storage Installation (ISFSI) and the LLW & ILW Storage	Status: Open

OPG commitments to be addressed by Deliverables

Malfunctions and Accidents

Detailed safety assessments for all credible accident scenarios related to the ISFSI and the Low and Intermediate Level Waste (LLW & ILW) Storage will be submitted as part of the LTO application.
Spent fuel from the new reactors will be stored on the DNNP site at the ISFSI in industry used dry storage casks.

EA Follow-up Commitments Related to Deliverable:

Appendix C: Construction Phase		
Deliverable Title: D-C-3 Preliminary Safety Analysis and Design		
• None		
D-C-3.2	**Evidence of OPG review and acceptance of Preliminary Safety Analysis and demonstration that reactor design fits within PPE values.**	**Status: Closed**
OPG Commitments to Be Addressed by Deliverable:		
• None.		
Required Closure Response (if Deliverable Status is Closed):		
• On May 29, 2024, OPG submitted a letter requesting closure of commitment D-C-3.2 and on November 1, 2024, OPG received acceptance for closure of Commitment D-C-3.2 [OPG Letter: CD# NK054-CORR-00531-11012; CNSC Letter: CD# NK054-CORR-00531-11137].		

Appendix C: Construction Phase

Deliverable Title: D-C-3 Preliminary Safety Analysis and Design

Number Legend

D Deliverable
P Site Preparation Phase
C Construction Phase
O Operation Phase

(e.g., D-P-3.1 = Deliverable - Site Preparation Phase - Deliverable Number)

Abbreviations and Acronyms

CNSC	Canadian Nuclear Safety Commission
CSA	Canadian Standards Association
DNGS	Darlington Nuclear Generating Station
ECCC	Environment and Climate Change Canada
EIS	Environmental Impact Statement
LTPSA	Licence to Prepare Site Application
DNNP	Darlington New Nuclear Project
OPG	Ontario Power Generation
PPE	Plant Parameter Envelop
PRSL	Power Reactor Site Preparation Licence

References

[EIS] OPG Letter, A. Sweetnam to JRP Chair, “Environmental Assessment for the OPG New Nuclear at Darlington Project”, CD# NK054-CORR-00531-00037, September 30, 2009.

- Enclosure: Ontario Power Generation (OPG), 2009. Environmental Impact Statement New Nuclear – Darlington Environmental Assessment, Report No. NK054-REP-07730-00029, September 2009

Appendix C: Construction Phase

Deliverable Title: D-C-3 Preliminary Safety Analysis and Design

[EIS IR 122] OPG letter, Albert Sweetnam to JRP Chair," OPG Response to Joint Review Panel Information Request March 29, 2010", CD# NK054-CORR-00531-00083, April 21, 2010.

[EIS IR 152] OPG Letter, Albert Sweetnam to JRP Chair," OPG Response to Joint Review Panel Information Request April 28, 2010", CD# NK054-CORR-00531-00100, May 28, 2010.

[EIS IR 177] OPG letter, Albert Sweetnam to JRP Chair," OPG Response to Joint Review Panel Information Request June 29, 2010", CD# NK054-CORR-00531-00121, July 30, 2010.

[EIS IR 178] OPG letter, Albert Sweetnam to JRP Chair," OPG Response to Joint Review Panel Information Request June 29, 2010", CD# NK054-CORR-00531-00121, July 30, 2010.

[LTPS IR 7] OPG letter, Albert Sweetnam to JRP Chair," OPG Response to Joint Review Panel Information Request February 2010", CD# NK054-CORR-00531-00069, February 25, 2010.

[LTPSA] OPG Letter, A. Sweetnam to JRP Chair, "OPG New Nuclear at Darlington Project – Application for a Licence to Prepare Site", CD# NK054-CORR-00531-00035, September 30, 2009.

- Attachment 3: Application for Licence to Prepare Site for the Future Construction of OPG New Nuclear at Darlington

[OPG 2009] OPG Letter, A. Sweetnam to JRP Chair, "OPG New Nuclear at Darlington Project – Application for a Licence to Prepare Site", CD# NK054-CORR-00531-00035, September 30, 2009.

- Attachment 1: List of Documents Submitted as Part of the Licensing Basis for the Application for a Licence to Prepare Site – 1. Ontario Power Generation (OPG), 2009. Site Evaluation for OPG New Nuclear at Darlington – Nuclear Safety Considerations, Report No. NK054-REP-01210-00008, R01, September 14, 2009.

[OPG 2009a] OPG Letter, A. Sweetnam to JRP Chair, "OPG New Nuclear at Darlington Project – Application for a Licence to Prepare Site", CD# NK054-CORR-00531-00035, September 30, 2009.

- Attachment 1: List of Documents Submitted as Part of the Licensing Basis for the Application for a Licence to Prepare Site – 3. Ontario Power Generation (OPG), 2009. Exclusion Zone Determination for Darlington New Nuclear Project, Report No. NK054-REP-01210-00003, R01, September 10, 2009

[OPG Letter, CD# NK054-CORR-00531-00190] OPG Letter, A. Sweetnam to JRP Chair, "OPG Review of Recommendations Made by Government Agencies", CD# NK054-CORR-00531-00190, March 14, 2011.

[OPG Letter, CD# NK054-CORR-00531-10530] OPG Letter, D. Townsend to C. Carrier, "DNNP – Submission of Aggregate Assessment Report and CNSC Staff's Prior Written Notification of Document Change: Darlington New Nuclear Project Commitments Report R004", CD# NK054-CORR-00531-10530, June 2020.

Appendix C: Construction Phase

Deliverable Title: D-C-4 Radiological Effluent Management Program

Licence / Regulatory Requirement:

- CNSC: Nuclear Safety and Control Act and associated regulations
- DFO: Fisheries Act
- EC: Fisheries Act, Section 36(3)
- CNSC: REGDOC-2.9.1, Environmental Protection: Environmental Principles, Assessments and Protection Measures

Applicable Standard:

- CSA N286-12: Management System Requirements for Nuclear Facilities
- CSA N288.1: Guidelines for Calculating Derived Release Limits for Radioactive Material in Airborne and Liquid Effluents for Normal Operation of Nuclear Facilities.
- CAN/CSA ISO 14001-15: Environmental Management Systems
- HC: Guidelines for Canadian Drinking Water Quality
- HC: Guidelines for Canadian Recreational Water Quality
- MOE: Ontario Drinking Water Standards

Completion Timeline:

- To be completed prior to Phase B commissioning.

Deliverable Description:

#	Deliverables for Completion	Closure Criteria (To Who and When)	Required Response	Status
D-C-4.1	Radiological Effluent Management Program / Documentation	Provided to CNSC, for review and acceptance, prior to Phase B commissioning	To be accepted by CNSC per Protocol	Open
D-C-4.2	Evidence of OPG review and acceptance of Radiological Effluent Management Program	Provided to CNSC, for review and acceptance, as part of the Construction Licence Application	To be accepted by CNSC per Protocol	Cancelled

Deliverable Commitment Details:

D-C-4.1	**Radiological Effluent Management Program / Documentation**	**Status: Open**

OPG Commitments To Be Addressed By Deliverable:

- For waterborne emissions, all the plant designs considered for the proposed site will have provisions for collection and treatment of liquid effluents prior to discharge to the lake. Additionally, there will be no direct discharge of liquid radioactive materials to groundwater. [OPG 2009, Section 5.2.1]
- The plant design will incorporate measures to mitigate accidental releases of radioactive materials to groundwater through standard engineering practices for detecting and containing leaks to meet requirements. [OPG 2009, Section 5.2.2]
- All water impacted by radioactive (or conventional contaminants), discharged from any liquid effluent stream (e.g., Inactive drainage System, Demineralized Water Treatment Sumps) to the environment (via the yard drainage system or directly to Lake Ontario or Darlington Creek) will be treated as necessary to meet regulatory requirements. [EIS Section 5.3.7.2; Table 5.15-1]
- Effluent that is released during construction and operation of the nuclear facilities will comply with all legal requirements, including the requirements in section 36 of the Fisheries Act. Treatment of all effluents, as necessary, to meet applicable quality standards will be carried out before discharge to the receiving

Appendix C: Construction Phase

Deliverable Title: D-C-4 Radiological Effluent Management Program

environment occurs. The actual plant releases will be characterized in the detailed engineering design. [EIS IR 18]

- A combination of measures will be adopted (including a ground water monitoring program) to prevent, monitor, and mitigate any potential loss of the spent fuel bay water inventory to the environment. Detailed information will be provided as part of the Construct Licence Application. [EIS IR 70]
- OPG will continue to monitor groundwater quality, particularly for radionuclides, both on the Project site and at off-site locations (as a component of the Radiological Environmental Monitoring Program) given that atmospheric deposition is the primary source of tritium in groundwater. [OPG Letter, CD# NK054-CORR-00531-00190]
- If the tritium standard in drinking water is lowered, OPG will need to be able to meet this requirement. When information from the vendor becomes available, Health Canada advises that a comprehensive water quality assessment be undertaken that incorporates the following information: [OPG Letter, CD# NK054-CORR-00531-00190]

  a) total dissolved solids (TDS), turbidity, pH, temperature, ammonia, total organic carbon (TOC), dissolved organic carbon (DOC) and bromide as these parameters may have an impact on drinking water treatment.
  b) a comparison of water quality parameters with relevant provincial standards/guidelines and/or Guidelines for Canadian Dinking Water Quality and the Guidelines for Canadian Recreational Water Quality, as appropriate;
  c) specific measures for preventing contaminants from entering surface and groundwater.
  d) detailed information regarding specific steps taken to minimize potential impacts of contamination on source water quality.
  e) measures as part of the follow-up and monitoring program to ensure that the project will not impact negatively on drinking water and recreational water quality; [*Refer to Deliverable D-P-12: Environmental Monitoring and Environmental Assessment Follow-up*]
  f) a discussion to determine whether the type of water treatment used and/or the capacity of the water treatment plants will be able to address the predicted or possible changes in water quality. If a risk of impact to drinking water source cannot be eliminated by treatment, Health Canada advises that the measures that will be taken to manage this risk be described.

