ONTARIO POWER GENERATION

Brian E. McGee
Vice President

Nuclear Waste Management Division

1340 Pickering Parkway, Fourth Floor, Pickering, Ontario L1V 0C4 Tel. (905) 421-9494 Ext. 3400 Fax (905) 421-2393
brian.mcgee@opg.com

June 6, 2014

File: 00216-00531 P
CD#: 00216-CORR-00531-00221
Project ID: 10-60004

Dr. Stella Swanson
Chair, Joint Review Panel
Deep Geologic Repository Project

c/o Canadian Nuclear Safety Commission
280 Slater Street
Ottawa, Ontario
K1P 5S9

Dear Dr. Swanson:

Deep Geologic Repository Project for Low and Intermediate Level Waste – Submission of Revision 1 of the DGR Project Consolidated Commitment Lists

The purpose of this letter is to provide Revision 1 of the "DGR Project Consolidated Commitment Lists", which lists the commitments made by OPG in its submissions to the Joint Review Panel process. Revision 1 includes Information Request responses up to and including Package #13. The updated report also includes commitments made by OPG's representatives at the various technical information sessions and the Public Hearing.

The attachment contains the DGR Project Consolidated Commitment Lists, NWMO DGR-TR-2013-02.

If you have questions on the above, please Mr. Allan Webster, Director, Nuclear Regulatory Affairs, at (905) 623-6670, ext. 3326.

Sincerely,

6 June 2014

Brian E. McGee
Vice President – Nuclear Waste Management Division
Ontario Power Generation

Attach.

cc. Dr. J. Archibald – Joint Review Panel c/o CNSC (Ottawa)
Dr. G. Muecke – Joint Review Panel c/o CNSC (Ottawa)
P. Elder – CNSC (Ottawa)
D. Wilson – NWMO (Toronto)

ATTACHMENT

Attachment to OPG letter, Brian E. McGee to Dr. Stella Swanson, "Deep Geologic Repository Project for Low and Intermediate Level Waste – Submission of Revision 1 of the DGR Project Consolidated Commitment Lists"

June 6, 2014

CD#: 00216-CORR-00531-00221

DGR Project Consolidated Commitment Lists
NWMO DGR-TR-2013-02

OPG's DEEP GEOLOGIC

REPOSITORY

FOR LOW & INTERMEDIATE LEVEL WASTE

DGR Project Consolidated Commitment Lists

June 2014

Prepared by: Nuclear Waste Management Organization

NWMO DGR-TR-2013-02 R001

nwmo
NUCLEAR WASTE MANAGEMENT ORGANIZATION
SOCIÉTÉ DE GESTION DES DÉCHETS NUCLÉAIRES

OPG's DEEP GEOLOGIC

REPOSITORY

FOR LOW & INTERMEDIATE LEVEL WASTE

DGR Project Consolidated Commitment Lists

June 2014

Prepared by: Nuclear Waste Management Organization

NWMO DGR-TR-2013-02 R001

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Document History

Title:	DGR Project Consolidated Commitment Lists		
Report Number:	NWMO DGR-TR-2013-02		
Revision:	R001	**Date:**	June 2014
Prepared by:	M. Ion		
Reviewed by:	P. Gierszewski		
Approved by:	D. Wilson		

Document Revision History

Revision	Effective Date	Description of Changes
000	July 2013	Initial issue.
001	June 2014	Updated list of consolidated commitments in Section 2, Appendices A and B, to include commitments made in other OPG submissions (Table A.5), in OPG responses to Information Requests up to and including IR Package #13 (Table B.1), commitments made by OPG representatives during the Technical Information Sessions (Table B.3) and during the public hearing (Table B.5), and OPG responses to undertakings during the public hearing (Table B.6). Minor editorial corrections made to the numbering of commitments in Table A.3 and Table A.4.

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1. INTRODUCTION

The purpose of this report is to document the commitments made by Ontario Power Generation (OPG) in its submissions to the Joint Review Panel (JRP) and the Canadian Nuclear Safety Commission (CNSC) during the Regulatory Approvals phase of the Deep Geologic Repository (DGR) Project for Low and Intermediate Level Waste (L&ILW).

The report identifies all commitments made by OPG as follows:

- It includes all commitments made by OPG in its application for a Site Preparation and Construction Licence (OPG 2007), and subsequent submissions and correspondence (OPG 2011a, OPG 2011b, OPG 2011c, NWMO 2011a, OPG 2013b, OPG 2013l through OPG 2013o, OPG 2014a, OPG 2014e).
- It includes commitments made during the JRP public review process, in OPG's responses to information requests (IRs) up to and including Information Request (IR) Package #13 (OPG 2012a through OPG 2012f, OPG 2012h, OPG 2012j through OPG 2012q, OPG 2013a, OPG 2013c through OPG 2013f, OPG 2013h through OPG 2013k, OPG 2014a through OPG 2014d, OPG 2014f).
- It also includes commitments made by OPG representatives and in OPG responses to undertakings during Technical Information Sessions held on July 18, 2012 (IRI 2012a, OPG 2012g, OPG 2012i), October 11, 2012 (IRI 2012b, OPG 2012r), and March 20, 2013 (IRI 2013a, OPG 2013g), and the public hearing held from September 16 – October 11, 2013 and October 28 – 30, 2013 (IRI 2013b through IRI 2013z, OPG 2013q through OPG 2013s).
- This report does not list those submissions to the JRP and CNSC which did not include commitments.

2. CONSOLIDATED LISTS OF COMMITMENTS

For the purpose of this report, commitments are those actions committed to a regulatory body by an OPG authorized representative, or accepted by an authorized OPG representative. Commitments are made in written formal submissions to the JRP, CNSC and/or other regulatory bodies, or verbally in a regulatory public meeting/hearing context.

The detailed lists of commitments made to date by OPG are presented in the appendices of this document. The detailed commitments are shown with the wording as it appears in the source reference. Commitments made verbally at the technical information sessions and the public hearing are verbatim quotes, as documented in the transcripts. Any additional information, not part of the quotes, and provided as background information where necessary, is provided in italics.

The tables with the detailed lists of commitments are as follows:

Appendix A:

- Table A.1: Commitments in Environmental Impact Statement (EIS)
- Table A.2: Commitments in EA Follow-up Monitoring Program and in EIS Technical Support Documents (TSDs)
- Table A.3: Commitments in Preliminary Safety Report (PSR) and PSR Support Reports

- Table A.4: Commitments in Other Support Documents
- Table A.5: Commitments in Other OPG Submissions

Appendix B:

- Table B.1: Commitments in OPG Responses to JRP EIS Information Requests
- Table B.2: Commitments in OPG Responses to JRP LPSC Information Requests
- Table B.3: Commitments in OPG Statements made during the JRP Technical Information Sessions
- Table B.4: Commitments in OPG Responses to Undertakings from JRP Technical Information Sessions
- Table B.5: Commitments in OPG Statements made during the Public Hearing from September 16 - October 11, 2013 and October 28-30, 2013
- Table B.6: Commitments in OPG Responses to Undertakings during the Public Hearing from September 16 - October 11, 2013 and October 28-30, 2013

It is noted that a number of submissions to the JRP in support of the application for a Site and Construction Licence, are essentially documentation of commitments. In this regard and to avoid unnecessary repetition, the commitments from the following documents have not been listed individually in this report:

- DGR EA Follow-up Monitoring Program, NWMO DGR-TR-2011-10 (NWMO 2011b);
- Geoscientific Verification Plan, NWMO DGR-TR-2011-38 (NWMO 2014);
- Preliminary Decommissioning Plan, NWMO DGR-TR-2011-39 (NWMO and CANDESCO 2011);
- Deep Geologic Repository Project, Management System, 00216-CHAR-0001 (OPG 2013p);
- Design and Construction Phase Management System (OPG's L&ILW DGR), DGR-PD-EN-0001 (NWMO 2013);
- Attachment to OPG Letter from L. Swami to S. Swanson, Deep Geologic Repository Project for Low and Intermediate Level Waste - OPG's Responses to Recommendations from Government Agencies, CD# # 00216-CORR-00531-00205, PMD 13-P1.1V, September 12, 2013 (OPG 2013o); and
- Waste Inventory Verification Plan in Attachment C to OPG letter from L. Swami to S. Swanson, Deep Geologic Repository Project for Low and Intermediate Level Waste – Submission of Responses to Information Requests in Package #13, CD# 00216-CORR-00531-00235, May 9, 2014 (OPG 2014e).

Furthermore, the lists provided in Appendices A and B include a number of statements of actions to be undertaken by the DGR project as part of the normal evolution of the design and construction phase, as well as activities/actions to address the requirements from applicable laws and regulations. Although stated as future actions (using the verb "will" or "shall"), they are not necessarily "commitments" in that they are actions that would be undertaken as part of normal processes; however, they have been included in this report for completeness and traceability. Examples of such statements refer to clarification statements regarding the detailed description of the design or the normal engineering process, compliance statements to applicable laws and regulations, or compliance statements to OPG/NWMO governance.

The tables in the attached appendices contain many duplicate commitments (e.g., the same statement was made in multiple IRs). These have been included in this report for completeness and traceability.

3. COMMITMENT MANAGEMENT

Proper identification, tracking, management and completion of commitments is required to allow project staff to:

- Meet the applicable regulatory requirements.
- Ensure a common understanding of the commitments that have been made with regulatory agencies, and the criteria for their completion.
- Ensure and demonstrate that regulatory commitments made by the DGR project 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 burden.
- 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.

Commitments described in this report will be tracked and managed in accordance with NWMO's and OPG's approved processes and procedures. The status of commitment tracking will be reported periodically to DGR project management through meetings and status reports.

Reporting to CNSC will be performed in accordance with regulatory requirements specified in the Waste Facility Construction Licence and its Licence Conditions Handbook.

4. REFERENCES

IRI. 2012a. Transcript for the Technical Information Session #1 of July 18, 2012. International Reporting Inc. to the Joint Review Panel. (CEAA Registry Doc# 702)

IRI. 2012b. Transcript for the Modelling Technical Information Session #2 of October 11, 2012. International Reporting Inc. to the Joint Review Panel. (CEAA Registry Doc# 770)

IRI. 2013a. Transcript for the Socio-Economic Technical Information Session #3 of March 20, 2013. International Reporting Inc. to the Joint Review Panel. (CEAA Registry Doc# 921)

IRI. 2013b. DGR Hearing Transcript Volume 1, September 16, 2013. International Reporting Inc. to the Joint Review Panel. (CEAA Registry Doc# 1567)

IRI. 2013c. DGR Hearing Transcript Volume 2, September 17, 2013. International Reporting Inc. to the Joint Review Panel. (CEAA Registry Doc# 1571)

IRI. 2013d. DGR Hearing Transcript Volume 3, September 18, 2013. International Reporting Inc. to the Joint Review Panel. (CEAA Registry Doc# 1575)

IRI. 2013e. DGR Hearing Transcript Volume 4, September 19, 2013. International Reporting Inc. to the Joint Review Panel. (CEAA Registry Doc# 1581)

IRI. 2013f. DGR Hearing Transcript Volume 5, September 20, 2013. International Reporting Inc. to the Joint Review Panel. (CEAA Registry Doc# 1588)

IRI. 2013g. DGR Hearing Transcript Volume 6, September 21, 2013. International Reporting Inc. to the Joint Review Panel. (CEAA Registry Doc# 1593)

IRI. 2013h. DGR Hearing Transcript Volume 7, September 23, 2013. International Reporting Inc. to the Joint Review Panel. (CEAA Registry Doc# 1599)

IRI. 2013i. DGR Hearing Transcript Volume 8, September 24, 2013. International Reporting Inc. to the Joint Review Panel. (CEAA Registry Doc# 1606)

IRI. 2013j. DGR Hearing Transcript Volume 9, September 25, 2013. International Reporting Inc. to the Joint Review Panel. (CEAA Registry Doc# 1611)

IRI. 2013k. DGR Hearing Transcript Volume 10, September 26, 2013. International Reporting Inc. to the Joint Review Panel. (CEAA Registry Doc# 1618)

IRI. 2013l. DGR Hearing Transcript Volume 11, September 27, 2013. International Reporting Inc. to the Joint Review Panel. (CEAA Registry Doc# 1627)

IRI. 2013m. DGR Hearing Transcript Volume 12, September 30, 2013. International Reporting Inc. to the Joint Review Panel. (CEAA Registry Doc# 1631)

IRI. 2013n. DGR Hearing Transcript Volume 13, October 1, 2013. International Reporting Inc. to the Joint Review Panel. (CEAA Registry Doc# 1646)

IRI. 2013o. DGR Hearing Transcript Volume 14, October 2, 2013. International Reporting Inc. to the Joint Review Panel. (CEAA Registry Doc# 1653)

IRI. 2013p. DGR Hearing Transcript Volume 15, October 3, 2013. International Reporting Inc. to the Joint Review Panel. (CEAA Registry Doc# 1658)

IRI. 2013q. DGR Hearing Transcript Volume 16, October 4, 2013. International Reporting Inc. to the Joint Review Panel. (CEAA Registry Doc# 1664)

IRI. 2013r. DGR Hearing Transcript Volume 17, October 5, 2013. International Reporting Inc. to the Joint Review Panel. (CEAA Registry Doc# 1671)

IRI. 2013s. DGR Hearing Transcript Volume 18, October 7, 2013. International Reporting Inc. to the Joint Review Panel. (CEAA Registry Doc# 1675)

IRI. 2013t. DGR Hearing Transcript Volume 19, October 8, 2013. International Reporting Inc. to the Joint Review Panel. (CEAA Registry Doc# 1685)

IRI. 2013u. DGR Hearing Transcript Volume 20, October 9, 2013. International Reporting Inc. to the Joint Review Panel. (CEAA Registry Doc# 1695)

IRI. 2013v. DGR Hearing Transcript Volume 21, October 10, 2013. International Reporting Inc. to the Joint Review Panel. (CEAA Registry Doc# 1699)

IRI. 2013w. DGR Hearing Transcript Volume 22, October 11, 2013. International Reporting Inc. to the Joint Review Panel. (CEAA Registry Doc# 1704)

IRI. 2013x. DGR Hearing Transcript Volume 23, October 28, 2013. International Reporting Inc. to the Joint Review Panel. (CEAA Registry Doc# 1736)

IRI. 2013y. DGR Hearing Transcript Volume 24, October 29, 2013. International Reporting Inc. to the Joint Review Panel. (CEAA Registry Doc# 1738)

IRI. 2013z. DGR Hearing Transcript Volume 25, October 30, 2013. International Reporting Inc. to the Joint Review Panel. (CEAA Registry Doc# 1741)

NWMO. 2011a. NWMO Letter from F. King to K. Klassen, OPG's DGR for L&ILW - Information in Support of the Licensing Submissions, CD# DGR-CORR-00531-0073, April 14, 2011.

NWMO. 2011b. DGR EA Follow-up Monitoring Program. Nuclear Waste Management Organization document NWMO DGR-TR-2011-10 R000. Toronto, Canada. (CEAA Registry Doc #299)

NWMO. 2013. Design and Construction Phase Management System (OPG's DGR L&ILW). NWMO document DGR-PD-EN-0001 R001. Toronto, Canada.

NWMO. 2014. Geoscientific Verification Plan. Nuclear Waste Management Organization document NWMO DGR-TR-2011-38 R001. Toronto, Canada.

NWMO and CANDESCO. 2011. Preliminary Decommissioning Plan. Nuclear Waste Management Organization document NWMO DGR-TR-2011-39 R000. Toronto, Canada. (CEAA Registry Doc #300)

OPG. 2007. OPG Letter from K.E. Nash to B. Howden, Deep Geologic Repository for Low and Intermediate Level Waste (DGR) - Application for the Site Preparation and Construction Licence, CD# 00216-CORR-00531-00033, August 13, 2007. (CEAA Registry Doc# 283)

OPG. 2011a. OPG Letter from A. Sweetnam to JRP Chair, Submission of Information in Support of OPG's Licence Application for a Deep Geologic Repository for Low and Intermediate Level Waste, CD# 00216-CORR-00531-00090, April 14, 2011. (CEAA Registry Doc# 300)

OPG. 2011b. OPG Letter from A. Sweetnam to JRP Chair, Submission of Environmental Impact Statement for a Deep Geologic Repository for Low and Intermediate Level Waste, CD# 00216-CORR-00531-00091, April 14, 2011. (CEAA Registry Doc# 298)

OPG. 2011c. OPG Letter from A. Sweetnam to D. Howard, Submission of Information on Financial Guarantee in Support of OPG's Licence Application for Low and Intermediate Level Waste Deep Geologic Repository, CD# 00216-CORR-00531-00092, April 14, 2011.

OPG. 2012a. OPG Letter from A. Sweetnam to S. Swanson, Deep Geologic Repository Project for Low and Intermediate Level Waste – Submission of Responses to Information Requests, CD# 00216-CORR-00531-00108, March 9, 2012. (CEAA Registry Doc# 363)

OPG. 2012b. OPG Letter from A. Sweetnam to S. Swanson, Deep Geologic Repository Project for Low and Intermediate Level Waste – Submission of Responses to Information Request Package #2, CD# 00216-CORR-00531-00115, June 1, 2012. (CEAA Registry Doc# 523)

OPG. 2012c. OPG Letter from A. Sweetnam to S. Swanson, Deep Geologic Repository Project for Low and Intermediate Level Waste – Response to Information Request (IR) No. EIS-02-36, CD# 00216-CORR-00531-00120, June 28, 2012. (CEAA Registry Doc# 581)

OPG. 2012d. OPG Letter from A. Sweetnam to S. Swanson, Deep Geologic Repository Project for Low and Intermediate Level Waste – Submission of Responses to Information Request (IR) Package #3, CD# 00216-CORR-00531-00117, July 9, 2012. (CEAA Registry Doc# 608)

OPG. 2012e. OPG Letter from A. Sweetnam to S. Swanson, Deep Geologic Repository Project for Low and Intermediate Level Waste – Submission of Supplementary Material to Information Request (IR) Package #1 Responses, CD# 00216-CORR-00531-00118, July 10, 2012. (CEAA Registry Doc# 606)

OPG. 2012f. OPG Letter from A. Sweetnam to S. Swanson, Deep Geologic Repository Project for Low and Intermediate Level Waste – Submission of Previously Committed Responses to Information Requests, CD# 00216-CORR-00531-00126, August 9, 2012. (CEAA Registry Doc# 681)

OPG. 2012g. OPG Letter from A. Sweetnam to S. Swanson, Deep Geologic Repository Project for Low and Intermediate Level Waste – Responses to Undertakings from Technical Information Session #1, CD# 00216-CORR-00531-00132, August 15, 2012. (CEAA Registry Doc# 692)

OPG. 2012h. OPG Letter from A. Sweetnam to S. Swanson, Deep Geologic Repository Project for Low and Intermediate Level Waste – Submission of Responses to a Sub-set of Package #4 Information Requests, CD# 00216-CORR-00531-00134, August 27, 2012. (CEAA Registry Doc# 704)

OPG. 2012i. OPG Letter from A. Sweetnam to S. Swanson, Deep Geologic Repository Project for Low and Intermediate Level Waste – Additional Responses to Undertakings from Technical Information Session #1, CD# 00216-CORR-00531-00136, August 31, 2012. (CEAA Registry Doc# 715)

OPG. 2012j. OPG Letter from A. Sweetnam to S. Swanson, Deep Geologic Repository Project for Low and Intermediate Level Waste – Submission of Responses to a Sub-set of Package #4 Information Requests, CD# 00216-CORR-00531-00138, September 6, 2012. (CEAA Registry Doc# 725)

OPG. 2012k. OPG Letter from A. Sweetnam to S. Swanson, Deep Geologic Repository Project for Low and Intermediate Level Waste – Submission of Responses to the Final Sub-set of Package #4 Information Requests, CD# 00216-CORR-00531-00143, September 28, 2012. (CEAA Registry Doc# 759)

OPG. 2012l. OPG Letter from A. Sweetnam to S. Swanson, Deep Geologic Repository Project for Low and Intermediate Level Waste – Submission of Responses to a Sub-set of Package #5 Information Requests, CD# 00216-CORR-00531-00145, October 24, 2012. (CEAA Registry Doc# 776)

OPG. 2012m. OPG Letter from A. Sweetnam to S. Swanson, Deep Geologic Repository Project for Low and Intermediate Level Waste – Acknowledgement of Package #6 Information Requests, CD# 00216-CORR-00531-00148, October 31, 2012. (CEAA Registry Doc# 795)

OPG. 2012n. OPG Letter from A. Sweetnam to S. Swanson, Deep Geologic Repository Project for Low and Intermediate Level Waste – Submission of Responses to the Final

Sub-set of Package #5 Information Requests, CD# 00216-CORR-00531-00146, November 7, 2012. (CEAA Registry Doc# 793)

OPG. 2012o. OPG Letter from A. Sweetnam to S. Swanson, Deep Geologic Repository Project for Low and Intermediate Level Waste – Submission of Responses to a Sub-set of Package #6 Information Requests, CD# 00216-CORR-00531-00152, November 29, 2012. (CEAA Registry Doc# 823)

OPG. 2012p. OPG Letter from A. Sweetnam to S. Swanson, Deep Geologic Repository Project for Low and Intermediate Level Waste - Submission of Responses to the Final Sub-set of Package #6 Information Requests, CD# 00216-CORR-00531-00153, December 12, 2012. (CEAA Registry Doc# 832)

OPG. 2012q. OPG Letter from A. Sweetnam to S. Swanson, Deep Geologic Repository Project for Low and Intermediate Level Waste – Submission of Responses to Package # 7 Information Requests, CD# 00216-CORR-00531-00151, December 20, 2012. (CEAA Registry Doc# 843)

OPG. 2012r. OPG Letter from A. Sweetnam to S. Swanson, Deep Geologic Repository Project for Low and Intermediate Level Waste – Undertakings from Technical Information Session #2, CD# 00216-CORR-00531-00154, December 20, 2012. (CEAA Registry Doc# 842)

OPG. 2013a. OPG Letter from A. Sweetnam to S. Swanson, Deep Geologic Repository Project for Low and Intermediate Level Waste – Submission of Responses to the First Sub-set of Package #8 Information Requests, CD# 00216-CORR-00531-00160, February 14, 2013. (CEAA Registry Doc# 886)

OPG. 2013b. OPG Letter from A. Sweetnam to D. Howard, Deep Geologic Repository Project for Low and Intermediate Level Waste – Submission of Revised Management System Charter and Project Execution Plan, CD# 00216-CORR-00531-00169, February 25, 2013.

OPG. 2013c. OPG Letter from A. Sweetnam to S. Swanson, Deep Geologic Repository Project for Low and Intermediate Level Waste – Submission of Responses to the Second Sub-set of Package #8 Information Requests, CD# 00216-CORR-00531-00170, February 28, 2013. (CEAA Registry Doc# 902)

OPG. 2013d. OPG Letter from W. Robbins to S. Swanson, Deep Geologic Repository Project for Low and Intermediate Level Waste – Submission of Responses to the Final Sub-set of Package #8 Information Requests, CD# 00216-CORR-00531-00171, March 15, 2013. (CEAA Registry Doc# 915)

OPG. 2013e. OPG Letter from L. Swami to S. Swanson, Deep Geologic Repository Project for Low and Intermediate Level Waste – Submission of Responses to the First Sub-set of Package #9 Information Requests, CD# 00216-CORR-00531-00178, March 28, 2013. (CEAA Registry Doc# 949)

OPG. 2013f. OPG Letter from A. Webster to S. Swanson, Deep Geologic Repository Project for Low and Intermediate Level Waste – Submission of Responses to the Second Sub-set of Package #9 Information Requests, CD# 00216-CORR-00531-00180, April 15, 2013. (CEAA Registry Doc# 957)

OPG. 2013g. OPG Letter from A. Webster to S. Swanson, Deep Geologic Repository for Low and Intermediate Level Waste – Responses to Undertakings from Technical Information Session #3, CD# 00216-CORR-00531-00184, Apr.19, 2013. (CEAA Registry Doc# 968)

OPG. 2013h. OPG Letter from A. Webster to S. Swanson, Deep Geologic Repository Project for Low and Intermediate Level Waste – Submission of Responses to the Third Sub-set of Package #9 Information Requests, CD# 00216-CORR-00531-00179, April 30, 2013. (CEAA Registry Doc# 989)

OPG. 2013i. OPG Letter from L. Swami to S. Swanson, Deep Geologic Repository Project for Low and Intermediate Level Waste – Submission of Responses to the First Sub-set of Package #10 Information Requests, CD# 00216-CORR-00531-00185, April 30, 2013. (CEAA Registry Doc# 990)

OPG. 2013j. OPG Letter from A. Webster to S. Swanson, Deep Geologic Repository Project for Low and Intermediate Level Waste – Submission of Responses to the Final Sub-set of Package #10 Information Requests, CD# 00216-CORR-00531-00187, May 10, 2013. (CEAA Registry Doc# 1048)

OPG. 2013k. OPG Letter from A. Webster to S. Swanson, Deep Geologic Repository Project for Low and Intermediate Level Waste – Submission of Responses to the Package #11 Information Requests, CD# 00216-CORR-00531-00190, June 6, 2013. (CEAA Registry Doc# 1157)

OPG. 2013l. OPG Letter from A. Webster to D. Howard, Deep Geologic Repository (DGR) Project for Low and Intermediate Level Waste – NWMO Management System Document, CD# 00216-CORR-00531-00194, July 4, 2013.

OPG. 2013m. OPG Written Submission in Support of the Public Hearing for an Environmental Assessment for Ontario Power Generation's Application to Prepare a Site and Construct a Deep Geologic Repository for Low and Intermediate Level Waste, PMD 13-P1.1A, July 23, 2013. (CEAA Registry Doc# 1246)

OPG. 2013n. OPG Letter from L. Swami to S. Swanson, Deep Geologic Repository Project for Low and Intermediate Level Waste – Announcement of an Agreement Reached Between OPG and SON, CD# 00216-CORR-00531-00208, September 9, 2013. (CEAA Registry Doc# 1543)

OPG. 2013o. Attachment to OPG Letter from L. Swami to S. Swanson, Deep Geologic Repository Project for Low and Intermediate Level Waste - OPG's Responses to Recommendations from Government Agencies, CD# 00216-CORR-00531-00205, PMD 13-P1.1V, September 12, 2013. (CEAA Registry Doc# 1560)

OPG. 2013p. Deep Geologic Repository Project, Management System. OPG document 00216-CHAR-0001 R001. Toronto, Canada. (CEAA Registry Doc# 926)

OPG. 2013q. Ontario Power Generation's Response to Undertaking 26 (U-026), September 25, 2013. (CEAA Registry Doc# 1615)

OPG. 2013r. Ontario Power Generation's Response to Undertaking 35 (U-035), September 26, 2013. (CEAA Registry Doc# 1624)

OPG. 2013s. Ontario Power Generation's Response to Undertaking 49 (U-049), October 10, 2013. (CEAA Registry Doc# 1701)

OPG. 2014a. OPG Letter from L. Swami to S. Swanson, Deep Geologic Repository Project for Low and Intermediate Level Waste – Submission of Response to Information Request

EIS-12-511, CD# 00216-CORR-00531-00220, January 30, 2014. (CEAA Registry Doc# 1792)

OPG. 2014b. OPG Letter from L. Swami to S. Swanson, Deep Geologic Repository Project for Low and Intermediate Level Waste – Submission of Response to Information Request EIS-12-510, CD# 00216-CORR-00531-00225, March 28, 2014. (CEAA Registry Doc# 1836)

OPG. 2014c. OPG Letter from L. Swami to S. Swanson, Deep Geologic Repository Project for Low and Intermediate Level Waste – Submission of Response to Information Request EIS-12a-512, CD# 00216-CORR-00531-00227, April 4, 2014. (CEAA Registry Doc# 1837)

OPG. 2014d. OPG Letter from L. Swami to S. Swanson, Deep Geologic Repository Project for Low and Intermediate Level Waste – Submission of Responses to Information Requests in Package #13, CD# 00216-CORR-00531-00235, May 9, 2014. (CEAA Registry Doc# 327)

OPG. 2014e. Waste Inventory Verification Plan (in Attachment C to OPG Letter from L. Swami to S. Swanson, Deep Geologic Repository Project for Low and Intermediate Level Waste – Submission of Responses to Information Requests in Package #13, CD# 00216-CORR-00531-00235, May 9, 2014)

OPG. 2014f. OPG Letter from B. McGee to S. Swanson, Deep Geologic Repository Project for Low and Intermediate Level Waste – Submission of Additional Information on Information Request EIS-12-511, CD# 00216-CORR-00531-00241, June 6, 2014.

5. ABBREVIATIONS AND ACRONYMS

CNSC	Canadian Nuclear Safety Commission
DEC	Decommissioning (phase)
DGR	Deep Geologic Repository
D&C	Design and Construction
EA	Environmental Assessment
EIS	Environmental Impact Statement
IR	Information Request
IRC	Information Request Commitment
JRP	Joint Review Panel
L&ILW	Low and Intermediate Level Waste
NWMO	Nuclear Waste Management Organization
OPG	Ontario Power Generation
OPS	Operations (phase)
PSR	Preliminary Safety Report

TIS	Technical Information Session
TSD	Technical Support Document

APPENDIX A: CONSOLIDATED LISTS OF OPG COMMITMENTS MADE IN DOCUMENTS SUBMITTED IN SUPPORT OF SITE PREPARATION AND CONSTRUCTION LICENCE APPLICATION

Table A.1: Commitments in Environmental Impact Statement (EIS)

Table A.1: Commitments in Environmental Impact Statement (EIS)				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
EA-001	The DGR will not accept used fuel, or recognizable fuel fragments.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 2.2.1.2, last bullet Sec. 2.2.1.3 Sec. 2.3.1.7, and repeatedly throughout EIS	All
EA-002	The discharge [from the stormwater management pond] will be monitored to confirm it meets certificate of approval water quality requirements.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 1.2.3.1, last sentence	D&C OPS
EA-003	The proponent is committed to ensuring that the development, construction, operation, decommissioning, and closure of the DGR are carried out in a manner that protects workers, the public, and the environment, and meets or exceeds applicable regulatory requirements.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 1.3, 2nd para	All
EA-004	It is not expected that notification will be required under the [Canada-U.S. Air Quality Agreement]; however, the Certificate of Approval for air/noise required for the DGR Project will confirm whether the project meets the notification criteria and that no submission is required.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 1.5.1, 3rd para	D&C
EA-005	The Public Participation and Aboriginal Engagement Program will continue throughout the regulatory approvals process and beyond.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 2, 1st para, last sentence	D&C OPS
EA-006	OPG and NWMO continue to seek avenues for sponsorship opportunities with the Saugeen Ojibway Nation.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 2.3.1.9, 1st para, 1st sentence	All
EA-007	OPG and NWMO continue to seek avenues for sponsorship opportunities with the Historic Saugeen Métis Community.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 2.3.3, 5th para, 1st sentence	All
EA-008	OPG will work to keep [Department of Foreign and International Affairs], NRCan and interested American stakeholders informed [about the DGR Project].	Environmental Impact Statement, 00216-REP-07701-00001	Table 2.4.2-1	All
EA-009	The post-submission communications program will include information on construction activities and scheduling.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 2.5.1, 7th para	D&C

Table A.1: Commitments in Environmental Impact Statement (EIS)				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
EA-010	OPG will have monitoring programs in place to assure that [DGR Project] workers are not exposed to unacceptable doses [of radiation].	Environmental Impact Statement, 00216-REP-07701-00001	Table 2.6.1-1 comment #12	OPS
EA-011	Monitoring wells have been established as part of the Geoscientific Site Characterization Program and monitoring will continue during construction and operation of the DGR.	Environmental Impact Statement, 00216-REP-07701-00001	Table 2.6.2-1 comment #23	D&C OPS
EA-012	NWMO, on behalf of OPG is committed to continuing its Public Participation and Aboriginal Engagement Program throughout the regulatory approvals process and beyond, including (pending regulatory approval) the DGR Project site preparation and construction. Once the DGR is operating communications are expected to be integrated with OPG communications. • Stakeholder Briefings and Presentations – Briefings and presentations will continue to be conducted to present information and provide an opportunity to have questions and comments addressed. Regular updates will be presented to elected officials, the DGR Community Consultation Advisory Group and Kincardine Community Consultation Advisory Committee; and other key stakeholders. • DGR Website – The DGR website will continue to be updated. • DGR Newsletter – The DGR Project newsletter will continue to be issued. • DGR Open Houses – Open houses may occur throughout this period to share information, describe key activities and communicate progress. • Media Relations – Ongoing media relations about the EA will be initiated and maintained by NWMO, on behalf of OPG. • Adherence to Agreement with Aboriginal peoples – OPG and NWMO will continue to support the agreements signed with MNO, Historic Saugeen Métis Community and SON. • Telephone Communication - Contact information for OPG/NWMO public affairs will continue to be advertised to the public on all written and electronic materials and on the DGR website. • Employee Communication – OPG and NWMO employee communication will continue with articles appearing in electronic and print publications. Staff presentations and lunch and learn sessions will be held. • Issues Management and Tracking – A comment database will continue to be maintained to record and monitor all comments, correspondence and communications with the public and stakeholders.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 2.11, 1st para and bullet list	D&C OPS

Table A.1: Commitments in Environmental Impact Statement (EIS)				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
EA-013	All waste containers will meet the Waste Acceptance Criteria (WAC) for the DGR.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 3.4.10, 4th para, last sentence	OPS
EA-014	Berms and vegetation along the perimeter of the DGR Project site will be used to control dust and noise, as well as to limit views of the rock piles.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.4.1.3, 2nd para, last sentence	D&C
EA-015	Culverts will be used to provide for water flow in the two existing ditches (i.e., the North and South Railway Ditches).	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.4.1.4, 3rd sentence	D&C
EA-016	Water treatment will be employed in the drainage system upstream of the stormwater management pond for the duration of the site preparation and construction phase, and possibly the first two years of operations depending on monitoring results. In the unlikely event that monitoring detects concentrations exceeding established limits, it is possible to close the gate at the discharge location, thereby containing the contaminated water. Appropriate actions would then be taken to treat the water so that it could be safely discharged from the pond.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.4.1.5, 3rd para	D&C OPS
EA-017	... a monitoring and maintenance program will be established for the operation of the [ventilation] system.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.4.3.1, 5th para, 1st sentence	D&C OPS
EA-018	Air quality underground will be monitored to ensure that the health and safety of personnel within the repository is not compromised.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.4.3.1, 6th para	D&C OPS
EA-019	Airflow, carbon monoxide (CO), and nitrogen dioxide (NO_2) will be measured at the ventilation shaft.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.4.3.1, 7th para	D&C OPS
EA-020	Explosive gas monitors will also be installed to monitor a range of gases that may potentially occur, including methane and hydrogen.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.4.3.1, 7th para	D&C
EA-021	Instrumentation measuring airflow, temperature, relative humidity and other pertinent parameters will be installed at the main shaft.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.4.3.1, 7th para	D&C

Table A.1: Commitments in Environmental Impact Statement (EIS)				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
EA-022	Emplacement room exhaust regulators will be equipped with combustible gas monitors to monitor a range of gases (e.g., methane and hydrogen).	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.4.3.1, 7th para	D&C
EA-023	During construction, underground dust control will be through conventional mining practices of washing down and misting muck piles.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.4.3.1, Dust Control, 1st para	D&C
EA-024	Best management practices [for dust control], such as watering, will be employed when required.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.4.3.1, Dust Control, 2nd para	D&C
EA-025	Preventative maintenance and inspection programs will be implemented to ensure the reliability of the emergency power system.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.4.3.2, 3rd para, last sentence	D&C OPS
EA-026	Surface diesel and unleaded fuel storage for mobile equipment is limited to the site preparation and construction phase, and will be removed prior to operations with the exception of the emergency diesel generator fuel storage.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.4.3.5, 1st para, 1st sentence Sec. 4.7.5.2, 3rd para, 2nd sentence	D&C
EA-027	Fuel requirements for operations will utilize the existing WWMF fuel station.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.4.3.5, 2nd para, 1st sentence	OPS
EA-028	Berms will be constructed as needed to ensure that any spillage of fuel or lubricant will be retained within the storage and refuelling areas.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.4.3.5, 3rd para, last sentence	D&C
EA-029	All LLW and ILW will be transferred to the DGR in waste packages that meet the DGR WAC.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.5.1, 1st sentence Sec. 4.8.2.1, 1st para, 2nd sentence	OPS
EA-030	The DGR will not accept liquid wastes (except for small amounts of incidental liquids associated with the solid wastes), highly reactive or pressurized wastes.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.5.3, 2nd para, last sentence	All