- During refurbishment or maintenance activities, all liquid effluents from the Radiological Liquid Waste Management System and inactive drainage systems will be treated, and adequate flow will be maintained through the discharge system, to ensure that regulatory requirements are met for release to the environment. [EIS Section 5.3.7.2; Table 5.15-1]. Note: This scenario is not applicable to BWRX-300 as it has a sixty-year design life and refurbishment is not anticipated.
- OPG will work to develop an agreement with local and provincial stakeholders regarding the level of notification required when an abnormal tritium emission has occurred, or is occurring, that may result in higher-than-normal levels of tritium in the drinking water. The level for notification and action will be specific to the plant design, taking into consideration the potential for impact on the local drinking water supply plants. [EIS IR 167]

EA Follow-up Commitments Related to Deliverable:

- Refer to Deliverable D-P-12: Environmental Monitoring and Environmental Assessment Follow-up.

JRP Recommendations (in accordance with GOC Response) To Be Addressed By Deliverable:

- OPG to conduct a detailed assessment of predicted effluent releases from the Project. The assessment should include but not be limited to effluent quantity, concentration, points of release and a description of effluent treatment, including demonstration that the chosen option has been designed to achieve best available treatment technology and techniques economically achievable. [GOC Response to JRP Rec. 14]
- OPG to provide an assessment of the ingress and transport of contaminants in groundwater on site during successive phases of the Project as part of the Construction Licence Application. This assessment shall include consideration of the impact of wet and dry deposition of all contaminants of potential concern and gaseous emissions on groundwater quality. OPG to conduct enhanced groundwater and contaminant transport

Appendix C: Construction Phase

Deliverable Title: D-C-4 Radiological Effluent Management Program

modelling for the assessment. For clarity, GOC supports enhanced groundwater and contaminant transport modelling extending to appropriate model boundaries, which may not necessarily be site boundaries. [GOC Response to JRP Rec. 17]

- OPG to implement measures to manage releases from the Project to safeguard drinking water; however, the Government of Canada notes that any proposed limits should be consistent with the tritium standards put in place by the relevant regulatory authorities. [GOC Response to JRP Rec. 54]

D-C-4.2	Evidence of OPG review and acceptance of Radiological Effluent Management Program	Status: Cancelled

OPG Commitments to Be Addressed by Deliverable:

- None.

Appendix C: Construction Phase

Deliverable Title: D-C-4 Radiological Effluent Management Program

Number Legend

D Deliverable
P Site Preparation Phase
C Construction Phase
O Operation Phase

(e.g., D-P-3.1 = Deliverable - Site Preparation Phase - Deliverable Number)

Abbreviations and Acronyms

CNSC	Canadian Nuclear Safety Commission
CSA	Canadian Standards Association
EIS	Environmental Impact Statement
GOC	Government of Canada
HC	Health Canada
IR	Information Request
JRP	Joint Review Panel
LTPSA	Licence to Prepare Site Application
MOE	Ministry of the Environment
DNNP	Darlington New Nuclear Project
OPG	Ontario Power Generation

References

[EIS] OPG Letter, A. Sweetnam to JRP Chair, “Environmental Assessment for the OPG New Nuclear at Darlington Project”, CD# NK054-CORR-00531-00037, September 30, 2009.

- Enclosure: Ontario Power Generation (OPG), 2009. Environmental Impact Statement New Nuclear – Darlington Environmental Assessment, Report No. NK054-REP-07730-00029, September 2009

[EIS IR 18] OPG letter, Albert Sweetnam to JRP Chair,” OPG Response to Joint Review Panel Information Request February 3, 2010”, CD# NK054-CORR-00531-00074, March 18, 2010.

[EIS IR 70] OPG letter, Albert Sweetnam to JRP Chair,” OPG Response to Joint Review Panel Information Request February 3, 2010”, CD# NK054-CORR-00531-00074, March 18, 2010.

[EIS IR 167] OPG letter, Albert Sweetnam to JRP Chair,” OPG Response to Joint Review Panel Information Request May 20, 2010”, CD# NK054-CORR-00531-00106, June 14, 2010.

[GOC Response to JRP Rec.] Government of Canada’s Response to the Joint Review Panel Report for the Proposed Darlington New Nuclear Power Plant Project in Clarington Ontario, Doc. #1049, May 2, 2012.

[OPG 2009] OPG Letter, A. Sweetnam to JRP Chair, “OPG New Nuclear at Darlington Project – Application for a Licence to Prepare Site”, CD# NK054-CORR-00531-00035, September 30, 2009.

- Attachment 1: List of Documents Submitted as Part of the Licensing Basis for the Application for a Licence to Prepare Site – 1. Ontario Power Generation (OPG), 2009. Site Evaluation for OPG New Nuclear at Darlington – Nuclear Safety Considerations, Report No. NK054-REP-01210-00008, R01, September 14, 2009.

Appendix C: Construction Phase
Deliverable Title: D-C-4 Radiological Effluent Management Program
[OPG Letter, CD# NK054-CORR-00531-00190] OPG Letter, A. Sweetnam to JRP Chair, "OPG Review of Recommendations Made by Government Agencies", CD# NK054-CORR-00531-00190, March 14, 2011.

Appendix C: Construction Phase

Deliverable Title: D-C-5 Radiological and Non-Radiological Air Emissions Documentation

Licence / Regulatory Requirement:

- CNSC: Nuclear Safety and Control Act and associated regulations
- MECP: Environmental Protection Act and O. Reg. 255/11
- CNSC: REGDOC-2.9.1, Environmental Protection: Environmental Principles, Assessments and Protection Measures

Applicable Standard:

- CSA N286-12: Management System Requirements for Nuclear Facilities
- CSA N288.1: Guidelines for Calculating Derived Release Limits for Radioactive Material in Airborne and Liquid Effluents for Normal Operation of Nuclear Facilities.
- CSA N288.4-19: Environmental Monitoring Program at Class 1 Nuclear Facilities and Uranium Mines and Mills
- CAN/CSA ISO 14001-15: Environmental Management Systems
- Canada - U.S. Air Quality Agreement (CANUSAQA)
- Federal-Provincial Committee on Air Pollution: Criteria for National Air Quality Objectives: Sulphur Dioxide, Suspended Particulates, Carbon Monoxide, Oxidants (Ozone) and Nitrogen Dioxide, 1976
- MOE: Ontario's Ambient Air Quality Criteria, 2008
- MOE: Summary of Standards and Guidelines to Support Ontario Regulation 419: Air Pollution – Local Air Quality, 2008
- MOE: Rationale for the Development of Ontario Air Standards for Acrolein, 2009
- MOE: Noise Pollution Control NPC-205

Completion Timeline:

- D-C-5.1: To be completed prior to Phase B commissioning.
- D-C-5.2: To be completed prior to the submission of the MECP Environmental Compliance Approval Application.

Deliverable Description:

#	Deliverables for Completion	Closure Criteria (To Who and When)	Required Response	Status
D-C-5.1	Radiological Air Emissions Documentation	Provided to CNSC, for review and acceptance, prior to Phase B commissioning	To be accepted by CNSC per Protocol	Open
D-C-5.2	Non-Radiological Air Emissions Documentation	Provided to MECP, for review and acceptance, as part of the Environmental Compliance Approval application under the Environmental Protection Act for facility / process air emissions, prior to Phase A commissioning.	Approval to be granted by MECP	Open
		Provided to CNSC, for review and acceptance, as part of the Environmental Compliance Approval application for facility / process air emissions, prior to Phase A commissioning	To be accepted by CNSC per Protocol	
D-C-5.2(a)	Detailed Acoustic Assessment for Operations	Provide to HC, for information, prior to Phase A commissioning.	None.	Open
		Provide to CNSC, for information, to demonstrate completion of commitment,	None.	Open

Appendix C: Construction Phase				
Deliverable Title: D-C-5 Radiological and Non-Radiological Air Emissions Documentation				
		prior to commencement of Phase A Commissioning.		
D-C-5.3	EPC Non-Radiological Air Emissions Permit Application	Provided to MECP, for review and acceptance, prior to the commencement of EPC proposed activities, as part of the Environmental Compliance Approval application under the Environmental Protection Act for construction activity air emissions. (Specific milestone to be confirmed with MECP)	Approval to be granted by MECP	Closed
D-C-5.4	Evidence of OPG review and acceptance of Radiological and Non-Radiological Air Emissions Programs (D-C-5.1 to D-C-5.2)	Provided to CNSC, for review and acceptance, as part of the Construction Licence Application	To be accepted by CNSC per Protocol.	Cancelled

Deliverable Commitment Details:

D-C-5.1	**Radiological Air Emissions Documentation**	**Status: Open**

OPG Commitments To Be Addressed By Deliverable:

- For airborne emissions, all the plant designs considered for the proposed site will have provisions for monitoring and filtration of gases, vapour, and airborne particulate generated during normal operations before release to the environment via a common exhaust stack. [OPG 2009, Section 5.2.1]
- Emissions will comply with all regulatory requirements and will be As Low As Reasonably Achievable (ALARA), taking social and economic factors into account. [EIS IR 276]
- OPG will continue to monitor groundwater quality, particularly for radionuclides, both on the Project site and at off-site locations (as a component of the REMP) given that atmospheric deposition is the primary source of tritium in groundwater. [OPG Letter, CD# NK054-CORR-00531-00190]
- OPG will work to develop an agreement with local and provincial stakeholders regarding the level of notification required when an abnormal tritium emission has occurred, or is occurring, that may result in higher-than-normal levels of tritium in the drinking water. The level for notification and action will be specific to the plant design, taking into consideration the potential for impact on the local drinking water supply plants. [EIS IR 167]

EA Follow-up Commitments Related to Deliverable:

- Refer to Deliverable D-P-12: Environmental Monitoring and Environmental Assessment Follow-up.