Table A.1: Commitments in Environmental Impact Statement (EIS)				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
EA-031	An environmental management plan will be implemented for site preparation and construction to control environmental effects associated with above-ground construction activities. The environmental management plan will be similar to that used in other recent construction projects at the WWMF and includes measures such as water spraying to control dust, vehicle maintenance standards to reduce noise and emissions, and scheduling of certain activities during daylight hours.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.7, 2nd para	D&C
EA-032	Explosives will not be on-site until excavation activities are initiated.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.7.1, 1st sent following bullet list	D&C
EA-033	Where required, trees will be felled, skidded and piled in the cut area, and if salvageable, chipped and reused for landscaping on the DGR Project site or elsewhere on the Bruce nuclear site.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.7.1.1, 1st para, 2nd sent	D&C
EA-034	Roots, stumps, embedded logs and debris will be removed by grubbing and disposed of according to existing management practices.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.7.1.1	D&C
EA-035	Top soil will be protected and kept in segregated piles until it is reused for finished grading.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.7.1.1, 1st para 2nd last sent	D&C
EA-036	The [stormwater management] trapezoidal ditches will be vegetated to reduce erosion.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.7.1.3, 1st para	D&C
EA-037	If necessary, improvements will be made to the existing drainage network downstream of the stormwater management pond discharge location to ensure unobstructed flow of water to Lake Huron (via MacPherson Bay). For the drainage ditch under Interconnecting Road, the channel capacity should be evaluated during detailed design to ensure that the ditch can properly convey the expected flows from the stormwater management pond.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.7.1.3, 2nd para See also Sec. 7.3.2.1 (Additional Mitigation Measures), 1st para	D&C
EA-038	Construction materials will be re-used or recycled, if possible.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.7.5.1, 1st para, last sentence	All

Table A.1: Commitments in Environmental Impact Statement (EIS)				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
EA-039	A silt fence barrier will be placed around the soil pile [at the WRMA] to contain any sediment runoff during storm events.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.7.5.3, 3rd para, last sentence	D&C
EA-040	If [excavated] soils are left in place for a period of greater than one year, they will be vegetated to reduce erosion.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.7.5.3, 4th para, 3rd sentence	D&C
EA-041	The limestone pile will not be capped, but it will be covered and vegetated with native plant stock, as appropriate, during decommissioning activities.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.7.5.3, 4th para, last sentence See also Sec. 4.11.3	DEC
EA-042	Best management practices, including application of water or misting, will be used to reduce fugitive dust creation from the haulage roads and excavated materials.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.7.5.3, 4rd para last sentence	D&C
EA-043	Visual screening (i.e., trees) [of the waste rock management area] will be planted.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.7.5.3, 5th para 2nd sentence	D&C
EA-044	A temporary water treatment plant, provided by the selected contractor, will be located in the vicinity of the shafts to receive water pumped from underground in the event there are abnormally high concentrations of oil, grease and/or grit in the water. It, however, will not be used to treat water in the stormwater management pond in the unlikely event contaminant concentrations in the water exceed the discharge limits established through the permitting process for the DGR Project.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.7.5.4, 2nd and 3rd paras	D&C
EA-045	The commissioning team will verify that vendor recommended maintenance procedures are available.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.7.7, 1st para, last sentence	D&C
EA-046	The Engineering Management Plan (EMP) for the DGR Project will be prepared by the design responsible organizations in accordance with the design management activities.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.7.8.1	D&C

Table A.1: Commitments in Environmental Impact Statement (EIS)				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
EA-047	The DGR Community Engagement Plan will be prepared to ensure that appropriate communications and engagement with the communities surrounding the DGR Project site are planned.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.7.8.3	D&C
EA-048	A DGR project-specific Document Management Plan and associated instructions will be prepared for the purpose of day-to-day control of various DGR Project documents.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.7.8.4, 2nd sentence	D&C
EA-049	A Procurement and Contracts Management Plan will be prepared for the DGR project.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.7.8.5, 1st sent	D&C
EA-050	A Training Management Plan will be prepared for the DGR Project.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.7.8.6, 1st sentence	D&C
EA-051	The contingency plan [included in the Construction Management Plan] will be revised and tested as the construction proceeds from surface construction to shaft sinking to underground lateral development.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.7.8.7, 1st para, last sentence	D&C
EA-052	All waste materials will continue to be shipped to the WWMF for waste processing, sorting and packaging.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.8, 2nd para, 2nd sentence	OPS
EA-053	The [waste] packages will be inspected to ensure that damage has not occurred in transfer [from the WWMF to the DGR] and to confirm that WAC criteria are met.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.8.2.1, 1st para, 2nd sentence	OPS
EA-054	Waste packages will be tracked regarding their location within the DGR.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.8.2.2, 1st para, last sentence	OPS
EA-055	Hazardous waste such as expired chemicals, cleaners, paints, aerosol cans, batteries, and electronic components will be disposed in compliance with all federal and provincial requirements.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.8.5.2, 4th para	All

Table A.1: Commitments in Environmental Impact Statement (EIS)				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
EA-056	For the DGR, operational programs and procedures will be developed to protect the environment, and health and safety of the public and the workers.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.8.7, 1st para	OPS
EA-057	A radiation protection program for the DGR will be based on OPG's existing Radiation Protection Program N-PROG-RA-0013	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.8.7.1, 1st para 1st sentence	OPS
EA-058	An overall Occupational Health and Safety Program will be implemented for the DGR that will meet the requirements of OPG's Environmental, Health and Safety Management Program W-PROG-ES-0001 applicable to its nuclear facilities. The program will also be consistent with the OPG Health and Safety Policy OPG-POL-0001 and the OPG Nuclear Safety Policy N-POL-0001.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.8.7.3, 2nd para	OPS
EA-059	Material Safety Data Sheets for hazardous materials [at the DGR facility] will be readily available as required by Workplace Hazardous Materials Information System (WHMIS) legislation.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.8.7.4	All
EA-060	The selection, use and maintenance of personal protective equipment for the above-ground portion of the DGR will be governed by OPG's existing Safety Management System Program OPG-HR-SFTY-PROG-0001. For radiological hazards above-ground, OPG's procedure N-PROC-RA-0025 will be applied. The requirements for personal protective equipment under the Mines and Mining Plants Regulations (Reg. 854) will be complied with for underground operations.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.8.7.5	OPS
EA-061	Environmental protection policies, programs and procedures will be established and will meet the requirements of the: - OPG Environment Policy OPG-POL-0021; - Biodiversity Policy OPG-POL-0002; - Land Assessment and Remediation Policy OPG-POL-0016; - Spills Management Policy OPG-POL-0020; and - Policy for the Use of Ozone Depleting Substances OPG-POL-0015.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.8.7.6	OPS

Table A.1: Commitments in Environmental Impact Statement (EIS)				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
EA-062	Execution of the environmental protection program will be accomplished through an integrated set of documented activities, typical of an Environmental Management System. It will be consistent with the CNSC Standard S-296 and the International Organization for Standardization (ISO) standard 14001, and will meet the requirements of OPG's Environmental, Health and Safety Management Program N-PROG-ES-0001.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.8.7.6	OPS
EA-063	As part of the Environmental Management System, an environmental monitoring program will be implemented for the DGR Project. The monitoring plan will address radiological contaminants, chemical contaminants and physical stressors that may present a risk to either human health or non-human biota.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.8.7.7	OPS
EA-064	A Staffing and Training Program will be developed to ensure the presence of a sufficient number of qualified workers to carry out activities safely and in accordance with the Nuclear Safety and Control Act and its Regulations. Training meeting the requirements of OPG's Training Program N-PROG-TR-0005 will be established and maintained.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.8.7.8	OPS
EA-065	The DGR will use OPG's Nuclear Waste Management Division (NWMD) Fire Protection Procedure W-PROC-ES-0011 to ensure compliance with the applicable national codes and standards that will be specified in the operating licence issued by the CNSC.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.8.7.9	OPS
EA-066	Emergency response at the DGR will be conducted in cooperation with Bruce Power, as described in NWMD Employee Emergency Response Procedure W-PROC-ES-0002. OPG will ensure that an effective response can be made to address an emergency affecting the health and safety of OPG employees, its business continuity and its property, contractors at the DGR, the environment, and the public.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.8.7.10, 1st para	D&C OPS

Table A.1: Commitments in Environmental Impact Statement (EIS)				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
EA-067	Trained and qualified mine rescue teams will be provided as required by the Mines and Mining Plants Regulations (Reg. 854). Backup rescue team(s) will be available through mutual assistance agreements with nearby facilities.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.8.7.10, 2nd para Sec. 4.17, last sentence See also (for example) Health and Safety Facilities and Services And Sec. 8.3.3.1, 2nd para	D&C OPS DEC
EA-068	An Inspection and Maintenance Program consisting of polices, processes, and procedures will be developed with an objective to maintain the structures, systems and components of the DGR as per design specifications. The program will cover a range of inspection and maintenance activities including, but not limited to, monitoring, inspecting, testing, assessing, calibrating, servicing, repairing or replacing parts.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.8.7.11, 2nd para	OPS
EA-069	Records identified as controlled documents (including all licensing documents) will be managed as per OPG's Controlled Document Management Procedure N-PROC-AS-0003.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.8.7.12, bullet list	OPS
EA-070	All dose records will be managed as per OPG's Creating and Maintaining Dose Records N-HPS-03413.1-0004.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.8.7.12, bullet list	OPS
EA-071	Records governed by the Radiation Protection Program will follow OPG's Radiation Protection Requirements N-RPP-03415.1-10001.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.8.7.12, bullet list	OPS
EA-072	Training records will be managed as per OPG's Records and Documentation N-PROC-TR-0012.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.8.7.12, bullet list	OPS

Table A.1: Commitments in Environmental Impact Statement (EIS)				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
EA-073	Environmental protection measures will be established to prevent the uncontrolled release of soil materials, chemicals or wastes into the environment at, or near the source. The site spills and release response plan will be included in the Environment Management Plan DGR-PLAN-07002-0001 established for the site preparation and construction phase. During operations, contingency plans for uncontrolled release of substances will be consistent with the requirements of the Spills Management Policy OPG-POL-0020.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.9, 3rd para	D&C OPS
EA-074	Dust abatement measures associated with the construction and use of roadways will be implemented during the construction period.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.9, 3rd para, 4th sentence	D&C
EA-075	The Geoscientific Verification Plan will be implemented during the site preparation and construction phase and will verify geoscientific parameters that influence repository safety.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.9, 5th para	D&C
EA-076	Changes to the DGR Project design will be managed in accordance with NWMO Design Management, NWMO-PROC-EN-0001.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.10.1, 2nd para (following bullets)	D&C
EA-077	If additional storage is required, waste transfer operations will be discontinued and construction activities resumed.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.10.2, 1st para, 3rd sentence	OPS
EA-078	Should the DGR Project be cancelled for any purpose during the operations phase, the DGR facility would be decommissioned as described in the Preliminary Decommissioning Plan.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.10.3	OPS
EA-079	NWMO will continue to implement a public information program following the submission of the EIS. Additional targeted communications would be initiated in the event of a proposal to modify the DGR Project in ways which would result in a meaningful change. These include, but are not limited to changes to the: - layout of the DGR facility; - characteristics or sources of waste to be emplaced in the DGR;	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.10.4	D&C

Table A.1: Commitments in Environmental Impact Statement (EIS)				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
	- capacity of the DGR; - life cycle schedule for the DGR Project; - monitoring program for the DGR Project; and - socio-economic considerations (e.g., employment or spending). A detailed communication plan including objectives, strategy, spokespeople, target audiences, key messages and communication activities would be prepared to govern how the information would be relayed for each proposed modification to the DGR Project. The communication plan would provide a targeted approach for communicating the specific proposed modification. A comment database would be maintained to record and monitor all comments, correspondence and communications with stakeholders and Aboriginal peoples interested in the proposed modifications to the DGR Project.			
EA-080	The Preliminary Decommissioning Plan will be reviewed and revised periodically to incorporate changes in the planning assumptions.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.11, 2nd para	D&C OPS
EA-081	Upon completion of decommissioning and obtaining a licence to abandon the site, the site would be in a condition that will make it available for other uses while under institutional controls.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.11.1, last sentence	DEC
EA-082	Decommissioning will be followed by a period of institutional controls.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.11.2, 1st para, last sentence	DEC
EA-083	Decommissioning will begin following a period of monitoring after all of the waste has been emplaced and a Decommissioning Licence has been obtained.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.11.3, 1st sentence	DEC
EA-084	Following removal of all surface facilities, the DGR Project site will be graded and vegetated.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.11.3, 4th para, 1st sentence	DEC
EA-085	The location of the shafts will be appropriately secured [during decommissioning].	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.11.3, 4th para, 2nd sentence	DEC

Table A.1: Commitments in Environmental Impact Statement (EIS)				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
EA-086	The stormwater management pond and the drainage ditches established for the DGR Project will be decommissioned during site restoration activities.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.11.3	DEC
EA-087	The waste rock remaining in the WRMA will be covered by a soil cap and vegetation. The waste rock pile will be capped with a minimum of 150 mm of soil and topsoil that is suited to the requirements of the local flora. Surface materials will be stabilized and the surface will be contoured to promote drainage and to minimize erosion. Wind breaks will be established, if necessary, for erosion control until such time that the vegetation is sufficiently established.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.11.3	DEC
EA-088	Air temperature and quality will be remotely monitored to establish when it would be safe to resume shaft sealing activities [following placement of an asphalt lift during shaft sealing].	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.11.4.2	DEC
EA-089	Wherever appropriate, mechanisms and materials decommissioned from surface and underground facilities will be recycled or reused elsewhere to minimize requirements for disposal. Those materials that are not recyclable will be disposed of in a licensed facility. Any materials or equipment in surface facilities that would be considered radioactive waste will be removed near the start of decommissioning and placed in the repository prior to the start of shaft sealing.	Environmental Impact Statement, 00216-REP-07701-00001	4.11.5, 1st para	DEC
EA-090	An abandonment plan will be developed in support of the application for a licence to abandon. The application will include the results of the decommissioning and the results of the environmental monitoring programs. The results of the environmental monitoring will include the information collected during the course of the decommissioning and during any other monitoring period.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.12	DEC

Table A.1: Commitments in Environmental Impact Statement (EIS)				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
EA-091	Given the type of facility and the nature of the hazards present, it is assumed that: • a period of passive institutional control will be applied to the L&ILW DGR which may include local land use controls, local, national and international records; and the use of durable surface and/or subsurface markers • the site will be available for other purposes that are consistent with any applicable land use restrictions; • the period of institutional controls would be up to 300 years.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.12	DEC
EA-092	The Project Quality Plan for the site preparation and construction phase will be compliant with CAN/CSA N286-05 and ISO 9001:2008 quality management standards, include project specific quality objectives, and describe the quality requirements for all the functional areas of site preparation and construction for the DGR.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.14.1, 2nd para	D&C
EA-093	A detailed Environmental Management Plan will be developed and implemented by the contractor for the site preparation and construction of the DGR Project, and will be consistent with accepted practices and standards.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.15, 3rd para	D&C
EA-094	OPG's existing Environmental Management System (EMS) is ISO 14001 certified, and will serve as the governing document during the Operations Phase of the DGR.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.15, 4th para	OPS
EA-095	Generally accessible areas outside the DGR will be maintained at Zone 1 within the dose rate constraint ≤ 0.5 μSv/h. All spaces within the DGR facility perimeter will be classified in accordance with the potential for contamination. All areas of the DGR associated with the handling of radioactive waste will be designated as Zone 2. These include the crossing from the WWMF to the WPRB, the WPRB, shafts and the underground areas. Office and amenities areas at the DGR will be designated Zone 1. A Zone 1 and Zone 2 boundary is located within the amenities area for the movement and tracking of personnel. As all areas underground (i.e. below the shaft collars) will be Zone 2, and access to the lunchroom underground will require the use of the whole body and small article monitors.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.15.1,1, 2nd para (following bullets)See also Sec. 4.16.1.1, 1st sentence	OPS

Table A.1: Commitments in Environmental Impact Statement (EIS)				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
EA-096	Environmental monitoring of the DGR Project will be comprehensive in terms of substances, media and locations, and will include, at the minimum, the following: - sampling and analyzing runoff leaving the DGR Project site; - groundwater monitoring; - monitoring airborne emissions from the WPRB; - measuring average ambient radiation dose rates at the perimeter of the DGR Project site; - storage structure integrity checks; and - contamination checks and radiation surveys within the DGR Project site.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.15.2, 1st para	D&C OPS
EA-097	Certificates of Approval will be obtained as required for the DGR. OPG will monitor environmental releases in accordance with these Certificates of Approval and report the results as required.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.15.2, 3rd para	All
EA-098	OPG will comply with other [than C of A] regulatory requirements as well, such as reporting requirements under the National Pollutants Release Inventory and O.Reg. 127/01.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.15.2, 3rd para	D&C OPS
EA-099	Underground rock and shaft concrete structures will be monitored using rock mass and pillar convergence instrumentation, embedded and surface-mounted concrete load cells in the shaft linings, and rock dowel load cells.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.15.2.1, para (following bullets)	D&C OPS
EA-100	The quality of air delivered to access tunnels and rooms will be monitored to ensure concentration of potential contaminants is below acceptable limits for worker safety.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.15.2.1, 4th para, 1st sentence	D&C OPS
EA-101	The quality of air that is exhausted to the atmosphere via the Ventilation Shaft will be monitored to ensure the concentrations of potential contaminants comply with Certification of Approval limits.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.15.2.1, 4thd para, 2nd sentence	D&C OPS
EA-102	Once all of the emplacement rooms have been filled and closed, the DGR will be monitored to ensure that it is performing as expected prior to decommissioning.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.15.2.1, 5th para, 1st sentence	OPS

Table A.1: Commitments in Environmental Impact Statement (EIS)				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
EA-103	The [Bruce Power] REMP will continue to assess the off-site consequences of all Bruce nuclear site operations, including those of the DGR Project, and will continue to report environmental monitoring data and trends.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.15.2.3, last para	OPS
EA-104	OPG and its contractors will meet all applicable health and safety legislative requirements. OPG will also meet other associated standards to which it subscribes with the objective of moving beyond compliance. OPG will require that contractors and their subcontractors maintain a level of safety equivalent to that of OPG employees while at OPG workplaces.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.16, 2nd para	OPS
EA-105	The doses arising from routine waste management operations are monitored and assessed against dose targets. Thermoluminescent Dosimeter (TLD) badges will be worn as a minimum external dosimetry requirement for personnel involved in the operation of the DGR Project.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.16.1.1, 1st para	OPS
EA-106	Consistent with current WWMF procedures, access to the buildings/structures associated with the DGR Project will be limited to designated personnel and those escorted by qualified personnel.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.16.1.1, 2nd para, 1st sentence	OPS
EA-107	Risk reduction will be primarily achieved through compliance, by competent workers, to effective operational controls, developed through effective risk assessment and safe work planning.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.16.3, 1st para	OPS
EA-108	All DGR surface facilities will be equipped with fire detection and protection systems in accordance with the National Building Code of Canada and the National Fire Code of Canada requirements. Smoke detectors and heat detectors will be located throughout the buildings to provide means for early detection of fire. A number of fire hydrants will be located near main entrances to the buildings. Office, maintenance and locker room areas will be protected with large volume Class ABC fire extinguishers consistent with National Fire Code requirements.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.17.2.1, 1st and 2nd paras	D&C
EA-109	During construction and operations a “stench gas” system will be employed as the prime notification system for fire.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.17.2.2	D&C

Table A.1: Commitments in Environmental Impact Statement (EIS)				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
EA-110	An underground fire detection system will consist of smoke and carbon monoxide detectors located throughout the underground workings (i.e., intake plenum, underground working areas and emplacement rooms through all stages and the main exhaust ventilation ducts).	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.17.2.2, 2nd para	D&C
EA-111	Underground fire suppression systems will be chemical-based as opposed to water-based. The following suppression methods are included: - handheld foam-based extinguishers located at clearly marked locations in high traffic areas (i.e., diesel fuel bay, mechanical shop) as well as on mobile equipment; - a mobile foam generator will be based underground for use in open emplacement rooms; and - diesel equipment will be equipped with on-board foam suppression systems that are heat triggered (i.e., automatic system), and could also be manually activated by the operator in the event of a fire.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 4.17.2.2, 3rd para and bullets.	D&C
EA-112	All stormwater runoff from the DGR Project site and the WRMA will be collected in drainage ditches and directed to the stormwater management pond.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 7.3.2.1, In-design Mitigation	D&C OPS
EA-113	A system of water sampling and testing is proposed to confirm that all water released from the DGR Project site via the stormwater management pond has concentration levels below the certificate of approval discharge criteria.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 7.3.2.2 (In-design Mitigation), 1st para See also, for example, Page 7-36 (Additional Mitigation measures)	D&C OPS
EA-114	The gate [SWMP] will be closed if water samples from the pond show concentrations above certificate of approval discharge criteria.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 7.3.2.2, In-design Mitigation	D&C OPS
EA-115	No release from the site will be directed to the North or South Railway ditch or the Stream C watershed.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 7.3.2.2, In-design Mitigation	D&C OPS

Table A.1: Commitments in Environmental Impact Statement (EIS)				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
EA-116	All underground water from the DGR Project and surface runoff (up to the design storm event) will be captured in the stormwater management pond. The water will be tested and compared against discharge criteria.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 7.3.2.2, In-design Mitigation	D&C OPS
EA-117	The site preparation activities will avoid vegetation clearing during the breeding bird season (May 1 to July 31) wherever possible.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 7.4.2.2, Mitigation Measures	D&C
EA-118	Effects on the South Railway Ditch VECs that may result from the construction of the rail bed crossing will be minimized by incorporating appropriate design features (e.g., embedded culvert for fish passage), specific mitigation measures (e.g., management of surface water runoff) and best management practices (e.g. erosion and sediment control) both during and after construction.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 7.5.2.1 (In-design mitigation), 1st para, 1st sentence	D&C
EA-119	Timing of the construction of the abandoned rail bed crossing will take place according to the DFO Operational Statement-Timing Windows to ensure that critical life history stages such as spawning activities are protected by restricting the conduct of works or undertakings in and around water at certain times of the year. The Saugeen Valley Conservation Authority has made a specific recommendation for this particular construction work of an 'in-water' timing window of July 1 to September 30.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 7.5.2.1 (In-design mitigation), 1st para	D&C
EA-120	The application of standard measures to protect fish and fish habitat in the South Railway Ditch during the construction of the crossing is recommended. These mitigation measures include: - Install effective sediment and erosion control measures before starting work to prevent silt/sediment laden runoff from directly entering the water in the South Railway Ditch. Inspect them regularly during the course of construction and make necessary repairs if damage occurs. - Operate machinery on land and in a manner that minimizes disturbance to the banks of the South Railway Ditch. Machinery is to arrive on-site in a clean condition and is to be maintained free of fluid leaks. Wash, refuel and service machinery and store fuel and other materials for the machinery away from the water to prevent any deleterious substance from entering the water. Keep an emergency spill kit on-site in case of fluid leaks or spills from machinery. - Use measures to prevent deleterious substances such as new concrete	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 7.5.2.1 (Additional Mitigation Measures)	D&C

Table A.1: Commitments in Environmental Impact Statement (EIS)				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
	(i.e., it is precast, cured and dried before use near the watercourse), grout, paint and preservatives from entering the watercourse. - Vegetate any disturbed areas by planting and seeding preferably with native trees, shrubs or grasses and cover such areas with mulch to prevent erosion and to help seeds germinate. If there is insufficient time remaining in the growing season, the site should be stabilized (e.g., cover exposed areas with erosion control blankets to keep the soil in place and prevent erosion) and vegetated the following spring. - Isolate and dewater the section of the South Railway Ditch wherein the culvert will be placed. Prior to dewatering the work area, a fish salvage and relocation will be conducted so as to avoid harming any fish during construction.			
EA-121	Equipment will be available and maintained on-site to water roadways as required.	Environmental Impact Statement, 00216-REP-07701-00001	Table 7.7.2-1 (Air Quality In-design Mitigation)	D&C OPS
EA-122	On-site vehicles and diesel equipment engines will meet Tier 2 emission standards and be maintained in good working order.	Environmental Impact Statement, 00216-REP-07701-00001	Table 7.7.2-1 (Air Quality In-design Mitigation)	D&C OPS
EA-123	On-site vehicles and equipment will be equipped with appropriate silencers [to control noise] and maintained in good working order.	Environmental Impact Statement, 00216-REP-07701-00001	Table 7.8.2-1 (Noise Levels In-design Mitigation)	D&C OPS
EA-124	Fans maintained in good working order [to control noise].	Environmental Impact Statement, 00216-REP-07701-00001	Table 7.8.2-1 (Noise Levels In-design Mitigation)	D&C OPS
EA-125	With the DGR Project, the SON will continue to have access to this [Jiibegmegoong] burial site.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 7.9.2.2 (Mitigation Measures)	All
EA-126	OPG will share information with local and regional land use planners and economic development officials as well as local and regional health and safety service providers regarding the timing and magnitude of meaningful changes to its on-site labour and skills requirements for each phase of the DGR Project.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 7.10.2.2, (Recommended Mitigation or Effects Management)	D&C OPS

Table A.1: Commitments in Environmental Impact Statement (EIS)				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
EA-127	OPG will ensure that an emergency and fire response plan is prepared and implemented for the DGR Project including plans for mine rescue and training opportunities for each phase of the DGR Project.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 7.10.2.2, Recommended Mitigation or Effects Management	D&C OPS
EA-128	Trained and qualified mine rescue teams (primary and back-up rescue teams) will be provided as required by applicable mining regulations. A primary mine rescue team will be available to assist with the evacuation of workers from the DGR to the surface. Backup rescue teams will be available through mutual assistance agreements with nearby facilities.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 7.10.2.2, Health and Safety Facilities and Services, 1st para	D&C OPS
EA-129	In the event that workers get trapped by a rock fall or other extraordinary event, facility management will coordinate the response and utilize the mine rescue teams to assess the situation and recommend a recovery strategy depending on the circumstances.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 7.10.2.2, Health and Safety Facilities and Services, 2nd para	D&C OPS
EA-130	Radiological contaminant release will be responded to with a pre-developed plan for rescue of personnel and clean up.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 7.10.2.2, Health and Safety Facilities and Services, 2nd para	OPS
EA-131	While the Bruce nuclear site has its own fire services department (see Section 6.10) Bruce Power and OPG will work co-operatively with Emergency Management Ontario and other local emergency responders to assist in the development and testing of emergency plans.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 7.10.2.2, Health and Safety Facilities and Services, 4th para	D&C OPS
EA-132	OPG will ensure that an emergency and fire response plan is prepared and implemented for the DGR Project.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 7.10.2.2, (Recommended Mitigation or Effects Management), 1st para, 2nd sentence	D&C
EA-133	The DGR Project non-salary expenditures will be sourced locally wherever practical and in accordance with relevant supply chain policies, procedures, and standards for competitive purchasing.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 7.10.2.4, Recommended Mitigation or Effects Management	D&C

Table A.1: Commitments in Environmental Impact Statement (EIS)				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
EA-134	… farmers in the Local Study Area along the transportation route should be informed if and when oversize or slow-moving project-related vehicles will be on local or municipal are roads during the planning or harvesting season.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 7.10.2.8 (Recommended Mitigation or Effects Management), 2nd sentence	D&C
EA-135	All human effluent from underground “mine toilets” and surface washrooms will be collected and pumped to the existing sewage treatment system at the Bruce nuclear site.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 7.10.2.10, Likely Effects	D&C
EA-136	In collaboration with relevant stakeholders, OPG will develop and implement a traffic management plan that will serve to minimize DGR Project related peak hour volumes.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 7.10.2.11 (Recommended Mitigation or Effects Management), 1st para	D&C
EA-137	OPG will continue to keep its neighbours and the broader public informed concerning DGR Project activities at the Bruce nuclear site.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 7.10.2.12 (Recommended Mitigation or Effects Management), 1st para	D&C OPS
EA-138	OPG is and will continue to be an employer that promotes community cohesion through its Corporate Citizenship Program and the community initiatives of its employees.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 7.10.2.13 Community Cohesion	All
EA-139	In the unlikely event that site preparation, construction or decommissioning activities encounter artifacts that could be associated with a cultural or heritage resource, the activities will be curtailed until further assessment (i.e., a Stage 3 and/or 4 archaeological assessments) can be undertaken to protect the resource from further disturbance and conserve its cultural heritage value.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 7.10.2.13 (Cultural and Heritage Resources) para	D&C DEC

Table A.1: Commitments in Environmental Impact Statement (EIS)				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
EA-140	OPG will continue to keep its neighbours and the broader public informed concerning its activities at the Bruce nuclear site as appropriate to each phase of the DGR Project; and will continue to make contributions to the community through its Corporate Citizenship Program. OPG will also continue to work with various stakeholders to deliver its community, recreational and educational initiatives.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 7.10.2.13 (Community Recreational Facilities and Programs; Use and Enjoyment of Private Property)	D&C OPS
EA-141	The eastern white cedar within the marsh is not expected to be affected by the project as the marsh areas of the site will be avoided.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 7.12.4.2, 3rd para	D&C
EA-142	All above-ground structures (access building, ventilation shaft headframe building and HVAC and mechanical building) and underground facilities (office, tunnel, emplacement room) will be constructed in accordance with the seismic requirements of the latest edition of the National Building Code at the time of the construction.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 7.13.1, 2nd para, 1st sentence See also Sec. 7.13.4, 1st para, 4th sentence	D&C
EA-143	The head frame, which is the tallest DGR Project structure, will be designed with lightning protection, using technology that is well advanced in the mining industry.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 7.13.5, 1st sentence (follows figure)	D&C
EA-144	Potential surface flooding [of the DGR site] (from Stream C) will be mitigated with proper engineering design.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 7.14.2.3, 1st para, 1st sentence	D&C
EA-145	In the unlikely event of a radiological accident involving the DGR Project, unplanned releases will be controlled.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 8.2.1.3 (Non-Human Biota), 3rd para	OPS
EA-146	Mitigation strategies and emergency procedures for operations will remain in place during decommissioning in case of the occurrence of potential accidents.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 8.2.1.4, last sentence	DEC

Table A.1: Commitments in Environmental Impact Statement (EIS)				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
EA-147	The effects on human and non-human biota from potential accidents at the DGR Project were found to be small; and can be minimized or controlled through implementation of the following mitigation measures: - appropriate training and operating procedures; - minimization of combustible materials and ignition sources, especially near waste packages; - installation of suitable fire detection and suppression equipment, such as automatic fire suppression systems on diesel transfer equipment; - emergency planning and response procedures; and - appropriate follow-up measures corresponding to the results of the contamination and dose rate monitoring.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 8.2.3, 1st para and bullet list	OPS
EA-148	Contingency plans will also be in place, and emergency response, including mine rescue, will be available to protect the workers.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 8.2.3, last para	D&C OPS DEC
EA-149	To mitigate the effects of spills, appropriately equipped and trained on-site spills response teams will be available at all times as part of emergency response programs	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 8.3.2.1, 3rd para, 1st sentence	D&C OPS DEC
EA-150	Measures for spill containment, spill emergency response and environmental protection will be in place before any potentially hazardous materials are brought on-site.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 8.3.2.1, 2nd para, 1st sentence	D&C OPS DEC
EA-151	Mitigation and control measures will be implemented as part of the DGR Project. The mitigation and control measures identified for non-radiological hazards to workers are as follows: - slow rates of gas generation expected, ventilation, monitoring and end walls; - confined space entry program; - critical lift procedure and lift planning; - use only qualified workers, work permits, worker awareness, personal protective equipment and operator training; - hoisting logbooks/records; - equipment planned/preventative maintenance;	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 8.3.2.4, last paragraph, bullet list	D&C

Table A.1: Commitments in Environmental Impact Statement (EIS)				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
	- equipment design installation and operation to meet established crane and hoisting safety permits; - safe work code practice; - live electrical line work procedures; - lock-out/tag-out procedure; - emergency response capability; - fire extinguishers, fuel dispensing procedure, good housekeeping and hot work permit; - ground disturbance permits; pre-excavation ground survey; - shaft sinking safe work practices; - ground control standards, loose rock scaling work instruction, inspection protocol; - machine guarding, spotters for mobile equipment, barricading off of work areas and controlled access; - flash back arrestors; and - WHMIS.			
EA-152	NWMO (site preparation and construction) and OPG (operations) will establish preventive measures, contingency plans and emergency procedures to prevent incidents and minimize the effects of a fire or spill.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 8.3.3, 1st para, 2nd sentence	D&C OPS
EA-153	OPG's Nuclear Waste Management Policy requires that activities involving the handling, processing, transportation and storage of radioactive material be performed in a manner that protects the workers, the public and the environment, and ensures compliance with applicable regulatory and licence basis requirements.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 8.3.3, 1st para	All
EA-154	OPG will have programs in place for the DGR Project similar to those at the WWMF and that comply with the above standards and practices, as well as applicable Canadian standards, such as CSA Z16000-08 *Emergency Management and Business Continuity Programs* and CSA Z-731-03 *Emergency Preparedness and Response.*	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 8.3.3, 2nd para	OPS DEC

Table A.1: Commitments in Environmental Impact Statement (EIS)				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
EA-155	Material Safety Data Sheets on all hazardous materials used on the DGR Project site will be available as required by the Workplace Hazardous Materials Information System (WHMIS).	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 8.3.3, 1st para, 2nd sentence	D&C OPS DEC
EA-156	Spills management and response for the WWMF, or equivalent, will be extended to the DGR Project.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 8.3.3, 3rd para, last sentence	OPS
EA-157	The environmental management plan will include the site spills and release response plan. An environmental management plan will be in place for the site preparation and construction Phase [described in Section 4 of EIS]. This plan will include the site spills and release response plan. During the operations phase, environmental policies, programs and procedures will be implemented consistent with the requirements of OPG's existing Environmental Policy (OPG POL-0021) and Spills Management Policy (OPG-POL-0020).	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 8.3.3.2, 1st para	D&C OPS DEC
EA-158	Explosives would not be on-site during operations.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 8.4.1.2, Non-radiological Effects, 2nd para	OPS
EA-159	All releases from the DGR Project and surface runoff (up to the design storm event) will be captured in the stormwater management pond. The water will be tested and compared against predetermined criteria to confirm that applicable limits are met. In the event that water quality does not meet criteria treatment will be applied.	Environmental Impact Statement, 00216-REP-07701-00001	Sec. 11.1, 1st para	D&C OPS
EA-160	Identify and monitor effects of any soil contamination as a result of malfunction or accident (e.g., spill) to ensure compliance with regulatory standards (i.e., MOE Table 3 SCS [417]).	Environmental Impact Statement, 00216-REP-07701-00001	Table 12.2-1, Soil Quality Overburden Groundwater Quality	D&C OPS DEC
EA-161	Confirm EA predictions of no measurable change in groundwater levels beyond the Site Study Area.	Environmental Impact Statement, 00216-REP-07701-00001	Table 12.2-1, Overburden Groundwater Transport	D&C OPS