JRP Recommendations (in accordance with GOC Response) To be Addressed By Deliverable:

- OPG to provide an assessment of the ingress and transport of contaminants in groundwater on site during successive phases of the Project as part of the Construction Licence Application. This assessment shall include consideration of the impact of wet and dry deposition of all contaminants of potential concern (both radiological and non-radiological) and gaseous emissions on groundwater quality. OPG to conduct enhanced groundwater and contaminant transport modelling for the assessment. For clarity, GC supports enhanced groundwater and contaminant transport modelling extending to appropriate model boundaries, which may not necessarily be site boundaries. [GOC Response to JRP Rec. 17]

D-C-5.2	**Non-Radiological Air Emissions Documentation**	**Status: Open**

Appendix C: Construction Phase

Deliverable Title: D-C-5 Radiological and Non-Radiological Air Emissions Documentation

OPG Commitments To Be Addressed By Deliverable:

- The chemical emissions from the nuclear facility will be evaluated during the design process and, if necessary, the Ecological Risk Assessment and the Human Health Risk Assessment will be updated, and any identified risks or areas which require further study will be included in the Environmental Assessment Follow-up Monitoring program. [EIS IR 240 Resubmission 2]
- For conventional parameters, emissions will be minimized through the application of Best Available Technology Economically Achievable (BATEA). [OPG Letter, CD# NK054-CORR-00531-00190]
- Specific details on air emissions and a description of proposed emission reduction technologies and pollution prevention measures to be provided based on detailed design. OPG should demonstrate that the chosen options are Best Available Technology Economically Achievable (BATEA). A risk assessment on proposed residual releases should be undertaken to determine whether additional mitigation measures may be necessary. [OPG Letter, CD# NK054-CORR-00531-00190]
- Stand-by generators will be situated such that nearby residents will be shielded from noise effects by both buildings and terrain; will be housed in an acoustic shell or a building to reduce noise emissions; and will comply with the specific noise standards noted in Ontario Ministry of the Environment NPC-205. A maximum of one standby generator would be operated at one time (45 min) for testing purposes during operation. [EIS IR 54 Resubmission]
- OPG will evaluate emissions based on detailed design and file a notification, if required, as per the requirements of the Canada - U.S. Air Quality Agreement (CANUSAQA). [OPG Letter, CD# NK054-CORR-00531-00190]

EA Follow-up Commitments Related To Deliverable:

- Refer to Deliverable D-P-12: Environmental Monitoring and Environmental Assessment Follow-up.

JRP Recommendations (in accordance with GOC Response) To be Addressed By Deliverable:

- OPG to provide an assessment of the ingress and transport of contaminants in groundwater on site during successive phases of the Project as part of the Construction Licence Application. This assessment shall include consideration of the impact of wet and dry deposition of all contaminants of potential concern and gaseous emissions on groundwater quality. OPG to conduct enhanced groundwater and contaminant transport modelling for the assessment. For clarity, GC supports enhanced groundwater and contaminant transport modelling extending to appropriate model boundaries, which may not necessarily be site boundaries. [GOC Response to JRP Rec. 17]
- OPG to develop a comprehensive assessment of hazardous substance releases and the required management practices for hazardous chemicals on site once a reactor technology has been chosen. [GOC Response to JRP Rec. 26]

D-C-5.2(a)	Detailed Acoustic Assessment for Operations	Status: Open

OPG Commitments To Be Addressed By Deliverable:

- None.

EA Follow-up Commitments Related To Deliverable:

- None.

JRP Recommendations (in accordance with GOC Response) To be Addressed By Deliverable:

- OPG to develop and implement a detailed acoustic assessment. [GOC Response to JRP Rec. 9]

D-C-5.3	EPC Non-Radiological Air Emissions Permit Application	Closed

OPG Commitments To Be Addressed By Deliverable:

- For conventional parameters, emissions will be minimized through the application of Best Available Technology Economically Achievable (BATEA). [OPG Letter, CD# NK054-CORR-00531-00190]

Appendix C: Construction Phase

Deliverable Title: D-C-5 Radiological and Non-Radiological Air Emissions Documentation

EA Follow-up Commitments Related To Deliverable:

- Refer to Deliverable D-P-12: Environmental Monitoring and Environmental Assessment Follow-up.

JRP Recommendations (in accordance with GOC Response) To be Addressed By Deliverable:

None.

Required Closure Response (if Deliverable Status is Closed):

- On September 6, 2024, OPG submitted the request for closure of commitment D-C-5.3, and on November 1, 2024, OPG received the CNSC acceptance for closure of this commitment, [OPG Letter: CD# NK054-CORR-00531-11064; CNSC Letter: CD# NK054-CORR-00531-11127]
- On November 26, 2024 OPG submitted a letter responding to CNSC questions on the closure letter for D-C-5.3 [OPG Letter: NK054-CORR-00531-11150]

D-C-5.4	**Evidence of OPG review and acceptance of Radiological and Non-Radiological Air Emissions Programs (D-C-5.1 to D-C-5.2)**	**Status: Cancelled**

OPG Commitments to Be Addressed By Deliverable:

- None.

Appendix C: Construction Phase

Deliverable Title: D-C-5 Radiological and Non-Radiological Air Emissions Programs

Number Legend

D Deliverable
P Site Preparation Phase
C Construction Phase
O Operation Phase

(e.g., D-P-3.1 = Deliverable - Site Preparation Phase - Deliverable Number)

Abbreviations and Acronyms

CNSC	Canadian Nuclear Safety Commission
CSA	Canadian Standards Association
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPC	Engineering, Procurement and Construction
GOC	Government of Canada
IR	Information Request
JRP	Joint Review Panel
LTPSA	Licence to Prepare Site Application
MOE	Ministry of the Environment
DNNP	Darlington New Nuclear Project
OPG	Ontario Power Generation
REMP	Radiological Environmental Monitoring Program (Now referred to as the EMP to cover both radiological and non-radiological environmental monitoring)

References

[EIS] OPG Letter, A. Sweetnam to JRP Chair, “Environmental Assessment for the OPG New Nuclear at Darlington Project”, CD# NK054-CORR-00531-00037, September 30, 2009.

- Enclosure: Ontario Power Generation (OPG), 2009. Environmental Impact Statement New Nuclear – Darlington Environmental Assessment, Report No. NK054-REP-07730-00029, September 2009

[EIS IR 54 Resubmission] OPG Letter, A. Sweetnam to JRP Chair, “OPG Additional Responses to Joint Review Panel Information Request May 20, 2010”, CD# NK054-CORR-00531-00122, July 30, 2010.

[EIS IR 167] OPG letter, Albert Sweetnam to JRP Chair,” OPG Response to Joint Review Panel Information Request May 20, 2010”, CD# NK054-CORR-00531-00106, June 14, 2010.

[EIS IR 240 Resubmission 2] OPG letter, Albert Sweetnam to JRP Chair, “Response to Information Request from the Joint Review Panel December 14, 2010”, CD# NK054-CORR-00531-00178, January 14, 2011.

[EIS IR 276] OPG letter, Albert Sweetnam to JRP Chair, “OPG Response to Information Requests from the Joint Review Panel November 3, 2010, and November 9, 2010”, CD# NK054-CORR-00531-00168, November 12, 2010.

[GOC Response to JRP Rec.] Government of Canada’s Response to the Joint Review Panel Report for the Proposed Darlington New Nuclear Power Plant Project in Clarington Ontario, Doc. #1049, May 2, 2012.

Appendix C: Construction Phase

Deliverable Title: D-C-5 Radiological and Non-Radiological Air Emissions Programs

[OPG 2009] OPG Letter, A. Sweetnam to JRP Chair, "OPG New Nuclear at Darlington Project – Application for a Licence to Prepare Site", CD# NK054-CORR-00531-00035, September 30, 2009.

- Attachment 1: List of Documents Submitted as Part of the Licensing Basis for the Application for a Licence to Prepare Site – 1. Ontario Power Generation (OPG), 2009. Site Evaluation for OPG New Nuclear at Darlington – Nuclear Safety Considerations, Report No. NK054-REP-01210-00008, R01, September 14, 2009.

[OPG Letter, CD# NK054-CORR-00531-00190] OPG Letter, A. Sweetnam to JRP Chair, "OPG Review of Recommendations Made by Government Agencies", CD# NK054-CORR-00531-00190, March 14, 2011.

Appendix C: Construction Phase

Deliverable Title: D-C-6 Radiological Environmental Monitoring Program (REMP)

Licence / Regulatory Requirement:

- CNSC - Nuclear Safety and Control Act and associated regulations

Applicable Standard:

- CSA N288.4-19: Environmental Monitoring Program at Class 1 Nuclear Facilities and Uranium Mines and Mills

Completion Timeline:

To be completed and implemented one (1) year prior to Phase B commissioning.

Deliverable Description:

#	Deliverables for Completion	Closure Criteria (To Who and When)	Required Response	Status
D-C-6.1	Radiological Environmental Monitoring Program	Provided to CNSC, for review and acceptance, prior to implementation of the Radiological Environmental Monitoring Program (REMP implementation commences one year prior to Phase B commissioning)	To be accepted by CNSC per Protocol	Open

Deliverable Commitment Details:

D-C-6.1	Radiological Environmental Monitoring Program (REMP)	Status: Open

OPG Commitments to Be Addressed By Deliverable:

- OPG is committed to on-going environmental monitoring as part of its licensing process and thus environmental samples will continue to be collected in the future to meet the standard CSA N-288.4, Environmental Monitoring Program at Class 1 Nuclear Facilities and Uranium Mines and Mills. [EIS IR 249]
- OPG will continue to monitor groundwater quality, particularly for radionuclides, both on the Project site and at off-site locations (as a component of the REMP) given that atmospheric deposition is the primary source of tritium in groundwater. [OPG Letter, CD# NK054-CORR-00531-00190]
- Develop and implement radiological environmental monitoring program (REMP) commencing one year prior to Phase B commissioning. [EIS Table 11.6-1]
- Since the Project will increase radiological emissions, OPG will revise the existing REMP for the DNGS to address potential releases from the Project, in consultation with relevant agencies including ECCC. [OPG Letter, CD# NK054-CORR-00531-00190]
- The existing REMP will be updated to reflect revised radiological emissions and concentrations in air, soil, foods and surface and groundwater associated with the proposed project. [OPG Letter, CD# NK054-CORR-00531-00190]

EA Follow-up Commitments Related To Deliverable:

- None.

JRP Recommendations (in accordance with GOC Response) To Be Addressed By Deliverable:

- OPG to provide an assessment of the ingress and transport of contaminants in groundwater on site during successive phases of the Project as part of the Construction Licence Application. This assessment shall include consideration of the impact of wet and dry deposition of all contaminants of potential concern and gaseous emissions on groundwater quality. For clarity, GOC supports enhanced groundwater and contaminant transport modelling extending to appropriate model boundaries, which may not necessarily be site boundaries. [GOC Response to JRP Rec. 17; OPG Letter, CD# NK054-CORR-00531-00190]
- OPG to update the REMP based on the groundwater and contaminant transport modelling results. This program to include relevant residential and private groundwater well quality data in the local study area that are

Appendix C: Construction Phase

Deliverable Title: D-C-6 Radiological Environmental Monitoring Program (REMP)

not captured by the current program, especially where the modelling results identify potential critical groups based on current or future potential use of groundwater. [GOC Response to JRP Rec. 18; OPG Letter, CD# NK054-CORR-00531-00190]

Appendix C: Construction Phase

Deliverable Title: D-C-6 Radiological Environmental Monitoring Program (REMP)

Number Legend

D Deliverable
P Site Preparation Phase
C Construction Phase
O Operation Phase

(e.g., D-P-3.1 = Deliverable - Site Preparation Phase - Deliverable Number)

Abbreviations and Acronyms

CNSC	Canadian Nuclear Safety Commission
CSA	Canadian Standards Association
DNGS	Darlington Nuclear Generating Station
ECCC	Environment and Climate Change Canada
EIS	Environmental Impact Statement
GOC	Government of Canada
IR	Information Request
JRP	Joint Review Panel
LTPSA	Licence to Prepare Site Application
DNNP	Darlington New Nuclear Project
OPG	Ontario Power Generation
REMP	Radiological Environmental Monitoring program (Now referred to as the EMP to cover both radiological and non-radiological environmental monitoring)

References

[EIS] OPG Letter, A. Sweetnam to JRP Chair, “Environmental Assessment for the OPG New Nuclear at Darlington Project”, CD# NK054-CORR-00531-00037, September 30, 2009.

- Enclosure: Ontario Power Generation (OPG), 2009. Environmental Impact Statement New Nuclear – Darlington Environmental Assessment, Report No. NK054-REP-07730-00029, September 2009

[EIS IR 249] OPG letter, Albert Sweetnam to JRP Chair, ”OPG Response to Information Request from the Joint Review Panel September 16, 2010”, CD# NK054-CORR-00531-00143, September 24, 2010.

[GOC Response to JRP Rec.] Government of Canada’s Response to the Joint Review Panel Report for the Proposed Darlington New Nuclear Power Plant Project in Clarington Ontario, Doc. #1049, May 2, 2012.

[OPG Letter, CD# NK054-CORR-00531-00190] OPG Letter, A. Sweetnam to JRP Chair, “OPG Review of Recommendations Made by Government Agencies”, CD# NK054-CORR-00531-00190, March 14, 2011.

Appendix C: Construction Phase

Deliverable Title: D-C-7 Contingency Plan for Flooding and Other Extreme Weather Hazards

Licence / Regulatory Requirement:

Applicable Standard:

Completion Timeline:

- To be completed prior to construction.

Deliverable Description:

#	Deliverables for Completion	Closure Criteria (To Who and When)	Required Response	Status
D-C-7.1	Contingency Plan for Flooding and Other Extreme Weather Hazards	Provide to CNSC, for review and acceptance, prior to construction	To be accepted by CNSC per Protocol.	Closed
D-C-7.2	Evidence of OPG review and acceptance of Contingency Plan for Flooding and Other Extreme Weather Hazards	Provide to CNSC, for review and acceptance, prior to construction	To be accepted by CNSC per Protocol	Cancelled

Deliverable Commitment Details

D-C-7.1	Contingency Plan for Flooding and Other Extreme Weather Hazards	Status: Closed

OPG Commitments To Be Addressed By Deliverable:

- None.

EA Follow-up Commitments Related To Deliverable:

- None.

JRP Recommendations (in accordance with GOC Response) To Be Addressed by Deliverable:

- Prior to construction, OPG will prepare a contingency plan for the construction, operation, and decommissioning project phases, to account for uncertainties associated with flooding and other extreme weather hazards. [GOC Response to JRP Rec. 39; OPG Letter, CD# NK054-CORR-00531-00190]
- Prior to construction, OPG to conduct localized climate change modelling to confirm its conclusion of a low impact of climate change, however, if OPG uses reputable published studies to evaluate the anticipated impact of climate change for the Project area, localized climate change modelling may not be necessary. [GOC Response to JRP Rec. 39]

Required Closure Response :

- On June 6, 2024, OPG submitted a letter requesting closure of commitment D-C-7.1. On November 5, 2024, OPG received comments from the CNSC. [OPG Letter: CD# NK054-CORR-00531-10955; CNSC Letter: CD# NK054-CORR-00531-11132]
- On December 6, 2024 OPG provided a response letter requesting closure of commitment D-C-7.1. On Aug 19, 2025, OPG received CNSC acceptance for closure of D-C-7.1 [OPG Letter: CD# NK054-CORR-00531-11140; CNSC Letter: CD# NK054-CORR-00531-11359].
- On October 20, 2025, OPG provided a letter addressing residual CNSC comments [OPG letter: NK054-CORR-00531-11382]

Appendix C: Construction Phase		
Deliverable Title: D-C-7 Contingency Plan for Flooding and Other Extreme Weather Hazards		
D-C-7.2	**Evidence of OPG review and acceptance of Contingency Plan for Flooding and Other Extreme Weather Hazards**	**Status: Cancelled**
OPG Commitments To Be Addressed By Deliverable:		
• None.		

Appendix C: Construction Phase

Deliverable Title: D-C-7 Contingency Plan for Flooding and Other Extreme Weather Hazards

Number Legend

D Deliverable
P Site Preparation Phase
C Construction Phase
O Operation Phase

(e.g., D-P-3.1 = Deliverable - Site Preparation Phase - Deliverable Number)

Abbreviations and Acronyms

CNSC	Canadian Nuclear Safety Commission
DNNP	Darlington New Nuclear Project
EPC	Engineering, Procurement and Construction
GOC	Government of Canada
JRP	Joint Review Panel
OPG	Ontario Power Generation

References

[GOC Response to JRP Rec.] Government of Canada's Response to the Joint Review Panel Report for the Proposed Darlington New Nuclear Power Plant Project in Clarington Ontario, Doc. #1049, May 2, 2012.

[OPG Letter, CD# NK054-CORR-00531-00190] OPG Letter, A. Sweetnam to JRP Chair, "OPG Review of Recommendations Made by Government Agencies", CD# NK054-CORR-00531-00190, March 14, 2011.

Appendix C: Construction Phase

Deliverable Title: D-C-8 Meteorological Monitoring Station

Licence / Regulatory Requirement:

Applicable Standard:

Completion Timeline:

- To be completed prior to operation.

Deliverable Description:

#	Deliverables for Completion	Closure Criteria (To Who and When)	Required Response	Status
D-C-8.1	Meteorological Monitoring Station	Provide to CNSC, for review and acceptance, prior to operation	To be accepted by CNSC per Protocol	Closed
D-C-8.2	Evidence of OPG review and acceptance of Meteorological Monitoring Station	Provide to CNSC, for review and acceptance, prior to operation	To be accepted by CNSC per Protocol	Closed

Deliverable Commitment Details

D-C-8.1	**Meteorological Monitoring Station**	**Status: Closed**

OPG Commitments To Be Addressed By Deliverable:

- EC to be consulted regarding the design and establishment of the meteorological monitoring station and the program for monitoring lake currents and lake temperatures. [OPG Letter, CD# NK054-CORR-00531-00190]

EA Follow-up Commitments Related To Deliverable:

- None.

JRP Recommendations (in accordance with GOC Response) To Be Addressed by Deliverable:

- None.

Required Closure Response:

- On May 21, 2025, OPG submitted a letter requesting acceptance and closure of commitment D-C-8.1 and D-C-8.2. On May 22, 2025, CNSC responded requesting additional information [OPG Letter: CD# NK054-CORR-00531-11098; CNSC Letter: CD# NK054-CORR-00531-11273]
- On September 26, 2025, OPG provided additional information and requested closure of D-C-8.1 and D-C-8.2. . On November 20, 2025, OPG received CNSC acceptance for closure of commitments D-C-8.1 and D-C-8.2 [OPG Letter: CD# NK054-CORR-00531-11347; CNSC Letter: CD# NK054-CORR-00531-11474]

D-C-8.2	**Evidence of OPG review and acceptance of Meteorological Monitoring Station**	**Status: Closed**

OPG Commitments To Be Addressed By Deliverable:

- None.