Table A.1: Commitments in Environmental Impact Statement (EIS)				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
EA-162	Confirm predictions of Geosynthesis program.	Environmental Impact Statement, 00216-REP-07701-00001	Table 12.2-1, Shallow Bedrock Groundwater and Solute Transport; Intermediate Bedrock Water Quality and Solute Transport; Deep Bedrock Water Quality and Solute Transport	D&C OPS DEC
EA-163	Confirm site discharge from stormwater management pond meets certificate of approval discharge criteria.	Environmental Impact Statement, 00216-REP-07701-00001	Table 12.2-1, Water Quality	D&C OPS
EA-164	Confirm effectiveness of water treatment by stormwater management pond.	Environmental Impact Statement, 00216-REP-07701-00001	Table 12.2-1, Water Quality	D&C OPS
EA-165	Monitoring of plant species communities and wildlife habitat use adjacent to the areas which have been cleared during site preparation and construction phase.	Environmental Impact Statement, 00216-REP-07701-00001	Table 12.2-1, Eastern White Cedar	D&C
EA-166	Monitor re-growth of riparian vegetation following removal; note any deficiencies in bank stability (i.e., erosion and slumping).	Environmental Impact Statement, 00216-REP-07701-00001	Table 12.2-1, VECs in south railway ditch	D&C OPS
EA-167	Vibration monitoring.	Environmental Impact Statement, 00216-REP-07701-00001	Table 12.2-1, VECs in south railway ditch	D&C OPS
EA-168	Monitor stability and revegetation of new ditches.	Environmental Impact Statement, 00216-REP-07701-00001	Table 12.2-1, VECs in MacPherson Bay	D&C
EA-169	Monitor the on-site marsh for confirmation that excavation of underground facilities does not dewater marsh habitat utilized by burrowing crayfish.	Environmental Impact Statement, 00216-REP-07701-00001	Table 12.2-1, Burrowing Crayfish	D&C

Table A.1: Commitments in Environmental Impact Statement (EIS)				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
EA-170	Confirm effectiveness of mitigation [for controlling radiation]; confirm no residual adverse effects.	Environmental Impact Statement, 00216-REP-07701-00001	Table 12.2-1, Radiation and Radioactivity	D&C OPS DEC
EA-171	Verify that the PM_{10} and $PM_{2.5}$ emission rates used in the assessment were reasonable, but conservative; Verify the predicted concentrations of PM_{10} and $PM_{2.5}$; Verify that the mitigation measures considered integral to the DGR Project are being incorporated as planned, and are effective.	Environmental Impact Statement, 00216-REP-07701-00001	Table 12.2-1 Air Quality	D&C
EA-172	Verify that the NO_X emission rates used in the assessment were reasonable, but conservative; Verify the predicted concentrations of NOX and NO_2; Verify that the mitigation measures considered integral to the DGR Project are being incorporated as planned, and are effective.	Environmental Impact Statement, 00216-REP-07701-00001	Table 12.2-1 Air Quality	D&C
EA-173	Confirm that the construction noise predictions presented in the assessment were reasonable, but conservative. Verify that the mitigation measures considered integral to the DGR Project are being incorporated as planned, and are effective.	Environmental Impact Statement, 00216-REP-07701-00001	Table 12.2-1, Noise Levels	D&C
EA-174	Undertake Public Attitude Research (PAR) that provides results which can be compared to 2009 PAR.	Environmental Impact Statement, 00216-REP-07701-00001	Table 12.2-1, Public Attitude Research	D&C
EA-175	OPG will continue to work with various stakeholders to deliver its community and recreational initiatives through existing community liaison measures. In addition, OPG will continue to keep its neighbours, Aboriginal communities and the broader public informed concerning the activities at the Bruce nuclear site as appropriate to each phase of the DGR Project, and will maintain its contribution to the community through its Community Partnership Program.	Environmental Impact Statement, 00216-REP-07701-00001	C 3.3.4, pg C-56	D&C OPS DEC
EA-176	OPG will continue to keep its neighbours and the broader public informed concerning activities at the Bruce nuclear site as appropriate to each phase of the DGR Project.	Environmental Impact Statement, 00216-REP-07701-00001	C 3.5.2, pg c-58	D&C OPS DEC

Table A.1: Commitments in Environmental Impact Statement (EIS)			
Commitment No.	**Commitment Description**	**Reference**	**DGR Phase**
EA-177	OPG will maintain its contributions to the community through its Corporate Citizenship Program and will continue to work with various stakeholders and Aboriginal communities to deliver its community, recreational and education initiatives.	Environmental Impact Statement, 00216-REP-07701-00001 C 3.5.2, pg c-58	D&C OPS

Table A.2: Commitments in EA Follow-up Monitoring Program and in EIS TSDs

Table A.2: Commitments in EA Follow-up Monitoring Program and in EIS Technical Support Documents				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
EAFMP-01	DGR EA Follow-up Monitoring Program, NWMO DGR-TR-2011-10 (The complete document is essentially commitments.)	N/A		D&C OPS
EA-178	Local aggregate use and market effects will be limited as excavated rock will be kept on-site.	Aboriginal Interests TSD, NWMO DGR-TR-2011-09	Sec. ES.4 Sec. 14	D&C OPS
EA-179	In the event that human remains are encountered in [the] portion of CSA-B [that occurs within the Project Area] or elsewhere in the Project Area, OPG will ensure that all activity in the vicinity of the discovery is temporarily suspended and that the Ministry of Tourism and Culture, the Registrar of Cemeteries, the SON Environmental Office, HSMC and MNO headquarters, the South Bruce detachment of the Ontario Provincial Police and the local coroner be contacted immediately. [OPG would work with relevant parties to develop a plan that mitigates project-related effects on the discovered remains].	Aboriginal Interests TSD, NWMO DGR-TR-2011-09	Sec. 7.3.1	D&C
EA-180	OPG has stated in its Aboriginal Relations Policy that it is “committed to building long-term mutually beneficial working relationships with Aboriginal communities proximate to its present and future operations. OPG is committed to developing these relationships on a foundation of respect for the languages, customs, and political, social and cultural institutions of Aboriginal communities.”	Aboriginal Interests TSD, NWMO DGR-TR-2011-09	Sec. 7.4.1	All
EA-181	OPG and the NWMO continue to engage First Nation and Métis organizations on a variety of DGR Project-related issues, including employment and business opportunities. As the DGR Project is implemented, information regarding employment and business opportunities for Aboriginal communities will be made available through established liaison mechanisms, special events (e.g., meetings, workshops) and other communications.	Aboriginal Interests TSD, NWMO DGR-TR-2011-09	Sec. 8.2.1.1	All
EA-182	In-design mitigation measures to reduce the visual effect of the DGR Project include a setback of 200 m from the Interconnecting Road to the long-term waste management area and other visual screening (e.g., trees/berms).	Aboriginal Interests TSD, NWMO DGR-TR-2011-09	Sec. 8.3.2	D&C
EA-183	With the DGR Project, the SON will continue to have access to the [Jiibegmegoong] burial site.	Aboriginal Interests TSD, NWMO DGR-TR-2011-09	Sec. 8.3.2 See also Sec. 4.1.2 and Sec. 5.4.1.2	All

Table A.2: Commitments in EA Follow-up Monitoring Program and in EIS Technical Support Documents			
Commitment No.	**Commitment Description**	**Reference**	**DGR Phase**
EA-184	The follow-up monitoring proposed for the aquatic environment recommends monitoring: • dewatering in marsh habitat used by burrowing crayfish; • habitat re-growth in ditches; and • bank stability in ditches.	Aquatic Environment TSD, NWMO DGR-TR-2011-01 Sec. ES.5 See also Sec. 13	D&C
EA-185	The regular maintenance of the ditches (support and monitoring of the DGR life cycle) will include dredging to extract plant materials from the ditches to permit efficient flow. This activity will occur within ditches constructed as part of the DGR Project stormwater management system only.	Aquatic Environment TSD, NWMO DGR-TR-2011-01 Sec. 7.2.1	D&C OPS
EA-186	Timing of the construction of the abandoned rail bed crossing will take place according to the DFO Operational Statement-Timing Windows to ensure that critical life history stages such as spawning activities are protected by restricting the conduct of works or undertakings in and around water at certain times of the year. The South Railway Ditch contains a warm water fish community and generally, the warm water timing window begins July 1 and ends March 31. However, the Saugeen Valley Conservation Authority has made a specific recommendation for this particular construction work of an 'in-water' timing window of July 1 to September 30.	Aquatic Environment TSD, NWMO DGR-TR-2011-01 Sec. 8.2.2	D&C
EA-187	The rail bed crossing will minimize effects on the South Railway Ditch through incorporation of appropriate design features (e.g., embedded culvert for fish passage), specific mitigation measures (e.g., management of surface water runoff) and best management practices (e.g. erosion and sediment control) both during and after construction.	Aquatic Environment TSD, NWMO DGR-TR-2011-01 Sec. 8.2.2	D&C
EA-188	The application of standard measures to protect fish and fish habitat in the South Railway Ditch during the construction of the crossing is recommended. These mitigation measures include: • Install effective sediment and erosion control measures before starting work to prevent silt/sediment laden runoff from directly entering the water in the South Railway Ditch. • Operate machinery on land and in a manner that minimizes disturbance to the banks of the South Railway Ditch. Machinery should arrive on-site in a clean condition and should be maintained free of fluid leaks. Wash, refuel and service machinery and store fuel and other materials for the machinery away from the water to prevent any deleterious substance from entering the water. Keep an emergency spill kit on-site in case of fluid	Aquatic Environment TSD, NWMO DGR-TR-2011-01 Sec. 8.2.4	D&C

Table A.2: Commitments in EA Follow-up Monitoring Program and in EIS Technical Support Documents			
Commitment No.	**Commitment Description**	**Reference**	**DGR Phase**
	leaks or spills from machinery. • Use measures to prevent deleterious substances such as new concrete (i.e., it is precast, cured and dried before use near the watercourse), grout, paint and preservatives from entering the watercourse. • Vegetate any disturbed areas by planting and seeding preferably with native trees, shrubs or grasses and cover such areas with mulch to prevent erosion and to help seeds germinate. If there is insufficient time remaining in the growing season, the site should be stabilized (e.g., cover exposed areas with erosion control blankets to keep the soil in place and prevent erosion) and vegetated the following spring. • Isolate and dewater the section of the South Railway Ditch wherein the culvert will be placed. Prior to dewatering the work area, a fish salvage and relocation will be conducted so as to avoid any fish during construction.		
EA-189	Monitor re-growth of riparian vegetation following removal; note deficiencies in bank stability (i.e. erosion and slumping).	Aquatic Environment TSD, NWMO DGR-TR-2011-01 Table 13.1-1	D&C OPS
EA-190	Vibration monitoring.	Aquatic Environment TSD, NWMO DGR-TR-2011-01 Table 13.1-1	D&C OPS
EA-191	Monitor stability and re-vegetation of new ditches.	Aquatic Environment TSD, NWMO DGR-TR-2011-01 Table 13.1-1	D&C
EA-192	Monitor the on-site marsh for confirmation that excavation of underground facilities does not dewater marsh habitat utilized by burrowing crayfish; compare the groundwater levels with a water level gauge located in the marsh to determine if there is any effect on water levels.	Aquatic Environment TSD, NWMO DGR-TR-2011-01 Table 13.1-1	D&C
EA-193	OPG will apply to the Saugeen Valley Conservation Authority for a permit under O. Reg. 169/06 (Development, Interference with Wetlands, and Alterations to Shorelines and Watercourses Regulation) for construction of the crossing over the abandoned rail bed.	Aquatic Environment TSD, NWMO DGR-TR-2011-01 Sec. 13.2	D&C

Table A.2: Commitments in EA Follow-up Monitoring Program and in EIS Technical Support Documents				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
EA-194	The DGR Project will maintain a 30 m setback from the marsh area in the northeast portion of the Project Area. Therefore, it is not expected that a permit will be necessary for these project activities.	Aquatic Environment TSD, NWMO DGR-TR-2011-01	Sec. 13.2	D&C
EA-195	If fish salvage is required prior to the construction of the crossing over the abandoned rail bed, a Fish Collection Permit will be obtained from the Ontario Ministry of Natural Resources.	Aquatic Environment TSD, NWMO DGR-TR-2011-01	Sec. 13.2	D&C
EA-196	On-site vehicles and equipment engines will meet Tier 2 emission standards and be maintained in good working order.	Atmospheric Environment TSD, NWMO DGR-TR-2011-02	Table 8.2.2-1	D&C OPS DEC
EA-197	Equipment will be available and maintained on-site to water roadways as required.	Atmospheric Environment TSD, NWMO DGR-TR-2011-02	Table 8.2.2-1 See also Sec. 10.3.2 and Table 10.3.2-1	D&C
EA-198	On-site vehicles and equipment will be equipped with appropriate silencers and maintained in good working order.	Atmospheric Environment TSD, NWMO DGR-TR-2011-02	Table 8.3.2-1	D&C OPS DEC
EA-199	Fans maintained in good working order.	Atmospheric Environment TSD, NWMO DGR-TR-2011-02	Table 8.3.2-1	D&C OPS
EA-200	Air Quality monitoring: $PM_{2.5}$ and PM_{10} monitoring.	Atmospheric Environment TSD, NWMO DGR-TR-2011-02	Table 13.1-1 Sec. 14 Sec. ES.5	D&C
EA-201	Air quality monitoring: NO_X and NO_2.	Atmospheric Environment TSD, NWMO DGR-TR-2011-02	Table 13.1-1 Sec. ES.5	D&C
EA-202	Noise monitoring.	Atmospheric Environment TSD, NWMO DGR-TR-2011-02	Table 13.1-1 Sec. 14 Sec. ES.5	D&C

Table A.2: Commitments in EA Follow-up Monitoring Program and in EIS Technical Support Documents				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
EA-203	Fisheries and Oceans Canada (DFO) has established a set of guidelines for the use of explosives in or near Canadian fisheries waters. These guidelines set out that "No explosive may be used that produces or is likely to produce, a peak particle velocity greater than 13 mm/s in a spawning bed during egg incubation". Under conditions where these guidelines could not be met the proponent would be required to prepare a mitigative plan outlining additional procedures for protecting fish and their habitat.	Atmospheric Environment TSD, NWMO DGR-TR-2011-02	Sec. I4 (Appendix I)	D&C
EA-204	The initial series of regular production blasts shall be monitoring at varying distances from each blast to characterize the site specific ground vibration attenuation rates. This would entail establishing monitoring stations between the blast site and adjacent receptors during the initial series of shaft blasts. The site specific attenuation data developed during this monitoring period should then be used to better define ground vibration effects at the closest sensitive receptors.	Atmospheric Environment TSD, NWMO DGR-TR-2011-02	Sec. I9 (Appendix I)	D&C
EA-205	Subsequent [to initial phase monitoring] routine monitoring of all blasting operations should be carried out in the vicinity of the closest receptors to the proposed blasting operations.	Atmospheric Environment TSD, NWMO DGR-TR-2011-02	Sec. I9 (Appendix I)	D&C
EA-206	A communication program should be implemented to keep neighbours informed of the status of activity. During blasting near surface, blasting should take place during daylight hours.	Atmospheric Environment TSD, NWMO DGR-TR-2011-02	Sec. I9 (Appendix I)	D&C
EA-207	Follow-up monitoring of shallow subsurface groundwater flow is dependent on the results of the shaft pilot programs, which are to be established prior to excavation and construction.	Geology TSD, NWMO DGR-TR-2011-03	ES.5	D&C
EA-208	This [groundwater system] indicator is measured by routine annual groundwater level monitoring of the current WWMF monitoring well network, and will continue to be measured through monitoring of this network and future monitoring locations that may be established as the DGR Project proceeds throughout all of its phases.	Geology TSD, NWMO DGR-TR-2011-03	Sec. 4.2.3 See also Sec. 13	D&C OPS DEC

Table A.2: Commitments in EA Follow-up Monitoring Program and in EIS Technical Support Documents				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
EA-209	Water level monitoring of engineering controls associated with the project, such as foundation drains, sumps, or drainage ditches, may be undertaken throughout the life of the project to evaluate potential changes in the local shallow groundwater flow regime.	Geology TSD, NWMO DGR-TR-2011-03	Sec. 4.2.3	D&C
EA-210	Also, the shale pile will be covered with overburden excavated from the shafts or other clean fill from on-site projects, should the shale pile remain on-site for more than one year.	Geology TSD, NWMO DGR-TR-2011-03	Sec. 7.2.1.3	D&C
EA-211	The discharge [from the stormwater management pond] will be monitored to confirm it meets water quality permitting requirements.	Geology TSD, NWMO DGR-TR-2011-03	Sec. 7.4.2.1 (Changes in Surface Water Quality)	D&C OPS
EA-212	In the event of such [a malfunction or accident], follow-up monitoring [of soil quality] may include a number of activities, including surficial soil sampling, subsurface soil investigations (i.e., borehole drilling with soil sampling for analysis), and potentially, soil remediation. The purpose of these activities would be to ensure compliance with the prevailing regulatory standards, which are currently the MOE Table 3 SCS. If non-compliant, determine additional mitigation required to be compliant, as required under *Ontario Environmental Protection Act*.	Geology TSD, NWMO DGR-TR-2011-03	Sec. 13.1 *(Soil Quality)* See also Table 13.1-1 See also ES.5	D&C OPS DEC
EA-213	In the event of such [a malfunction or accident], follow-up monitoring [related to overburden groundwater quality] may include a number of activities, including monitoring well installation, periodic groundwater quality monitoring, and, if necessary, groundwater remediation. The purpose of these activities would be to ensure compliance with the prevailing regulatory standards, which are currently the MOE Table 3 SCS. If non-compliant, determine additional mitigation required to be compliant, as required under *Ontario Environmental Protection Act*.	Geology TSD, NWMO DGR-TR-2011-03	Sec. 13.1 *(Overburden Groundwater Quality)* See also Table 13.1-1 See also ES.5	D&C OPS DEC
EA-214	Groundwater will be discharged to the stormwater drainage system and management pond during dewatering activities. Prior to discharging this water to the drainage ditch, the water may be analyzed for a number of conventional parameters to ensure compliance with applicable discharge requirements.	Geology TSD, NWMO DGR-TR-2011-03	Sec. 13.1 (Overburden Groundwater Quality)	D&C OPS

Table A.2: Commitments in EA Follow-up Monitoring Program and in EIS Technical Support Documents				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
EA-215	It is expected that follow-up monitoring of the groundwater flow VECs will include monitoring well nest instrumentation and a subsequent water level monitoring program.	Geology TSD, NWMO DGR-TR-2011-03	Sec. 13.1 (Overburden, Shallow Bedrock, Intermediate Bedrock and Deep Bedrock Solute Transport)	D&C
EA-216	Prior to the construction of underground facilities, it is expected that a test well(s) and pumping test program will be implemented to assess the Project Area aquifer(s) properties, estimate the expected Zone of Influence (ZOI), and prepare a dewatering plan for the construction of underground facilities. This testing program would also include implementation of a water level monitoring program before, during, and after the pumping test. Anticipated ZOI benchmark to be established during the pumping test for Permit to Take Water Application (regulatory requirement – Ontario Water Resources Act).	Geology TSD, NWMO DGR-TR-2011-03	Sec. 13.1 (Overburden, Shallow Bedrock, Intermediate Bedrock and Deep Bedrock Solute Transport) See also Table 13.1-1	D&C
EA-217	A monitoring program to test/confirm the findings and interpretation of the Geosynthesis regarding groundwater quality, while construction is underway will be conducted. The scope and details of this monitoring program will be established by NWMO and their consulting team at the appropriate time (i.e., upon completion of Phase 2 Geosynthesis activities, and prior to site preparation).	Geology TSD, NWMO DGR-TR-2011-03	Sec. 13.1 (Shallow, Intermediate and Deep Bedrock Groundwater Quality)	D&C
EA-218	Monitor overburden groundwater transport to confirm EA predictions of no measurable change in groundwater levels beyond the Site Study Area.	Geology TSD, NWMO DGR-TR-2011-03	Table 13.1-1	D&C
EA-219	Monitor the following to confirm predictions of the Geosynthesis program: • Shallow bedrock groundwater quality • Shallow bedrock groundwater and solute transport • Intermediate bedrock quality • Intermediate bedrock solute transport • Deep bedrock water quality • Deep bedrock solute transport.	Geology TSD, NWMO DGR-TR-2011-03	Table 13.1-1	D&C

Table A.2: Commitments in EA Follow-up Monitoring Program and in EIS Technical Support Documents				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
EA-220	For the drainage ditch under Interconnecting Road, the channel capacity should be evaluated during detailed design to ensure the ditch can properly convey the expected flows from the stormwater management pond.	Hydrology and Surface Water Quality TSD, NWMO DGR-TR-2011-04	Sec. 8.2.5	D&C
EA-221	A normally open manual control gate will control the discharge of water from the stormwater management pond. The gate will be closed if water samples from the pond show contaminant levels above certificate of approval discharge criteria.	Hydrology and Surface Water Quality TSD, NWMO DGR-TR-2011-04	Sec. 8.3.2 See also Sec. 8.3.5	D&C OPS
EA-222	Confirm site discharge meets certificate of approval discharge criteria.	Hydrology and Surface Water Quality TSD, NWMO DGR-TR-2011-04	Table 13.1-1 Also see Sec. ES.5	D&C OPS
EA-223	Confirm effectiveness of water treatment.	Hydrology and Surface Water Quality TSD, NWMO DGR-TR-2011-04	Table 13.1-1 Also see Sec. ES.5	D&C OPS
EA-224	Mitigation strategies and emergency procedures for operations will remain in place during decommissioning.	Malfunctions, Accidents, and Malevolent Acts TSD, NWMO DGR-TR-2011-07	Sec. 4.2.3	DEC
EA-225	In the unlikely event of a radiological accident involving the DGR Project, unplanned releases will be controlled.	Malfunctions, Accidents, and Malevolent Acts TSD, NWMO DGR-TR-2011-07	Sec. 4.3.1.3	OPS
EA-226	To ensure [workers reach safe breathing space within five minutes] training, appropriate placement of equipment and underground refuge stations, adequate fire detection and warning systems, and appropriate site monitoring and communication systems will be implemented.	Malfunctions, Accidents, and Malevolent Acts TSD, NWMO DGR-TR-2011-07	Sec. 4.4	D&C OPS DEC
EA-227	Effects from potential accidents can be minimized or controlled through implementation of the following mitigation measures: • Minimization of combustible materials and ignition sources, especially near waste packages • Use of overpacking and shielding on higher activity packages • Limited number of packages handled in any transfer	Malfunctions, Accidents, and Malevolent Acts TSD, NWMO DGR-TR-2011-07	Sec. 4.4	D&C OPS DEC

Table A.2: Commitments in EA Follow-up Monitoring Program and in EIS Technical Support Documents			
Commitment No.	**Commitment Description**	**Reference**	**DGR Phase**
	• Limited equipment speeds • Fire detection and suppression equipment, such as automatic fire suppression systems on diesel transfer equipment • Appropriate follow-up measures corresponding to the results of contamination and dose rate monitoring • Access to refuge stations and safety equipment • Appropriate worker training and operating procedures • Emergency communication systems.		
EA-228	Contingency plans will be in place, and emergency response, including mine rescue, will be available to protect workers.	Malfunctions, Accidents, and Malevolent Acts TSD, NWMO DGR-TR-2011-07 Sec. 4.4	D&C OPS DEC
EA-229	For situations in which consequences of accident assessment are not negligible, mitigation will be achieved through one or more of the following: • Design mitigation • Preventative measures to reduce further the likelihood of such accidents • Controls installed on equipment to restrain their movement (e.g., limit switches) • Administrative controls (mainly through procedures) • Worker training.	Malfunctions, Accidents, and Malevolent Acts TSD, NWMO DGR-TR-2011-07 Sec. 4.4.1	D&C OPS DEC
EA-230	A spill to one of the on-site ditches would be collected, and directed via the stormwater management ditches to the stormwater management pond where it can be held until it is determined that it is suitable for discharge.	Malfunctions, Accidents, and Malevolent Acts TSD, NWMO DGR-TR-2011-07 Sec. 5.4.1.1	D&C OPS
EA-231	To mitigate the effects of spills, appropriately equipped and trained on-site spills response teams will be available at all times as part of emergency response programs. For example, a spill of diesel fuel would be mitigated by quickly assessing the situation for any immediate health and safety risks to the spills response team, on-site workers and the public by controlling the source of the spill and notifying the appropriate regulatory agencies, deploying containment booms to surround and contain the spill, and finally, by implementing an effective clean-up program that would likely involve the use of specialized equipment to pump the diesel fuel into secure containers.	Malfunctions, Accidents, and Malevolent Acts TSD, NWMO DGR-TR-2011-07 Sec. 5.4.1.1	D&C OPS DEC

Table A.2: Commitments in EA Follow-up Monitoring Program and in EIS Technical Support Documents				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
EA-232	Any spills would be responded to quickly.	Malfunctions, Accidents, and Malevolent Acts TSD, NWMO DGR-TR-2011-07	Sec. 5.4.1.1	D&C OPS DEC
EA-233	Measures for spill containment, spill emergency response and environmental protection will be in place before any potentially hazardous materials are brought on-site.	Malfunctions, Accidents, and Malevolent Acts TSD, NWMO DGR-TR-2011-07	Sec. 5.4.1.1	D&C OPS DEC
EA-234	Filled rooms will be closed and monitored.	Malfunctions, Accidents, and Malevolent Acts TSD, NWMO DGR-TR-2011-07	Sec. 6.2.2.1	OPS
EA-235	Diesel fuel will be kept in limited quantities underground, in a dedicated area.	Malfunctions, Accidents, and Malevolent Acts TSD, NWMO DGR-TR-2011-07	Sec. 6.2.2.1	D&C OPS
EA-236	Fuel will be moved underground in totes separate from waste package transfers.	Malfunctions, Accidents, and Malevolent Acts TSD, NWMO DGR-TR-2011-07	Sec. 6.2.2.1	D&C OPS
EA-237	Full fire detection and mitigation equipment will be in place.	Malfunctions, Accidents, and Malevolent Acts TSD, NWMO DGR-TR-2011-07	Sec. 6.2.2.1	D&C OPS DEC
EA-238	During operations, DGR workers will be NEWs. During the site preparation and construction and decommissioning phases, the construction workers will not be considered NEWs.	Radiation and Radioactivity TSD, NWMO DGR-TR-2011-06	Sec. 4.1.1	OPS
EA-239	No radioactive waste packages will be handled during decommissioning.	Radiation and Radioactivity TSD, NWMO DGR-TR-2011-06	Screening and assessment rationale (for example see Sec. 8.1.4.1)	DEC

Table A.2: Commitments in EA Follow-up Monitoring Program and in EIS Technical Support Documents				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
EA-240	Higher dose rate locations were identified where worker occupancy may be limited, for instance, near the face of an array of LLW or ILW packages in emplacement rooms. It would be appropriate to monitor the radiation fields in these locations, and if necessary, to limit worker exposure, use shielded forklifts, and/or use greater stand-off distances. This is considered further in the context of ALARA.	Radiation and Radioactivity TSD, NWMO DGR-TR-2011-06	Sec. 8.2.3.1 See also Sec. 8.2.6	OPS
EA-241	Air samples will be collected to monitor radioactivity in vent exhaust air, including the measurement of the concentration of radon in underground facilities to ensure the worker exposure to radioactivity is limited.	Radiation and Radioactivity TSD, NWMO DGR-TR-2011-06	Sec. 13.1 See also Table 13.1-1 and Sec. ES.5	OPS
EA-242	An external radiation monitoring program will be carried out during the site preparation and construction phase operations phase, and decommissioning phase respectively. The monitoring program during the site preparation and construction phase is to ensure that the exposure of DGR construction workers (non-NEWs) attributable to operations at the WWMF, which is in the vicinity of the DGR site, is properly managed.	Radiation and Radioactivity TSD, NWMO DGR-TR-2011-06	Sec. 13.1 See also Table 13.1-1 and Sec. ES.5	D&C OPS DEC
EA-243	Radiological analysis will be carried out for samples collected from monitoring wells around the DGR boundary to monitor any changes to groundwater radionuclide concentrations in the DGR Project Area, especially tritium levels.	Radiation and Radioactivity TSD, NWMO DGR-TR-2011-06	Sec. 13.1 See also Table 13.1-1 and Sec. ES.5	OPS
EA-244	Water samples collected from the stormwater management system will be analyzed to determine radionuclide concentrations in surface water.	Radiation and Radioactivity TSD, NWMO DGR-TR-2011-06	Sec. 13.1 See also Table 13.1-1 and Sec. ES.5	OPS
EA-245	A dose monitoring program will be carried out to determine worker exposure to radiation and radioactivity: 1. Measure contact dose on packages 2. Measure ambient dose rate in accessible areas 3. Measure worker dose.	Radiation and Radioactivity TSD, NWMO DGR-TR-2011-06	Sec. 13.1 See also Table 13.1-1 and Sec. ES.5	OPS

Table A.2: Commitments in EA Follow-up Monitoring Program and in EIS Technical Support Documents				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
EA-246	The ventilation exhaust shaft is not a normally occupied area, and would have appropriate access controls to limit exposure.	Radiation and Radioactivity TSD, NWMO DGR-TR-2011-06	Appendix D - D1.Estimated Worker Inhalation Dose	D&C OPS
EA-247	The ventilation shaft conditions are monitored, and if necessary, worker exposure can be reduced through use of appropriate protective equipment and/or by adjusting the air flow for the duration of each inspection to provide cleaner air.	Radiation and Radioactivity TSD, NWMO DGR-TR-2011-06	Appendix D - D1.Estimated Worker Inhalation Dose	OPS
EA-248	It is recommended that OPG continue to monitor public attitudes toward the DGR Project. PAR will be undertaken one time during each of the site preparation and construction, and decommissioning phases and subsequent to any accidents or malfunctions involving the DGR Project that result in an unplanned release of radioactivity to the environment. OPG will assess the need for PAR during the operations phase in conjunction with its ongoing programs.	Socio-Economic Environment TSD, NWMO DGR-TR-2011-08	ES.5 Sec. 13.1	D&C OPS DEC
EA-249	OPG will share information with local and regional land use planners and economic development officials regarding the timing and magnitude of meaningful changes in its on-site labour force and skills requirements for each phase of the DGR Project.	Socio-Economic Environment TSD, NWMO DGR-TR-2011-08	Sec. 8.3.1.2 Sec. 8.3.2.1 Sec. 8.4.6.4	D&C OPS DEC
EA-250	Bruce Power and OPG will work co-operatively with Emergency Management Ontario and other local emergency responders to assist in the development and testing of emergency plans throughout the life of the DGR Project. Local fire departments may require additional orientation and training of their staff regarding the presence of new above-ground and below-ground facilities and equipment. Some may require specialized training and resources to respond to emergencies, especially below-ground emergencies, which are likely to be new and unfamiliar to emergency response staff, should they be called upon to assist.	Socio-Economic Environment TSD, NWMO DGR-TR-2011-08	Sec. 8.3.2.3	D&C OPS

Table A.2: Commitments in EA Follow-up Monitoring Program and in EIS Technical Support Documents			
Commitment No.	**Commitment Description**	**Reference**	**DGR Phase**
EA-251	OPG will ensure that an emergency and fire response plan is prepared and implemented for the DGR Project, including plans for mine rescue. In addition, OPG will share DGR Project information with local and regional health and safety service providers about timing and large changes in the magnitude of its on-site labour force and training opportunities applicable to each phase of the DGR Project.	Socio-Economic Environment TSD, NWMO DGR-TR-2011-08 Sec. 8.3.2.3	D&C OPS DEC
EA-252	To enhance the potential for beneficial effects on local and regional business activity, the DGR Project non-salary expenditures will be sourced locally wherever practical and in accordance with relevant supply chain policies, procedures and standards for competitive purchasing.	Socio-Economic Environment TSD, NWMO DGR-TR-2011-08 Sec. 8.4.2.2	D&C OPS DEC
EA-253	Farmers in the Local Study Area along the transportation route should be informed if and when oversize or slow-moving project-related vehicles will be on local or municipal area roads during the planting or harvesting season.	Socio-Economic Environment TSD, NWMO DGR-TR-2011-08 Sec. 8.4.6.3	D&C OPS DEC
EA-254	In collaboration with relevant stakeholders, OPG will develop and implement a traffic management plan that will serve to minimize DGR Project related peak hour volumes. Specific measures may include: staggering of shifts, encouraging ride sharing and the use of shuttle buses, and off-peak timing of shipments of materials and wastes on and off the DGR Project site.	Socio-Economic Environment TSD, NWMO DGR-TR-2011-08 Sec. 8.5.3.2	D&C OPS DEC
EA-255	OPG will continue to keep its neighbours and the broader public informed concerning DGR Project activities at the Bruce nuclear site.	Socio-Economic Environment TSD, NWMO DGR-TR-2011-08 Sec. 8.6.1	D&C OPS DEC
EA-256	In the unlikely event that artifacts that could be associated with a cultural or heritage resource are encountered, the activities will be curtailed until further assessment (i.e, a Stage 3 and/or 4 archaeological assessment) can be undertaken to protect the resource from further disturbance and conserve its cultural heritage value.	Socio-Economic Environment TSD, NWMO DGR-TR-2011-08 Sec. 8.6.2.1	D&C

Table A.2: Commitments in EA Follow-up Monitoring Program and in EIS Technical Support Documents				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
EA-257	OPG will continue to keep its neighbours and the broader public informed concerning its activities at the Bruce nuclear site as appropriate to each phase of the DGR Project, and will continue to make contributions to the community through its Corporate Citizenship Program.	Socio-Economic Environment TSD, NWMO DGR-TR-2011-08	Sec. 8.6.2.2 Sec. 8.6.2.3 Sec. 8.6.2.4	D&C OPS DEC
EA-258	OPG will continue to make contributions to the community through its Corporate Citizenship Program and will continue to work with various stakeholders to deliver its community, recreational and educational initiatives.	Socio-Economic Environment TSD, NWMO DGR-TR-2011-08	Sec. 8.6.2.4	D&C OPS DEC
EA-259	The DGR Project will provide OPG with opportunities to continue its presence as an economic driver and corporate citizen in the Local Study Area. OPG is and will continue to be an employer that promotes community cohesion through its Corporate Citizenship Program and the community initiatives of its employees. Through the ongoing delivery of such programs and activities and the opportunities for their expansion, OPG and its partners will continue to foster socially meaningful interactions within the community, thereby strengthening its positive influence on community cohesion. This will benefit not only those who directly engage in these programs and activities, but also all residents living in the Local and Regional Study Area.	Socio-Economic Environment TSD, NWMO DGR-TR-2011-08	Sec. 8.6.2.4	D&C OPS DEC
EA-260	Unusual demands on local fire, EMS and policing services could reduce the ability to respond to an emergency associated with the DGR and this contingency should be included in the coordination of emergency services planning.	Socio-Economic Environment TSD, NWMO DGR-TR-2011-08	Sec. 9.4	D&C OPS DEC
EA-261	The follow-up monitoring proposed for terrestrial environment recommends monitoring plant species communities and wildlife habitat use adjacent to the areas which have been cleared following the site preparation and construction phase.	Terrestrial Environment TSD, NWMO DGR-TR-2011-05	ES.5, Sec. 13.1	D&C
EA-262	No stormwater discharge runoff will be directed to the North Railway Ditch or to Stream C.	Terrestrial Environment TSD, NWMO DGR-TR-2011-05	Sec. 7.2.2.3	D&C