Required Closure Response:

- On May 21, 2025, OPG submitted a letter requesting acceptance and closure of commitment D-C-8.1 and D-C-8.2. On May 22, 2025, CNSC responded requesting additional information [OPG Letter: CD# NK054-CORR-00531-11098; CNSC Letter: CD# NK054-CORR-00531-11273]
- On September 26, 2025, OPG provided additional information and requested closure of D-C-8.1 and D-C-8.2. . On November 20, 2025, OPG received CNSC acceptance for closure of commitments D-C-8.1 and D-C-8.2 [OPG Letter: CD# NK054-CORR-00531-11347; CNSC Letter: CD# NK054-CORR-00531-11474]

Appendix C: Construction Phase

Deliverable Title: D-C-8 Meteorological Monitoring Station

Number Legend

D Deliverable
P Site Preparation Phase
C Construction Phase
O Operation Phase

(e.g., D-P-3.1 = Deliverable - Site Preparation Phase - Deliverable Number)

Abbreviations and Acronyms

CNSC	Canadian Nuclear Safety Commission
DNNP	Darlington New Nuclear Project
EA	Environmental Assessment
EPC	Engineering, Procurement and Construction
GOC	Government of Canada
JRP	Joint Review Panel
OPG	Ontario Power Generation

References

[OPG Letter, CD# NK054-CORR-00531-00190] OPG Letter, A. Sweetnam to JRP Chair, “OPG Review of Recommendations Made by Government Agencies”, CD# NK054-CORR-00531-00190, March 14, 2011.

Appendix C: Construction Phase

Deliverable Title: D-C-9 Radioactive Waste Management Plan

Licence / Regulatory Requirement:

- CNSC - Nuclear Safety and Control Act and associated regulations

Applicable Standard:

- CSA N286-12: Management System Requirements for Nuclear Facilities
- CSA N292.3: Management of Low- and Intermediate-Level Radioactive Waste

Completion Timeline:

- To be completed as part of the submission of the Operation Licence Application.

Deliverable Description:

#	Deliverables for Completion	Closure Criteria (To Who and When)	Required Response	Status
D-C-9.1	Radioactive Waste Management Plan	Provide to CNSC, for review and acceptance, as part of the Operation Licence Application	To be accepted by CNSC per Protocol	Open

Deliverable Commitment Details:

D-C-9.1	**Radioactive Waste Management Plan**	**Status: Open**

OPG Commitments to Be Addressed by Deliverable:

- Any emissions monitoring during the storage of radioactive waste for DNNP will be undertaken to meet licensing requirements and be reported accordingly. [EIS IR 127]
- Details of specific radiological information or data on releases from any of the of the dry storage containers appropriate for the reactors being considered will be determined when the reactor technology and used fuel storage techniques are selected. The acceptability of these releases will be confirmed in safety assessments to be undertaken consistent with the CNSC Licence to Operate and which will be subject to CNSC oversight. [EIS IR 145]

EA Follow-up Commitments Related To Deliverable:

- None.

JRP Recommendations (in accordance with GOC Response) To Be Addressed By Deliverable:

- OPG to make provisions for on-site storage of all used fuel for the duration of the Project, in the event that a suitable off-site solution for the long-term management for used fuel waste is not found. GOC accepts the intent of this recommendation to the extent that it is the responsibility of waste owners for managing and funding the safe and secure operation of their own wastes. Canada's 1996 Radioactive Waste Policy Framework states that the owners of radioactive waste are responsible for developing and implementing solutions, including all costs associated with safely and securely managing their wastes. [GOC Response to JRP Rec. 52]
- OPG to make provisions for on-site storage of all of low and intermediate-level radioactive waste for the duration of the Project, in the event that a suitable off-site solution for the long-term management for this waste is not approved. GOC accepts the intent of this recommendation to the extent that it is the responsibility of waste owners for managing and funding the safe and secure operation of their own wastes, in accordance with CNSC's regulatory requirements. Canada's 1996 Radioactive Waste Policy Framework states that the owners of radioactive waste are responsible for developing and implementing solutions, including all costs associated with safely and securely managing their wastes. [GOC Response to JRP Rec. 53]

Required Closure Response (if Deliverable Status is Closed):

- On February 6, 2023, OPG submitted a Radioactive Waste Management Strategy, NK054-PLAN-03460-00001, as part of the DNNP Licence to Construction Application [OPG Letter: CD# NK054-CORR-00531-10751].

ONTARIO POWER GENERATION

Report

OPG Proprietary	
Document Number: NK054-REP-01210-00078	Usage Classification: N/A
Sheet Number: N/A	Revision: R010

Title:
DARLINGTON NEW NUCLEAR PROJECT COMMITMENTS REPORT

Appendix C: Construction Phase

Deliverable Title: D-C-9 Radioactive Waste Management Plan

Number Legend

D Deliverable
P Site Preparation Phase
C Construction Phase
O Operation Phase

(e.g., D-P-3.1 = Deliverable - Site Preparation Phase - Deliverable Number)

Abbreviations and Acronyms

CNSC	Canadian Nuclear Safety Commission
CSA	Canadian Standards Association
EIS	Environmental Impact Statement
GOC	Government of Canada
IR	Information Request
JRP	Joint Review Panel
LTPSA	Licence to Prepare Site Application
DNNP	Darlington New Nuclear Project
OPG	Ontario Power Generation

References

[EIS IR 127] OPG Letter, Albert Sweetnam to JRP Chair," OPG Response to Joint Review Panel Information Request April 28, 2010", CD# NK054-CORR-00531-00100, May 28, 2010.

[EIS IR 145] OPG Letter, Albert Sweetnam to JRP Chair," OPG Response to Joint Review Panel Information Request April 28, 2010", CD# NK054-CORR-00531-00100, May 28, 2010.

[GOC Response to JRP Rec.] Government of Canada's Response to the Joint Review Panel Report for the Proposed Darlington New Nuclear Power Plant Project in Clarington Ontario, Doc. #1049, May 2, 2012.

Appendix D: Operation Phase

Appendix D: Operation Phase

Deliverable Title: D-O-1 Radiation Protection Program

Licence / Regulatory Requirement:

- CNSC – Nuclear Safety and Control Act and associated regulations

Applicable Standard:

- CSA N286-12: Management System Requirements for Nuclear Facilities
- REGDOC-2.7.1, Radiation Protection
- REGDOC-2.7.2, Volume I, Dosimetry: Ascertaining Occupational Doses

Completion Timeline:

- To be completed prior to the receipt of fuel on site.

Deliverable Description:

#	Deliverables for Completion	Closure Criteria (To Who and When)	Required Response	Status
D-O-1.1	Radiation Protection Program	Provide to CNSC, for review and acceptance, as part of the Operation Licence Application.	To be accepted by CNSC per applicable Protocol.	Open

Deliverable Commitment Details:

D-O-1.1	Radiation Protection Program	Status: Open

OPG Commitments to Be Addressed by Deliverable:

- As required by the Radiation Protection Regulations, OPG will implement a new Radiation Protection Program for the DNNP Operation and Maintenance phase.
- As part of this program, OPG will:
    - (a) keep the effective dose and equivalent dose received by and committed to persons as low as reasonably achievable, taking into account social and economic factors, through the implementation of
        i. management control over work practices,
        ii. personnel qualification and training,
        iii. control of occupational and public exposure to radiation, and
        iv. planning for unusual situations; and
    - (b) ascertain the quantity and concentration of any nuclear substance released as a result of the licensed activity
        i. by direct measurement as a result of monitoring, or
        ii. if the time and resources required for direct measurement as a result of monitoring outweigh the usefulness of ascertaining the quantity and concentration using that method, by estimating them.

EA Follow-up Commitments Related to Deliverable:

- None.

JRP Recommendations (in accordance with GOC Response) To Be Addressed By Deliverable:

- None.

Appendix D: Operation Phase

Deliverable Title: D-O-1 Radiation Protection Program

Number Legend

D Deliverable
P Site Preparation Phase
C Construction Phase
O Operation Phase

(e.g., D-P-3.1 = Deliverable - Site Preparation Phase - Deliverable Number)

Abbreviations and Acronyms

ALARA	As Low As Reasonably Achievable
CNSC	Canadian Nuclear Safety Commission
CSA	Canadian Standards Association
EIS	Environmental Impact Statement
GOC	Government of Canada
IR	Information Request
JRP	Joint Review Panel
LTPSA	Licence to Prepare Site Application
DNNP	Darlington New Nuclear Project
OPG	Ontario Power Generation

References

[EIS] OPG Letter, A. Sweetnam to JRP Chair, “Environmental Assessment for the OPG New Nuclear at Darlington Project”, CD# NK054-CORR-00531-00037, September 30, 2009.

- Enclosure: Ontario Power Generation (OPG), 2009. Environmental Impact Statement New Nuclear – Darlington Environmental Assessment, Report No. NK054-REP-07730-00029, September 2009.

Appendix D: Operation Phase

Deliverable Title: D-O-2 Nuclear Emergency Plan

Licence / Regulatory Requirement:

- CNSC - Nuclear Safety and Control Act and associated regulations
- REGDOC-2.10.1 Nuclear Emergency Preparedness and Response, Version 2
- REGDOC-2.3.2 Accident Management, Version 2

Applicable Standard:

- CSA N286-12: Management System Requirements for Nuclear Facilities
- Ministry of Transportation: General Guidelines for the Preparation of Traffic Impact Studies, dated January 2008. (Note: This Standard is not applicable to this commitment)
- CSA N293.12 (R2017 update1): Fire Protection for Candu Nuclear Power Plants (CANDU)

Completion Timeline:

- To be completed as part of the submission of the Operation Licence Application.