Table A.2: Commitments in EA Follow-up Monitoring Program and in EIS Technical Support Documents				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
EA-263	The site preparation activities will avoid key habitat areas for herpetofauna.	Terrestrial Environment TSD, NWMO DGR-TR-2011-05	Sec. 7.3.1.4 (Habitat Utilization Opportunities)	D&C
EA-264	No wetland communities or open water will be removed during site preparation.	Terrestrial Environment TSD, NWMO DGR-TR-2011-05	Sec. 7.3.1.5 (Habitat Utilization Opportunities)	D&C
EA-265	No deciduous forest communities will be removed during site preparation.	Terrestrial Environment TSD, NWMO DGR-TR-2011-05	Sec. 7.3.1.6 (Habitat Utilization Opportunities)	D&C
EA-266	Suitable mitigation measures to minimize the loss of both species and habitat associated with the mixed forest clearing on the site should include a combination of methods. Opportunities to retain tree cover should be investigated where possible. Where retention is not possible, exclusionary fencing surrounding the DGR Project site is recommended to prevent additional loss of specimens and habitat during construction.	Terrestrial Environment TSD, NWMO DGR-TR-2011-05	Sec. 8.2.3	D&C
EA-267	Generally accepted Best Management Practices for construction would be used to minimize the transfer of soils from the DGR Project site to natural features within the Project Area and Site Study Area.	Terrestrial Environment TSD, NWMO DGR-TR-2011-05	Sec. 8.2.3	D&C
EA-268	Rehabilitation after decommissioning of the project may include both active and passive naturalization of the Project Area to provide additional suitable habitat.	Terrestrial Environment TSD, NWMO DGR-TR-2011-05	Sec. 8.2.3	DEC
EA-269	In accordance with the Migratory Birds Convention Act, the site preparation activities will avoid vegetation clearing during the breeding bird season (May 1st to July 31st), wherever possible. If clearing cannot be scheduled outside the prime nesting season, a nest survey should be conducted to ensure there are no active nests in the trees to be felled. If found, no active nests will be removed or disturbed in accordance with the Migratory Birds Convention Act.	Terrestrial Environment TSD, NWMO DGR-TR-2011-05	Sec. 8.3.3	D&C

Table A.3: Commitments in Preliminary Safety Report and PSR Support Reports

Table A.3: Commitments in the Preliminary Safety Report and PSR Support Reports			
Commitment No.	**Commitment Description**	**Reference**	**DGR Phase**
LIC-001	Following decommissioning of the repository, institutional controls will be put in place in order to prevent inappropriate land use, including drilling, deep excavation or disruption of the shaft seals.	Preliminary Safety Report, 00216-SR-01320-00001 Sec. 1.3.2	DEC
LIC-002	It is OPG's intention that the DGR project will meet or exceed all regulatory requirements during site preparation, construction, operation and beyond.	Preliminary Safety Report, 00216-SR-01320-00001 Sec. 1.4	All
LIC-003	The project is committed to ensuring that developing, constructing, operating, decommissioning, and closing the DGR will be carried out in a manner that protects workers, the public and the environment, and meets or exceeds applicable regulatory requirements.	Preliminary Safety Report, 00216-SR-01320-00001 Sec. 1.9.1	All
LIC-004	The descriptive geosphere site model will continue to be updated as further information becomes available, including during the construction and operations phases.	Preliminary Safety Report, 00216-SR-01320-00001 Sec. 1.9.2	D&C OPS
LIC-005	Potential hazards were identified and assessed through all stages of design to date and will continue to be assessed as the design is advanced. Features have been incorporated into DGR design to mitigate hazards and construction methods will be selected to mitigate any hazards associated with construction of the facility.	Preliminary Safety Report, 00216-SR-01320-00001 Sec. 1.9.3	D&C
LIC-006	The shafts will be backfilled at the end of the operational period.	Preliminary Safety Report, 00216-SR-01320-00001 Sec. 4.5.5	DEC
LIC-007	The DGR will not accept used fuel or recognizable fuel fragments. The DGR also excludes liquid wastes, except for small amounts of incidental liquids that are inevitably associated with the solid wastes.	Preliminary Safety Report, 00216-SR-01320-00001 Sec. 5.2	All
LIC-008	All LLW and ILW will be shipped or transferred to the DGR Facility in waste packages that meet the DGR waste acceptance criteria. The DGR waste acceptance criteria have been developed to ensure that the wastes emplaced in the DGR are within the bounds of the safety assessment, design basis and regulatory requirements. The criteria are summarized in Table 5-5.	Preliminary Safety Report, 00216-SR-01320-00001 Sec. 5.5	OPS

Table A.3: Commitments in the Preliminary Safety Report and PSR Support Reports				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
LIC-009	Waste containers and inventories stored at WWMF are presently tracked using OPG's Integrated Waste Tracking System (IWTS) electronic waste tracking database (ANDERSON05). This system, or a similar one, will be adopted for the DGR, so that waste packages will be tracked with respect to their location within the DGR. This system will contain information on the characteristics of each package, and will have the ability to produce reports on the waste inventory within the DGR at any time.	Preliminary Safety Report, 00216-SR-01320-00001	Sec. 5.7	OPS
LIC-010	Waste packages transferred to the DGR will contain additional shielding as needed in order to meet the waste acceptance criteria (Table 5-5).	Preliminary Safety Report, 00216-SR-01320-00001	Sec. 5.9	OPS
LIC-011	The compressor building located close to the main shaft houses two compressors that provide compressed air for surface and underground maintenance. In the event of an underground emergency, these compressors will be used to provide breathing air to the underground refuge stations.	Preliminary Safety Report, 00216-SR-01320-00001	Sec. 6.2.1.4	D&C OPS
LIC-012	Two fans of equal specification are located at the intake of the heater house and will include silencers as required.	Preliminary Safety Report, 00216-SR-01320-00001	Sec. 6.2.1.5	D&C OPS
LIC-013	Inspection and maintenance programs will be implemented to ensure the reliability of the emergency power system.	Preliminary Safety Report, 00216-SR-01320-00001	Sec. 6.2.4.1	OPS
LIC-014	During facility operation, diesel fuel will not be stored on surface at the DGR site, with the exception of the diesel tank for emergency power generators.	Preliminary Safety Report, 00216-SR-01320-00001	Sec. 6.2.4.4	OPS
LIC-015	Stress direction will be confirmed following shaft sinking.	Preliminary Safety Report, 00216-SR-01320-00001	Sec. 6.3	D&C
LIC-016	At no time will radioactive waste be transferred in the main cage while personnel are being concurrently transferred in the auxiliary cage under normal operating conditions.	Preliminary Safety Report, 00216-SR-01320-00001	Sec. 6.3.1.3	OPS
LIC-017	Upon the completion of emplacement room construction, there will be a period of time before active emplacement commences. [..] These rooms are considered "confined spaces" (Reg. 854, Part XII) and access to non-active empty rooms prevented.	Preliminary Safety Report, 00216-SR-01320-00001	Sec. 6.3.8.3 Sec. 6.12 Sec. 6.13	D&C OPS

Table A.3: Commitments in the Preliminary Safety Report and PSR Support Reports			
Commitment No.	**Commitment Description**	**Reference**	**DGR Phase**
	Unventilated empty rooms will therefore require: - Installation of a barricade at the entrance to the room; - Adequate signage indicating entry is prohibited; and - A procedure for re-entry (e.g. inspection of regulator, air monitoring, ground inspection, etc.) that meets acceptable atmospheric conditions (Reg. 854 Section 294) and developed health and safety guidelines. Following emplacement activities, a filled emplacement room will be monitored while adjacent rooms are being filled. […] An end wall will be constructed, as required, at the entrance to each emplacement room to provide worker protection from radiation from the waste packages in the room, prevent people from entering the room and/or to control ventilation airflow.		
LIC-018	A geologic instrumentation and monitoring program will be developed for the DGR. The monitoring plan will include as a minimum: • Pillar convergence monitoring extensometers; • Rock bolt and shotcrete load cells; • Multi-point borehole extensometers to measure roof convergence; and • Tape or laser extensometer arrays to measure convergence of rock openings.	Preliminary Safety Report, 00216-SR-01320-00001 Sec. 6.3.9	D&C
LIC-019	Fuel totes will never be transferred in the main shaft cage at the same time explosives or waste packages are delivered underground.	Preliminary Safety Report, 00216-SR-01320-00001 Sec. 6.3.10.2	D&C OPS
LIC-020	Water from the main shaft, ventilation shaft, Panel 1, Panel 2 and the shaft and services area is collected in sumps at each of these locations and pumped to the dewatering sump. Periodic sampling of the ventilation sump water to test for tritium concentrations will be performed.	Preliminary Safety Report, 00216-SR-01320-00001 Sec. 6.3.10.4	D&C OPS
LIC-021	A sump being cleaned will need to be pumped empty and the incoming line will be locked out as required. To handle sediment material, manual cleaning via pressure washer and industrial vacuums will be used as appropriate.	Preliminary Safety Report, 00216-SR-01320-00001 Sec. 6.3.10.4	D&C OPS

Table A.3: Commitments in the Preliminary Safety Report and PSR Support Reports				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
LIC-022	For sewage in the underground areas, toilets will be provided at the sanitary facilities. These “mine toilets” are typical to underground mining applications and use compressed air to function as simple, small-scale sewage treatment plants. This allows the self-contained toilet/reservoir units to function for approximately 18 months before a fluid clean-out is required. These will be forkliftable and will be taken to surface for the clean-out work to be completed.	Preliminary Safety Report, 00216-SR-01320-00001	Sec. 6.3.10.5	D&C OPS
LIC-023	All waste packages delivered to the DGR will be required to meet the waste acceptance criteria described in Section 5.5. All packages will have lids and will be free of loose contamination.	Preliminary Safety Report, 00216-SR-01320-00001	Sec. 6.4 Sec. 6.10.2	OPS
LIC-024	Removable shielding and specialized lifting hardware, if required, will be installed at the WWMF during retrieval from storage.	Preliminary Safety Report, 00216-SR-01320-00001	Sec. 6.4.2.1	D&C OPS
LIC-025	All packages retrieved from WWMF will be transferred in a DGR-ready state on flat-bed transporters, covered transporters, or forklifts to the WPRB. The packages will be inspected to ensure that damage has not occurred in transfer and confirmed that waste acceptance criteria have been met.	Preliminary Safety Report, 00216-SR-01320-00001	Sec. 6.5.1.1	OPS
LIC-026	All materials will be stored and handled according to the Workplace Hazardous Materials Information System (WHMIS).	Preliminary Safety Report, 00216-SR-01320-00001	Sec. 6.7.1	D&C OPS
LIC-027	No explosives will be stored underground during the operational phase of the DGR.	Preliminary Safety Report, 00216-SR-01320-00001	Sec. 6.8.1	OPS
LIC-028	For the surface facilities, fire detection and alarming will be in accordance with the National Building Code of Canada and the National Fire Code of Canada.	Preliminary Safety Report, 00216-SR-01320-00001	Sec. 6.8.2.1	D&C
LIC-029	Underground, fire detection will be achieved using smoke and carbon monoxide detectors at key points in the facility.	Preliminary Safety Report, 00216-SR-01320-00001	Sec. 6.8.2.2	D&C

Table A.3: Commitments in the Preliminary Safety Report and PSR Support Reports			
Commitment No.	**Commitment Description**	**Reference**	**DGR Phase**
LIC-030	During detailed design, each building will be evaluated and zoned such that areas within each building may have different fire suppression requirements due to the potential fire hazard or to protect equipment and personnel.	Preliminary Safety Report, 00216-SR-01320-00001 Sec. 6.8.3.1	D&C
LIC-031	At any workplace that is not a fixed location (e.g., maintenance shop), workers must have a fire extinguisher available and close at hand.	Preliminary Safety Report, 00216-SR-01320-00001 Sec. 6.8.3.2	D&C OPS
LIC-032	The following events […] will have the same emergency response procedure: fire; explosion; CO alarm; and explosive gas monitor alarm.	Preliminary Safety Report, 00216-SR-01320-00001 Sec. 6.9.1	OPS
LIC-033	As all areas underground (i.e., below the shaft collars) are Zone 2, access to the lunch room underground will require the use of the whole body and small article monitors.	Preliminary Safety Report, 00216-SR-01320-00001 Sec. 6.10.1	OPS
LIC-034	• The maintenance shop will contain materials and equipment that can be used to decontaminate forklifts or other mobile equipment that are discovered to be contaminated underground; • Materials will be provided next to the WBM underground that will be used to contain contamination so that personnel may be transported to surface to the decontamination facility; • The refuge stations will be equipped with radiation protection equipment for monitoring and decontamination of staff in the event that an accidental radiation release from any waste packages should occur; and • Detailed procedures for decontamination underground will be developed.	Preliminary Safety Report, 00216-SR-01320-00001 Sec. 6.10.2	D&C OPS
LIC-035	Radiation monitoring will be provided at the DGR Facility to ensure radiation levels in air and water are consistent with regulatory limits.	Preliminary Safety Report, 00216-SR-01320-00001 Sec. 6.11	D&C
LIC-036	Air quality underground will be monitored to ensure that the health and safety of personnel within the repository is not compromised. The monitoring system will ensure: • Levels of noxious and explosive gases do not exceed regulatory limits (Section 294, Reg. 854); and • Airflows remain adequate for the equipment or activity in active work areas.	Preliminary Safety Report, 00216-SR-01320-00001 Sec. 6.12	OPS

Table A.3: Commitments in the Preliminary Safety Report and PSR Support Reports			
Commitment No.	**Commitment Description**	**Reference**	**DGR Phase**
LIC-037	Explosive gas monitors will also be installed to monitor a range of potential gases, including methane and hydrogen. Instrumentation measuring airflow, temperature, relative humidity, etc. will be installed at the main shaft. Emplacement room exhaust regulators will be equipped with combustible gas monitors to monitor a range of potential gases, including methane and hydrogen. All measurements will be monitored remotely on surface at the main control room and will also be available to be monitored underground.	Preliminary Safety Report, 00216-SR-01320-00001 Sec. 6.12	OPS
LIC-038	After a group of rooms have been filled with waste packages and following a period of monitoring, closure walls will be constructed in the access and exhaust ventilation tunnels to fully isolate this group of rooms. The underground space behind the closure walls will not be ventilated and all services terminated.	Preliminary Safety Report, 00216-SR-01320-00001 Sec. 6.13	OPS
LIC-039	Doses resulting from the DGR operation will be within the regulatory dose limits and will be kept As Low As Reasonably Achievable (ALARA).	Preliminary Safety Report, 00216-SR-01320-00001 Sec. 7.1.2.1	OPS
LIC-040	Filled rooms will remain ventilated and accessible until a decision is made to install closure walls and isolate a set of rooms or a panel.	Preliminary Safety Report, 00216-SR-01320-00001 Sec. 7.3	OPS
LIC-041	The inventories in the WPRB will generally be small, as the WPRB is not intended for storage as packages will be transferred directly to the main shaft cage and then down to the repository. However, there will be capacity for some temporary storage for waste packages if necessary.	Preliminary Safety Report, 00216-SR-01320-00001 Sec. 7.3	OPS
LIC-042	External loose contamination [on all waste packages arriving at the DGR] will be checked prior to acceptance at the DGR.	Preliminary Safety Report, 00216-SR-01320-00001 Sec. 7.4.2.1	OPS
LIC-043	Particulate releases are not expected because (1) there are no waste conditioning processes at the DGR (e.g. no incinerator as at WWMF), (2) all the waste packages arriving at the DGR are closed with lids, and (3) external loose contamination will be checked prior to acceptance at the DGR.	Preliminary Safety Report, 00216-SR-01320-00001 Sec. 7.4.2.1	OPS
LIC-044	… the building [WPRB] will be actively ventilated (limiting concentration and condensation) and there will be no activities [waste handling] involving routine use of water within the waste package handling area.	Preliminary Safety Report, 00216-SR-01320-00001 Sec. 7.4.2.1	D&C OPS

Table A.3: Commitments in the Preliminary Safety Report and PSR Support Reports				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
LIC-045	Radon will be specifically checked during construction, and then periodically during operation.	Preliminary Safety Report, 00216-SR-01320-00001	Sec. 7.4.3.1	D&C OPS
LIC-046	…non-NEWs working in the railway ditch area would potentially be exposed to waste packages during transport over the crossing, in addition to any staged LLW in the WPRB. […] The specific exposure from packages during crossing has not been evaluated in detail. [..] This will be addressed during detailed design.	Preliminary Safety Report, 00216-SR-01320-00001	Sec. 7.4.4.1	D&C
LIC-047	Retube Waste (Pressure Tubes) will be transferred directly to the underground repository.	Preliminary Safety Report, 00216-SR-01320-00001	Sec. 7.4.4.1	OPS
LIC-048	A wall around the WPRB staging area similar in thickness to LLSB walls will need to be incorporated in the detailed design to ensure that the external dose rate outside of the WPRB remains below 25 µSv/h (OPG Radiation Protection Requirements, PSR Section 7.1.2.1) and that the dose rate in the office/control room is below 10 mSv/year, if multiple packages are routinely staged within the WPRB.	Preliminary Safety Report, 00216-SR-01320-00001	Sec. 7.4.4.2	D&C
LIC-049	ILW resin liners will be transferred to the DGR in either an unshielded liner, or in one of three types of shield packages.	Preliminary Safety Report, 00216-SR-01320-00001	Sec. 7.5.1.2 (Inadequate Shielding)	OPS
LIC-050	Monitoring and handling of ILW packages requiring shielding will be a well defined activity using trained operators and operating procedures, and Electronic Personal Dosimeters worn by DGR staff will provide additional monitoring redundancy for preventing inadvertent exposure.	Preliminary Safety Report, 00216-SR-01320-00001	Sec. 7.5.1.2 (Inadequate Shielding)	OPS
LIC-051	Containers will be inspected before shipment to the DGR, and will be placed in overpacks if necessary.	Preliminary Safety Report, 00216-SR-01320-00001	Sec. 7.5.1.2 (Container Failure)	OPS
LIC-052	DGR will be built with current best practices.	Preliminary Safety Report, 00216-SR-01320-00001	Sec. 7.5.1.2 (Cage Fall)	D&C