Deliverable Description:

#	Deliverables for Completion	Closure Criteria (To Who and When)	Required Response	Status
D-O-2.1	Nuclear Emergency Plan	Provided to CNSC, for review and acceptance, as part of the Operation Licence Application.	To be accepted by CNSC per applicable Protocol.	Open

Deliverable Commitment Details:

D-O-2.1	Nuclear Emergency Plan	Status: Open

OPG Commitments to Be Addressed By Deliverable:

- The updates in Provincial Nuclear Emergency Response Plan (PNERP)-2009 do not change any of the conclusions of the Emergency Planning and Preparedness TSD. The suggested revisions will be incorporated in future licensing related documents. [EIS IR 185]
- OPG will have plans, programs and procedures in place at DNNP to ensure the safety of the public, workers and compliance with provincial health and safety regulations. This shall include: [EIS Section 7.2.3.5]
  - Radioactive Material Transportation Emergency Response Plan (TERP),
  - Emergency Planning
  - Radioactive Material Transportation (RMT) Program,
  - Health and Safety Plans,
  - Fire Response Plans,
  - Response Plans to Malfunctions or Accident Scenarios
- Prepare and implement an emergency program which is aligned with Darlington Nuclear Generating Station (DNGS) Emergency Response Manual and addresses the possible protective actions that may be required. [OPG 2009, Section 1.0]
- OPG's commitment to analyze the different radiological release scenarios with respect to emergency preparedness which will culminate in the development of an emergency preparedness design basis accident based on technology selection. [OPG 2009, Section1.0]
- Determine if the current nuclear emergency plans (Provincial, Regional, Municipal and OPG) comprehensively address all issues with respect to the chosen technology. This review will be both internal to OPG and external including key stakeholders involved. [OPG 2009, Section 14.0]
- DNNP Site Emergency Plan includes integrated evacuation plan in alignment with the existing DNGS Emergency Response Manual and the Consolidated Nuclear Emergency Plan. [OPG 2009, Section 6.1]
- Determine to what extent the current nuclear emergency plans (Provincial, Regional, Municipal and OPG) will require revision when the DNNP transitions to the Operation and Maintenance Phase. [OPG 2009, Section 14.0]

Appendix D: Operation Phase

Deliverable Title: D-O-2 Nuclear Emergency Plan

- DNNP will develop and implement external and conventional hazard management programs similar to those of DNGS. [OPG 2009, Section 10.0]
- The Consolidated Nuclear Emergency Plan will be revised and a newly created or revised suite of nuclear emergency plans and procedures will be addressed in detail in the operating license submission. [OPG 2009, Section 11.0 and Section 14.0]
- In recognition of the existing emergency preparedness consultative processes between OPG and its community partners, it is expected that the evacuation time estimates will be jointly reviewed and revised as required. [OPG 2009, Section 13.2]
- Emergency Protective Zones (3km Contiguous, 10 km primary and 50 km secondary) will require review to redefine or set new boundaries as part of the emergency planning process. This will require extensive stakeholder involvement and will be the final decision of the province. OPG will support provincial activities. [OPG 2009, Section 6.3]

EA Follow-up Commitments Related To Deliverable:

- Refer to Deliverable D-P-12 Environmental Monitoring and Environmental Assessment Follow-up.

JRP Recommendations (in accordance with GOC Response) To Be Addressed By Deliverable:

- None.

Appendix D: Operation Phase

Deliverable Title: D-O-2 Nuclear Emergency Plan

Number Legend

D Deliverable
P Site Preparation Phase
C Construction Phase
O Operation Phase

(e.g., D-P-3.1 = Deliverable - Site Preparation Phase - Deliverable Number)

Abbreviations and Acronyms

CNSC	Canadian Nuclear Safety Commission
CSA	Canadian Standards Association
EA	Environmental Assessment
ECCC	Environment and Climate Change Canada
EIS	Environmental Impact Statement
GOC	Government of Canada
IR	Information Request
JRP	Joint Review Panel
LTPSA	Licence to Prepare Site Application
NFPA	National Fire Protection Association
DNNP	Darlington New Nuclear Project
OPG	Ontario Power Generation
TSD	Technical Support Document

References

[EIS] OPG Letter, A. Sweetnam to JRP Chair, “Environmental Assessment for the OPG New Nuclear at Darlington Project”, CD# NK054-CORR-00531-00037, September 30, 2009.

- Enclosure: Ontario Power Generation (OPG), 2009. Environmental Impact Statement New Nuclear – Darlington Environmental Assessment, Report No. NK054-REP-07730-00029, September 2009

[EIS IR 185] OPG letter, Albert Sweetnam to JRP Chair, ”OPG Response to Joint Review Panel Information Request June 29, 2010”, CD# NK054-CORR-00531-00121, July 30, 2010.

[OPG 2009] OPG Letter, A. Sweetnam to JRP Chair, “OPG New Nuclear at Darlington Project – Application for a Licence to Prepare Site”, CD# NK054-CORR-00531-00035, September 30, 2009.

- Attachment 1: List of Documents Submitted as Part of the Licensing Basis for the Application for a Licence to Prepare Site – 2. Ontario Power Generation (OPG), 2009. Emergency Preparedness Site Evaluation for OPG New Nuclear at Darlington, Report No. NK054-REP-03490-00001, R001, August 25, 2009.

Appendix D: Operation Phase

Deliverable Title: D-O-3 Monitoring Program for Phase 4 St. Marys Cement Blasting Operations

Licence / Regulatory Requirement:

Applicable Standard:

Completion Timeline:

- To be completed prior to Operation.

Deliverable Description:

#	Deliverables for Completion	Closure Criteria (To Who and When)	Required Response	Status
D-O-3.1	Monitoring Program for Phase 4 St. Marys Blasting Operations	Provide to CNSC, for review and acceptance, prior to Operation.	To be accepted by CNSC per applicable Protocol.	Open

Deliverable Commitment Details

D-O-3.1	Monitoring Program for Phase 4 St. Marys Cement Blasting Operations	Status: Open

OPG Commitments to Be Addressed By Deliverable:

- None.

EA Follow-up Commitments Related to Deliverable:

- None.

JRP Recommendations (in accordance with GOC Response) To Be Addressed by Deliverable:

- Prior to operation, develop and implement a monitoring program for the Phase 4 St. Marys Cement blasting operations to confirm that the maximum peak ground velocity at the boundary between the Darlington and St. Marys Cement properties is below the proposed limit of three millimetres per second (mm/s). [GOC Response to JRP Rec. 38]

Appendix D: Operation Phase

Deliverable Title: D-O-3 Monitoring Program for Phase 4 St. Marys Cement Blasting Operations

Number Legend

D Deliverable
P Site Preparation Phase
C Construction Phase
O Operation Phase

(e.g., D-P-3.1 = Deliverable - Site Preparation Phase - Deliverable Number)

Abbreviations and Acronyms

CNSC	Canadian Nuclear Safety Commission
DNNP	Darlington New Nuclear Project
EA	Environmental Assessment
GOC	Government of Canada
JRP	Joint Review Panel
OPG	Ontario Power Generation

References

[GOC Response to JRP Rec.] Government of Canada's Response to the Joint Review Panel Report for the Proposed Darlington New Nuclear Power Plant Project in Clarington Ontario, Doc. #1049, May 2, 2012.

UNDERTAKING JT4.3

Undertaking

Provide the quality metric used for inform the monthly reporting on quality for DRP.

Response

The Darlington Refurbishment Program ("DRP") quality management program implemented a continuous quality oversight approach to provide additional assurance that vendor engineering, procurement, and construction activities were executed in accordance with contractual requirements, CSA N286-12, and the Applicant's Nuclear Management System. Throughout the project, an independent quality management team conducted oversight activities and reviewed supporting documentation to confirm compliance with specified requirements and assess the adequacy and effectiveness of their implementation. Observations were assessed for significance on a scale ranging from "0 - Met requirements" to "3 - Major Deficiency." Early identification of potential deficiencies enabled timely corrective action, supported continuous process improvement, and strengthened collaboration with vendors to mitigate the risk of recurrence. Where deficiencies were identified, corrective actions were assigned, tracked through to completion, and incorporated into continuous improvement efforts.

For the DRP, the primary quality performance metric used for monthly reporting was the number of Significant Quality Events ("SQEs"), tracked on both a year-to-date ("YTD") and lifetime-to-date ("LTD") basis. The applicable SQE metric and associated targets are set out in Chart 1, and the corresponding SQE categories and criteria are set out in Chart 2.

Chart 1: Significant Quality Event Metric Ratings

Significant Quality Events (SQEs)				
Quality Colour Rating	Poor	Moderate	Good	Excellent
YTD (Year-To-Date) Number of SQEs per Annum	> 5	4 – 5	2 – 3	0 – 1
LTD (Lifetime-To-Date) Average SQEs per Month	> 0.42	0.25 – 0.42	0.08 – 0.24	< 0.08

Chart 2: Significant Quality Event Categories and Criteria

#	Significant Quality Event – Categories and Criteria	Threshold
1	Rework due to quality of work, including but not limited to: - Workmanship - Wrong parts - Procedure use and adherence - Damage caused by project work - Loss of configuration control - Pressure boundary issues	SQE Cost for Billable Direct Field Labour > $1M
2	Quality issues resulting in corrective actions, including but not limited to: - NCR (Non-Conformance Reports) - NCAR (Non-Conformance Action Request) - SCR (Station Condition Record) - CAR (Corrective Action Request)	
3	At the discretion of the line organization with Director or Vice President approval	
4	Regulatory non-compliances related to Quality, including but not limited to: - CNSC (Canadian Nuclear Safety Commission) - MNRF (Ministry of Natural Resources & Forestry) - TSSA (Technical Standards & Safety Authority) - MOE (Ministry of Environment)	

The DRP quality performance is provided in undertaking Ex. JT4.5.

UNDERTAKING JT4.4

Undertaking

Provide the quality metric data discussed, from the start of the DNNP execution, consistent with the information provided for the monthly forecast accuracy factor.

Response

The quality metric for the DNNP is described in the DNNP Functional Plan - Project Controls provided at Ex. L-D2-AMPCO-088, Attachment 2, Section 9.7 and is provided in Chart 1 below beginning with April 2025.

Chart 1 - DNNP Unit 1 Monthly Quality Metric

Year	Month	Quality Metric
2025	April	Yellow
	May	Green
	June	Green
	July	Green
	August	Yellow
	September	Yellow
	October	Yellow
	November	Yellow
	December	Yellow
2026	January	Green
	February	Green
	March	Green
	April	Green

UNDERTAKING JT4.5

Undertaking

Provide the quality metric data for the DRP project, consistent with the information requested for the DNNP project, if it can't be provided explain why.

Response

For the Darlington Refurbishment Program ("DRP"), the primary quality performance metric used for monthly reporting was the number of Significant Quality Events ("SQEs"), tracked on both a year-to-date ("YTD") and lifetime-to-date ("LTD") basis. A description of the DRP quality management program and SQE quality metric is provided in Ex. JT4.3. This is a different metric than the quality metric currently being used for the Darlington New Nuclear Project ("DNNP") as described in Ex. JT4.4.

Over the course of the DRP, the independent quality management team conducted approximately thirty-thousand oversight activities and documentation reviews. A summary of the number of SQEs identified LTD per unit, and an overall unit quality rating, is provided in Chart 1 below.

Chart 1 - DRP SQEs

Unit	SQEs	Overall Rating
Unit 2	13	Moderate
Unit 3	0	Excellent
Unit 1	4	Good
Unit 4	3	Good

Given the substantial completion of the DRP within the approved budget of $12.8B and as the EB-2020-0290 OEB-approved settlement proposal provides that the OEB will review the prudence of any DRP amounts sought by OPG that are in excess of the $12.8B total, and that the execution period of the refurbishment spanned almost 10 years, monthly quality performance information consistent with the information provided in Ex. JT4.4 for the DNNP has not been provided.

Additional information on the quality performance of the DRP has been provided annually in the Darlington Refurbishment Program Annual Report in accordance with the OEB's Decision and Order in EB-2016-0152 and EB-2020-0290.

UNDERTAKING JT4.6

Undertaking

Advise of the current term of each of the DNNP LP board members and provide a brief CV or a mapping reference to any publicly available professional profile.

Response

Consistent with Ex. D2-4-9, Figure 3, the Applicants interpret this undertaking to be in respect of the members of the DNNP GP Inc. ("DNNP GP") board of directors. DNNP LP is a limited partnership and therefore does not have a board of directors. As noted at Ex. A1-4-1, p. 1, DNNP GP is managing general partner of DNNP LP.

The members of the DNNP GP board of directors do not have a defined term. A professional profile for each member of the DNNP GP board of directors is provided below. As the profiles may be considered personal information, OPG has obtained the consent from each member to provide this information.

Members	Qualification Summary
Jon Franke (Chair)	• Senior Vice President, Nuclear at OPG. • Prior experience includes Senior Vice President for the Pickering Nuclear Generating Station at OPG, Vice President Power Generation at Pacific Gas & Electric, Site Vice President for Talen Energy's Susquehanna Nuclear Plant. • 36+ years of experience in a variety of power generation leadership roles including Station System Engineering manager, Project Management, Control Room Supervisor, Design Control Manager, Engineering Director, Plant General Manager, Director Site Operations and Senior Vice President Fleet Operations. • Graduated from the United States Naval Academy with a BS in Mechanical Engineering and has held a Senior Reactor License from the US Nuclear Reactor Commission. • MS Mechanical Engineering from the University of Maryland and an MBA with a utility focus from the University of North Carolina Wilmington.
Chris Cunningham	• Vice President Major Projects Small Modular Reactors at OPG. • 30+ years experience working within Nuclear, Defence and Infrastructure sectors. With over 25 years of major project delivery experience, has led various Joint Ventures and Engineering consultancies Holds a Chartered Electrical Engineer designation and an Honours Degree in Electrical and Electronic Engineering from the University of Salford.

Members	Qualification Summary
Omar Masud	• Managing Director, Deputy Treasurer at OPG. • Serves on the board of directors of several OPG subsidiaries, contributing financial oversight and strategic guidance across the organization's broader portfolio. • Prior experience includes roles in managing and overseeing various aspects of a Treasury function at major financial institutions. These included managing funding, interest rate risk and foreign exchange exposures at Wealthsimple; raising debt in North American, European, and Australian markets as well as managing liquidity for TD Bank; and managing trading risk at Scotiabank and Bank of Montreal. • Holds a Bachelors of Business Informatics degree from McMaster University and a Masters of Finance degree from Queen's University, and Chartered Financial Analyst ("CFA") and Financial Risk Manager ("FRM") designations.
Patrick Chabot	• Managing Director at Canada Growth Fund Investment Management ("CGFIM") where he leads the Projects and Cleantech strategies and investment streams, including related to carbon capture and sequestration, electrification and clean technologies. • 14+ years of experience in the energy sector, has extensive experience structuring complex legal transactions with diverse groups of stakeholders.
Anca Drexler	• Chief Investment Officer at Building Ontario Fund ("BOF"), leads investment strategy and oversees the fund's overall investment activities, working closely with institutional investors and public sector partners to mobilize private capital into Ontario's priority infrastructure projects. • 25+ years of experience across institutional investing, treasury and risk management. Prior to BOF held senior leadership roles at OMERS, most recently as Executive Vice-President and Head of Treasury and previously served as Chief Risk Officer at OPTrust. • Master of Mathematics from the University of Waterloo and a B.Sc. from the University of Toronto. CFA charter holder and an alumna of the Harvard Business School. • Serves on the boards of the Children's Aid Foundation of Canada and Sunnybrook Hospital Foundation's Investment Committee.

1

UNDERTAKING JT4.7

Undertaking

Confirm who the members of SMRRB are, what their roles or areas of accountability and their current terms are, and provide a brief CV or a mapping reference to any publicly available professional profile they may have.

Response

The roles and responsibilities, and terms of the Small Modular Reactor Review Board ("SMRRB") members are outlined in the SMRRB terms of reference provided in Ex. L-D2-SEC-116, Attachment 13, Sections 2.0 and 8.0, respectively. The terms for the current members of the SMRRB are as follows:

- David A. Christian — May 2022 – May 2028
- Saga Williams — June 2023 – June 2027
- Mark Rauckhorst — September 2024 – September 2027
- Bob Franssen — January 2026 – January 2029
- Bertrand Michoud — May 2026 – April 2029

Refer to Ex. JT3.25 for a professional profile of each member of the SMRRB.

UNDERTAKING JT4.8

Undertaking

Provide the names of the CEO's of the IPD partners, if we can provide it, if not explain why.

Response

The executives from the Non-Owner Parties that currently attend the DNNP Monthly CEO's Performance Meetings are:

- Jason Cooper – GE Vernova Hitachi Nuclear Energy
- Sandy Taylor – AtkinsRéalis Group Inc.
- Jean-Louis Servranckx – AECON Construction Group Inc.

UNDERTAKING JT4.9

Undertaking

Confirm who owns the Bowmanville switchyard.

Response

Hydro One Networks Inc. ("HONI") is the operator of the Bowmanville Switching Station under a long-term lease with OPG. The leasehold lands are located adjacent to the Darlington Nuclear Site in Clarington and HONI has full access control. All four DNNP SMR units will ultimately be connected to this Switching Station.

UNDERTAKING JT4.10

Undertaking

Confirm whether the potential dismantling of an international trade agreement such as CUSMA would be sufficient to trigger the Change in Law deferral account conditions as described.

Response

An international trade agreement such as the Canada-United States-Mexico Agreement ("CUSMA") exists outside the scope of provincial and/or federal legislation or regulatory requirements. For example, the CUSMA is overseen by the Free Trade Commission, which is a body established under the agreement comprising government representatives from Canada, United States and Mexico, rather than a provincial, federal, or regulatory body. As such, currently, costs associated with the potential dismantling of such an agreement would not be eligible for recovery through the proposed Change of Laws Deferral Accounts (OPG and DNNP). However, if provincial and/or federal legislative or regulatory changes are enacted in connection with the potential dismantling of an agreement such as the CUSMA, any resulting material cost and/or revenue impacts to OPG and/or DNNP LP would be within the scope of these proposed accounts (to the extent such impacts are not captured in another deferral and variance account).

For clarity, to the extent not eligible for an existing deferral or variance account, the Applicants expect that they would treat costs associated with the potential dismantling of an international trade agreement such as CUSMA as an unforeseen event and may seek relief for these cost impacts through an accounting order process as described in Ex. A1-3-2, Section 4.3.

UNDERTAKING JT4.11

Undertaking

Advise whether OPG hedged any portion of the SMR fuel or fuel assembly costs for 2030 or 2031.

Response

For DNNP Unit 1, the contracts are in place for the necessary supply of uranium concentrates, services for the conversion of uranium concentrates to natural uranium hexafluoride ("UF6"), enrichment services, and deconversion and fuel assemblies fabrication services expected to be required for 2030 and 2031.

Additionally, OPG has secured certain carry inventory of natural UF6 and enriched uranium which it can access starting in 2026 and 2027, respectively, for DNNP Unit 1.

The above contracts contain various pricing provisions which act as a hedging mechanism to partly mitigate the market pricing volatility for materials and services, such as balancing fixed, base-escalated, and capped spot market pricing. Refer to Ex. F2-5-1, Section 6.0 for further details regarding fuel procurement for the DNNP facilities.

UNDERTAKING JT4.12

Undertaking

Advise of the length of the period for the nuclear business interruption insurance under the policy that OPG has based the costs in the Application on.

Response

The length of the period for the nuclear business interruption insurance that forms the basis of the estimate in the Application is a 24-month indemnity period, after a 120-day waiting period deductible (refer to Ex. F4-CCC-094). The coverage would also be subject to an indemnity of $1M per day.

UNDERTAKING JT4.13

Undertaking

Provide updated versions of tables underpinning Ex. L-A1-Staff-331 reflecting the updated inflation, GRC and capital factors.

Response

Refer to Attachment 1 (Excel). Per the discussion at Tr. Tech. Conf., June 1, 2026, p. 87, line 25 to p. 88 line 2, the calculation of the inflation factor in Attachment 1 is based on updated GDP IPI data, consistent with information provided in the OEB's June 11, 2026 letter regarding 2027 inflation parameters.

UNDERTAKING JT4.14

Undertaking

Update the excel spreadsheet in OPG Exhibit I1-01-01, Attachment 1, to enable sensitivity analysis of DNNP revenue requirements for equity thickness reductions, including 1, 10, or 20 percent, and reconcile the noted $7 million hydroelectric reduction against the $4 million calculation.

Response

An updated Excel spreadsheet version of Ex. I1-1-1, Attachment 1 is provided in Attachment 1.

With respect to enabling sensitivity analysis of DNNP LP's revenue requirements to equity thickness assumptions, Attachment 1 provides this functionality. Given the expectation that DNNP LP will not be able to successfully raise non-recourse financing during the IR term in view of its risk profile (Ex. A1-4-4, Attachment 1, p. 7; Ex. L-C1-SEC-038; Ex. L-C1-EP-027; Ex. C1-1-1, Attachment 3), Attachment 1 retains the authorized ROE as the default cost rate for any hypothetical debt portion of the capital structure. This cost rate can be adjusted manually in the spreadsheet.

With respect to the $7M reduction to the 2027 hydroelectric revenue requirement calculated in Ex. L-C1-CCC-020, this amount accurately reflects the full impact of changing the proposed equity thickness for OPG from 52% to 51%. The spreadsheet in Ex. I1-1-1, Attachment 1 calculates a lower $4M reduction, due to a $2.8M income tax impact that was not reflected as a result of a circular reference in the underlying formulae. This issue has been corrected in Attachment 1.

UNDERTAKING JT4.15

Undertaking

Polar Star to confirm that their conclusion stands as presented in their Report, and if not, modify it, having considered that DNNP LP is owned by OPG, BOF, and the CGF.

Response

This response was prepared by Polar Star Advisory Services ("Polar Star")

My conclusions stand as written in my report (Ex. C1-1-1, Attachment 3) having considered the fact that DNNP LP is owned by OPG, Canada Growth Fund ("CGF") and Building Ontario Fund ("BOF"), which are all, directly or indirectly, government owned entities. Namely, my conclusion remains that I believe that there is a low to very low probability of a successful offering of investment grade non-recourse bonds by DNNP LP within 12-18 months following the in-service date of the first SMR unit for the Darlington New Nuclear Program ("DNNP").

For clarity, there are many facets as to why bond investors would not consider DNNP LP's ownership by the three government owned entities as an implicit government guarantee of DNNP LP debt, including, among others, the single project nature of any such debt, the fact that there is no assurance of ongoing 100% ownership by government owned entities, and the contrast to the explicit manner in which government guarantees are typically expressed in the energy sector in Canada. Each of these three factors is further described below.

1. **Project/Undiversified Revenue Bonds vs General Obligation Bonds**: DNNP LP is expected to be the owner of a single asset over the 12–18-month period following the in-service date of DNNP Unit 1. Failure of that asset to produce sufficient revenue to service the debt could lead to default. This is fundamentally different from: (i) general obligation bonds that may be issued by entities such as the Province of British Columbia (on behalf of BC Hydro) or the Province of Manitoba (on behalf of Manitoba Hydro) or (ii) general obligation bonds issued directly by provincially owned Hydro-Québec or the US Government owned Tennessee Valley Authority ("TVA") or the French Government owned Électricité de France ("EDF"). TVA and EDF are two of the companies referred to in the DNNP financing research report prepared by Christensen Associates (Ex. M2). Unlike DNNP LP, these latter types of entities have large, diversified portfolios of generation assets and, in many cases, transmission assets that back their corporate bond obligations.

   For example, TVA operates one of the largest vertically integrated power systems in the United States, including approximately 35 GW of generating capacity

across more than 60 generation assets and a service territory spanning seven US states.[1] Similarly, EDF is one of the world's largest energy companies, with approximately 90 GW[2] of generating capacity within its home market spanning across more than 450 production assets,[3] which collectively anchor the power grid servicing the entire country of France.

2. **No Assurance of Ongoing 100% Government Ownership**: There is no assurance that BOF and CGF will continue to hold ownership stakes in DNNP LP. Both organisations have suggested that they are catalytic investors with the intention of recycling capital. For example, the chief executive officer of BOF stated that BOF intends to recycle their investment in DNNP LP once the project is de-risked and construction is finished.[4] Similarly, CGF has highlighted that the investment terms in DNNP LP provide for flexible liquidity rights enabling investors to exit their positions post construction.[5] Thus, bond investors would not expect that DNNP LP will continue to be owned solely by government owned entities following project completion.

3. **Guarantee Precedents in Canada**: Bond investors would be aware that where a government guarantees a bond related obligation in respect of a specific energy project in Canada, there are several precedents where that guarantee is stated explicitly. For instance, federal government guarantees have been provided for hydroelectric projects including Muskrat Falls, the Labrador-Island Link, and the Maritime Link. Other examples of explicit government guarantees in the Canadian energy sector include the Hibernia Development Project as well as guarantees provided through the Canada Indigenous Loan Guarantee Program.

With multiple precedents in Canada of specific government guarantees, bond investors in DNNP LP would want sufficient certainty regarding government support for a specific project bond if they were to rely on it. Particularly with a single asset supporting debt repayment, such certainty would not be achieved by virtue of the identity of the entity's owners.

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[1] Tennessee Valley Authority, *Annual Report on Form 10-K for the Fiscal Year Ended September 30, 2025*, accessed via U.S. Securities and Exchange Commission (SEC).

[2] https://www.enerdata.net/publications/daily-energy-news/edf-france-reports-full-year-2025-results-20-drop-earnings.html

[3] https://www.edf.fr/sites/groupe/files/2026-04/2026-04-02-edf-facts-and-figures-2025.pdf (pp. 36 and 55)

[4] Michael Fedchyshyn, Chief Executive of BOF quoted in the February 26, 2026, issue of the Financial Post.

[5] CGF website (https://www.cgf-fcc.ca/en/). See "Fund Presentation; Select Investment Cases – DNNP" (p. 11)

UNDERTAKING JT4.16

Undertaking

Provide the current postings for the positions that OPG is looking to fill.

Response

As of June 10, 2026, OPG has approximately 775 regular and 200 temporary positions posted internally and/or externally. These positions support both regulated and unregulated facilities. The majority of these positions are represented by the Power Workers' Union or the Society of United Professional, with approximately 10% being management positions.

Current postings include approximately 180 different jobs, ranging from one to 104 positions. Chart 1 below provides a summary of the jobs for which there are 10 or more posted positions. OPG is currently experiencing a peak volume of postings in support for a ramp-up for major projects and cyclical hiring related to early career co-op placements. Additionally, where possible, vacancies for positions such as in engineering job categories are managed through bulk postings to facilitate a faster recruitment process and reduced time to fill as described in Ex. L-F3-SUP-013 and Ex. L-F3-SEC-172.

Chart 1: Unfilled Positions (greater than 10) by Job as of June 10, 2026

Job	Number of Unfilled Positions
Co-Op/Developmental Student College/Uni	104
Project Leader	75
Senior Technical Engineer/Officer	61
Mechanical Technician	61
Nuclear Security Officer	55
Nuclear Operator in Training	44
Electrical & Control Technician	40
Project & Control Engineer/Officer	28
Civil Maintainer	26
Mechanical Technician/Technologist	19
Assistant QA Automation Eng Developer	14
Shift Supervisor in Training	13
Senior Plant Engineer/Officer	13
ANOIT - Nuclear Operator	12
Assistant Project Leader	12
Emergency Response Maintainer	12
Production Supervisor - Technical	11
SMR Field Technician in Training	10
Training Tech - Control	10
Inspection & Maintenance Tech	10

UNDERTAKING JT4.17

Undertaking

Advise how many companies are supplying augmented staff to OPG and if these augmented staff exclusively work for OPG or also work for other companies.

Response

OPG currently has active agreements with 12 suppliers of Augmented staff, which may fluctuate throughout any given year depending on the timing of the contracts. These agreements do not restrict suppliers from providing the use of these resources to other companies. As Augmented staff are not employed by OPG, it is not possible for OPG to identify which resources are providing services to organizations besides OPG at any given time.

For completeness, Chart 1 below provides a breakdown of the regulated facilities' cost for Augmented staff (2025).

Chart 1 – Total OPG Augmented Staff Regulated Facilities' Cost 2025

Suppliers	2025 Cost ($)
Supplier A	30M
Supplier B	14M
Supplier C	12M
Supplier D	8M
Supplier E	1M
Remaining Suppliers (combined*)	<1M
Total Augmented Staff Spend	**$65.7M**

*Includes suppliers with $0 costs in 2025.

UNDERTAKING JT4.18

Undertaking

Provide a sensitivity analysis showing the impact on annual compensation costs in each year from 2026 to 2031 for every 1 percent change in annual wage escalations.

Response

The estimated annual compensation cost impact of a 1% per year difference in wage escalation assumptions for each year over the 2026 to 2031 period for OPG nuclear facilities, DNNP facilities and the regulated hydroelectric facilities, relative to the assumptions set out in Ex. L-F4-Staff-227, is provided in Charts 1-3 below. These estimates are inclusive of the estimated impact on pension costs, representing the hypothetical change in the current service cost assuming a change in the associated wage escalation assumptions for all years is reflected in the pension obligation as of the beginning of 2026.

Chart 1 – OPG Nuclear Facilities Compensation Costs 1% Wage Escalation Sensitivity (2026-2031)

$ millions	2026	2027	2028	2029	2030	2031
PWU (Effective April 1)	(11)					
Society						
Management						
Total	(27)	(41)	(56)	(74)	(89)	(106)

Chart 2 – DNNP Facilities Compensation Costs 1% Wage Escalation Sensitivity (2026-2031)

$ millions	2026	2027	2028	2029	2030	2031
PWU (Effective April 1)	(0)					
Society						
Management						
Total	(1)	(3)	(3)	(4)	(5)	(5)

Chart 3 – Regulated Hydroelectric Facilities Compensation Costs 1% Wage Escalation Sensitivity (2026-2031)

$ millions	2026	2027	2028	2029	2030	2031
PWU (Effective April 1)	(3)	[redacted]				
Society	[redacted]					
Management						
Total	(7)	(9)	(12)	(16)	(19)	(22)

UNDERTAKING JT4.19

Undertaking

Provide an estimate of how many project managers will be hired associated with regulated activity.

Response

OPG estimates that approximately 100 regular and temporary project management positions will need to be filled between 2027 and 2031 to support the regulated facilities, primarily as a result of turnover and attrition.