Table A.3: Commitments in the Preliminary Safety Report and PSR Support Reports				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
LIC-053	The above ground structures at the DGR will be built to meet the National Building Code of Canada.	Preliminary Safety Report, 00216-SR-01320-00001	Sec. 7.5.1.2 (Major Earthquake)	D&C
LIC-054	Above ground structures constructed at the site will meet all building code requirements including those for wind load.	Preliminary Safety Report, 00216-SR-01320-00001	Sec. 7.5.1.2 (Severe Wind)	D&C
LIC-055	The above ground structures will be designed with lightning protection.	Preliminary Safety Report, 00216-SR-01320-00001	Sec. 7.5.1.2 (Lightning Strike)	D&C
LIC-056	… the WPRB floor will be above the maximum flood level.	Preliminary Safety Report, 00216-SR-01320-00001	Sec. 7.5.1.2 (Flooding – Above Ground and Underground)	D&C
LIC-057	The upper permeable formations will be contained by the shaft liner, and also the possible installation of a grout curtain. This liner will be inspected and maintained.	Preliminary Safety Report, 00216-SR-01320-00001	Sec. 7.5.1.2 (Flooding - Underground)	D&C OPS
LIC-058	…combustible materials are avoided or minimized in waste package handling areas; underground fuel storage will be kept in an area separated from the waste packages transfer route and the rooms; and diesel fuel will not be moved simultaneously with waste packages.	Preliminary Safety Report, 00216-SR-01320-00001	Sec. 7.5.1.2 (External Fires)	OPS
LIC-059	The assessment qualitatively considers the likelihood of these potential bounding accidents in terms of identifying them as likely, unlikely or not credible. Measures to reduce their likelihood have already been considered within the design and will be further emphasized during detailed design and later during operations. These measures include: • Minimization of combustible materials and ignition sources, especially near waste packages; • Use of overpacking and shielding on higher activity packages; • Limited number of packages handled in any transfer;	Preliminary Safety Report, 00216-SR-01320-00001	Sec. 7.5.6	D&C OPS

Table A.3: Commitments in the Preliminary Safety Report and PSR Support Reports			
Commitment No.	**Commitment Description**	**Reference**	**DGR Phase**
	• Limited equipment speeds; • Fire detection and suppression equipment, such as automatic fire suppression systems on diesel transfer equipment; • Contamination and dose rate monitoring; • Access to refuge stations and safety equipment; • Appropriate worker training and operating procedures; and • Emergency communication systems.		
LIC-060	For situations in which consequences of accident assessment are not negligible, mitigation will be achieved through one or more of the following: • Design mitigation; • Preventive measures to reduce the likelihood of such accidents further; • Controls installed on equipment to restrain their movement (e.g. limit switches); • Administrative controls (mainly through procedures); and • Worker training.	Preliminary Safety Report, 00216-SR-01320-00001 Sec. 7.6	D&C OPS
LIC-061	For accidents assessed to have larger consequences, contingency plans will be in place and emergency response, including mine rescue, will be available to protect the workers. Emergency response is addressed in Chapter 10. Contingency plans will be developed in support of the Operating Licence application.	Preliminary Safety Report, 00216-SR-01320-00001 Sec. 7.6	D&C OPS
LIC-062	The external dose calculations for workers show that high dose rates are possible in specific locations, especially near the face of an array of higher dose rate LLW or ILW packages in emplacement rooms. Generally, workers would not need to spend much time in these locations, nor are most packages at high dose rates. However, it will be planned to monitor the radiation fields in these locations, and if necessary to limit the worker exposure, use shielded forklifts and/or use greater stand-off distances. This will be considered further within the context of ALARA.	Preliminary Safety Report, 00216-SR-01320-00001 Sec. 7.7.1	OPS
LIC-063	The shafts are sealed primarily with a bentonite/sand mixture that will swell and self-seal within the shaft. An asphalt seal may be emplaced in the Ordovician shales to provide an independent seal material, and the concrete monolith and bulkheads will provide mechanical support as well as an initial low-permeability barrier.	Preliminary Safety Report, 00216-SR-01320-00001 Sec. 8.6.1	DEC

Table A.3: Commitments in the Preliminary Safety Report and PSR Support Reports				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
LIC-064	The use of low-heat sulphate-resistant cement, the low permeability of the seals and the rocks, and the low temperature in the shaft, will limit the extent of interaction [of bentonite/sand and asphalt at their interfaces with other materials].	Preliminary Safety Report, 00216-SR-01320-00001	Sec. 8.6.1	DEC
LIC-065	The shafts will be backfilled using a combination of low permeability materials (Figure 13-2).	Preliminary Safety Report, 00216-SR-01320-00001	Sec. 8.6.2.4	DEC
LIC-066	During repository closure, the shaft liner and part of the damaged zone will be removed in the intermediate and deep groundwater zones (Section 13.6.3.1).	Preliminary Safety Report, 00216-SR-01320-00001	Sec. 8.6.2.4	DEC
LIC-067	Several site investigation/monitoring boreholes have been drilled in the vicinity of the DGR down to and beyond the depth of the repository during the site investigation phase. [..] They will be appropriately sealed on completion of site investigation/ monitoring activities.	Preliminary Safety Report, 00216-SR-01320-00001	Sec. 8.7.3.1	D&C
LIC-068	There is uncertainty in the extent and properties associated with damage to the host rock resulting from the excavations. The values adopted in the Reference Case reflect geomechanical modelling as well as relevant experience from other underground projects in sedimentary rocks (Section 6.4 of NWMO11c). In particular, the extent of the EDZ was based on the maximum extent calculated at any shaft position, and assumed to apply uniformly across the entire shaft column. It was divided into two regions to reflect the variation in hydraulic conductivity, with the inner EDZ assigned 100 times the host rock's vertical hydraulic conductivity and the outer EDZ assigned 10 times that of the host rock permeability. This uncertainty will be further addressed through DGR site-specific information obtained during and after DGR construction.	Preliminary Safety Report, 00216-SR-01320-00001	Sec. 8.8.2.7	D&C
LIC-069	The DGR preliminary design incorporates postclosure safety assessment feedback regarding design options. Further input is planned during the detailed design.	Preliminary Safety Report, 00216-SR-01320-00001	Sec. 8.8.5	D&C
LIC-070	Also, the shaft seal design will not be finalized until the decommissioning application several decades from now, and will take advantage of knowledge gained over the intervening period.	Preliminary Safety Report, 00216-SR-01320-00001	Sec. 8.9.6	D&C OPS

Table A.3: Commitments in the Preliminary Safety Report and PSR Support Reports			
Commitment No.	**Commitment Description**	**Reference**	**DGR Phase**
LIC-071	Chapter 9, Site Preparation and Construction (The complete chapter is essentially commitments)	Preliminary Safety Report, 00216-SR-01320-00001 Ch. 9	D&C
LIC-072	Chapter 10, Operational Programs (The complete chapter is essentially commitments)	Preliminary Safety Report, 00216-SR-01320-00001 Ch. 10	OPS
LIC-073	In addition design work will be planned and executed in compliance with an engineering management plan that is prepared prior to the start of the work and is consistent with the requirements of the NWMO Design Management procedure, NWMO-PROC-EN-0001.	Preliminary Safety Report, 00216-SR-01320-00001 Sec.11.3.1	D&C
LIC-074	For critical DGR design components, such as the hoist and ventilation systems, the designs will be verified by independent expert review.	Preliminary Safety Report, 00216-SR-01320-00001 Sec.11.3.1	D&C
LIC-075	Complete design reviews will be completed at the thirty, fifty and eighty percent design completion milestones by knowledgeable engineers who were not directly involved in the design work. The fifty percent design review will be a Constructability, Operability, Maintainability and Safety (COMS) review. The eighty percent design review will include a Hazard and Operability (HAZOP) assessment. These structured and systematic examinations of the design and planned operation are completed in order to identify and evaluate problems that may represent risks to personnel or equipment, or prevent efficient operation.	Preliminary Safety Report, 00216-SR-01320-00001 Sec.11.3.1	D&C
LIC-076	Collectively the DGR D&C PQP requirements for design will ensure that quality continues to be integrated into final design decisions so that component configurations, materials specifications, functional performance, safety and constructability are optimized.	Preliminary Safety Report, 00216-SR-01320-00001 Sec.11.3.1	D&C
LIC-077	A Construction Quality Assurance Plan will be prepared, appropriately approved and implemented by the construction organization. The Construction Quality Assurance Plan will reference detailed design and engineering requirements, precautions, installation requirements, sequential actions to be followed including co-ordinating construction and verification activities, special equipment/tools and processes required, specific document/drawing references, data report forms and records, cleanliness requirements and foreign material exclusion requirements. It will also include the necessary steps to ensure the correct and intended materials or items are used and installed as required.	Preliminary Safety Report, 00216-SR-01320-00001 Sec.11.3.2	D&C

Table A.3: Commitments in the Preliminary Safety Report and PSR Support Reports			
Commitment No.	**Commitment Description**	**Reference**	**DGR Phase**
LIC-078	Construction verification activities will be planned and integrated into the construction schedule. The planning for the verification activities will be completed prior to the start of construction and will include prerequisites, acceptance criteria, inspections, tests, test frequencies, hold and witness points, and documentation requirements. Construction verification activities performed by contractors will require pre-approval prior to use. The detailed requirements for the various in-the-field quality control activities, including sampling methodologies will be incorporated into a Field Quality Inspection Manual. The Field Quality Inspection Manual will be an approved, controlled document to be utilized by construction personnel to ensure verification activities are performed efficiently and effectively.	Preliminary Safety Report, 00216-SR-01320-00001 Sec.11.3.2	D&C
LIC-079	The Commissioning Management Plan will define the commissioning process with detailed activities and schedule for the commissioning of the DGR. The Commissioning Management Plan will have two distinct stages because initial commissioning of the temporary main and ventilation shaft hoists and associated headframes will occur early in order to support development of the underground repository. Quality assurance requirements for commissioning activities will be included in the Commissioning Management Plan and will include specification of the required commissioning tests, definition of prerequisites, acceptance criteria for each test, necessary procedures, and final acceptance review. The plan will also describe the mechanism for identification and control of equipment and systems during commissioning. The design organization will also review and accept the Commissioning Management Plan to ensure structure, systems and components are systematically validated against design requirements. Final commissioning documents will be maintained as quality assurance records.	Preliminary Safety Report, 00216-SR-01320-00001 Sec.11.3.3	D&C
LIC-080	OPG will continue to provide engagement opportunities for Aboriginal communities where they can become informed and updated, ask questions, provide meaningful comment and raise issues and concerns about key DGR activities, milestones and decisions. Aboriginal communities will be kept apprised of any significant environmental, safety or health issues, any significant changes to the DGR, and the results of any follow-up monitoring.	Preliminary Safety Report, 00216-SR-01320-00001 Sec. 12.2.2.3	D&C OPS
LIC-081	Public attitude research will continue throughout the licensing process of the DGR to ensure that public opinion remains positive.	Preliminary Safety Report, 00216-SR-01320-00001 Sec. 12.2.3.1	D&C

Table A.3: Commitments in the Preliminary Safety Report and PSR Support Reports				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
LIC-082	Media activities are anticipated to be similar to those described [in Section 12.2.3.2]. Coverage will likely continue and will be monitored in the future.	Preliminary Safety Report, 00216-SR-01320-00001	Sec. 12.2.3.2	D&C OPS
LIC-083	The Public Information and Involvement Program in support of the licensing process will continue to be developed in a manner that ensures citizens are apprised of the general nature and characteristics of the anticipated effects on the environment and health and safety of persons during site preparation and construction and subsequent phases of the project. Program content will also include information about site preparation and construction progress; results from follow-up monitoring; DGR milestones, decisions, and modifications.	Preliminary Safety Report, 00216-SR-01320-00001	Sec. 12.2.4	D&C OPS
LIC-084	A broad range of communication tools will be employed to provide the general public, key stakeholders and Aboriginal Peoples with information and opportunities for engagement. Communication tools to be used, at a minimum, will include: means of notification; stakeholder briefings and presentations; DGR Project newsletters; factsheets/brochures; DGR website; DGR mobile exhibit, Bruce County Marketplace Advertorial; open houses/community information sessions/community consultation centre; media briefings; telephone communication; employee communication; issue management and tracking.	Preliminary Safety Report, 00216-SR-01320-00001	Sec. 12.2.4.1	D&C OPS
LIC-085	The DGR Public Information and Involvement Program will continue to be evaluated throughout to ensure the objectives of the program are being met. Comments about the DGR and the Public Information and Involvement Program will continue to be documented in a database using a tracking form, which identifies the source of the comment, date and type of communication (email, phone, letter or in person). Regular briefings and meetings with community leaders and established committees will continue to provide firsthand information about the effectiveness of the DGR's Public Information and Involvement Program, and OPG and NWMO will continue to seek such feedback.	Preliminary Safety Report, 00216-SR-01320-00001	Sec. 12.2.5	D&C OPS
LIC-086	Chapter 13, Preliminary Decommisioning Planning (The complete chapter is essentially commitments)	Preliminary Safety Report, 00216-SR-01320-00001	Ch. 13	DEC
LIC-087	The primary seal material is a bentonite-sand mixture. Bentonite is natural clay, which has the ability to swell and self seal when exposed to water. Sufficient clay will be used to ensure swelling under the DGR saline conditions.	Preliminary Safety Report, 00216-SR-01320-00001	Table 14-3, Item 1-9	DEC

Table A.3: Commitments in the Preliminary Safety Report and PSR Support Reports				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
LIC-088	The conventional occupational health and safety program will ensure worker safety through effective risk assessment and safe work planning.	Preliminary Safety Report, 00216-SR-01320-00001	Table 14-3, Item 2-1	OPS DEC
LIC-089	Construction of all the emplacement rooms and access tunnels will be carried out prior to, not concurrently with, operations.	Preliminary Safety Report, 00216-SR-01320-00001	Table 14-3, Item 4-2	D&C
LIC-090	(Item 4-4 in Table 14-3 is essentially commitments)	Preliminary Safety Report, 00216-SR-01320-00001	Table 14-3, Item 4-4	OPS
LIC-091	Following closure of the repository, institutional controls will be put in place as a safety feature to reduce the likelihood of future human actions that could compromise the repository. During this control period, radioactive decay will reduce the concentrations of radionuclides in the repository, and inadvertent human intrusion will not occur. A period of 300 years is assumed over which such controls, as well as societal memory, are effective, consistent with current international practice Beyond this period, there are no expectations in this safety assessment with respect to any ongoing societal control, monitoring or memory of the site.	Postclosure Safety Assessment Report NWMO DGR-TR-2011-25	Sec. 3.8	DEC
LIC-092	All containers will be lidded and overpacked if necessary.	Postclosure Safety Assessment Report NWMO DGR-TR-2011-25	Table 4.2	OPS
LIC-093	The waste emplacement rooms will be oriented in the direction of major principal horizontal stress, so as to maximize stability.	Postclosure Safety Assessment Report NWMO DGR-TR-2011-25	Sec. 4.2.1	D&C
LIC-094	The emplacement rooms, access tunnels and ventilation drifts will not be backfilled.	Postclosure Safety Assessment Report NWMO DGR-TR-2011-25	Sec. 4.2.3.1	DEC
LIC-095	After a group of emplacement rooms have been filled with waste packages, thick concrete closure walls will be constructed in the access tunnel to isolate this group of rooms. The walls will be designed to limit the release of gases and any potentially contaminated water during the operational period but will not be designed to provide any long-term postclosure isolation and containment. There	Postclosure Safety Assessment Report NWMO DGR-TR-2011-25	Sec. 4.2.3.1	OPS

Table A.3: Commitments in the Preliminary Safety Report and PSR Support Reports			
Commitment No.	**Commitment Description**	**Reference**	**DGR Phase**
	may be six closure walls in place at the end of repository operations in the final preliminary design. The rail lines will remain in the rooms and tunnels.		
LIC-096	The extent and transport properties of the excavation damaged zone in the rock are uncertain. The information currently used in the assessment is based on modelling and international experience (see Sections 6.3 and 6.4 of the Geosynthesis report). It will ultimately be verified by site-specific information as the shafts are excavated.	Postclosure Safety Assessment Report NWMO DGR-TR-2011-25 Sec. 4.3.7	D&C
LIC-097	Institutional Controls will limit the potential for human encounter with the DGR system in the near-term after closure. Measures will be taken in the near-term to ensure that information regarding the purpose, location, design and contents of the repository is preserved so that future generations are made aware of the consequences of any actions they may choose to take. With these institutional measures as well as general societal memory, and with the absence of commercially viable natural resources at depth, inadvertent intrusion in the near-term after closure is not considered.	Postclosure Safety Assessment Report NWMO DGR-TR-2011-25 Table 5-7, Point 7	DEC
LIC-098	They [boreholes] will be appropriately sealed on completion of site investigation/monitoring activities and consequently they will have no effect on the repository performance. Like the Severe Shaft Seal Failure Scenario, such a situation is very unlikely due to the adoption of good engineering practice and quality control.	Postclosure Safety Assessment Report NWMO DGR-TR-2011-25 Sec. 5.2.1	DEC
LIC-099	The design will be subject to further review and optimization before the detailed design is prepared and the DGR constructed.	Postclosure Safety Assessment Report NWMO DGR-TR-2011-25 Table 6-5	D&C
LIC-100	Site investigation and monitoring boreholes will be appropriately sealed at the end of their useful lifetime.	Postclosure Safety Assessment Report NWMO DGR-TR-2011-25 Sec. 7.2.3	D&C OPS DEC
LIC-101	This [EDZ characteristics] uncertainty will be further addressed through DGR site-specific information obtained during and after DGR construction.	Postclosure Safety Assessment Report NWMO DGR-TR-2011-25 Sec. 7.3.2.7	D&C OPS

Table A.4: Commitments in Other Support Documents

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Commitment No.	**Commitment Description**	**Reference**	**DGR Phase**
LIC-102	The design is based on the Reference L&ILW Inventory report for the waste and waste packaging and Chapter 6 of the Preliminary Safety Report for the repository design. This design will be subject to review and optimization before it is finalized. Therefore, the effects of modifications to the design should be considered.	Analysis of the Normal Evolution Scenario NWMO DGR-TR-2011-26 Section 2.5.1	D&C
LIC-103	Further information on the geology will be obtained through further measurements and analyses conducted during construction as part of the Geoscientific Verification Plan.	Analysis of the Normal Evolution Scenario NWMO DGR-TR-2011-26 Section 2.5.3	D&C
LIC-104	Once an emplacement room has been filled with waste, a wall may be constructed at the end of the room using reinforced concrete blocks. The wall will likely extend above the waste package height within the room, but not to the roof. Ventilation air will continue to flow through the wall opening, across the emplacement room, and out a similar opening at the back end of the room and into the ventilation drift.	System and its Evolution NWMO DGR-TR-2011-28 Section 2.2.3.1	OPS
LIC-105	Any equipment that has been used within the shaft and services area will remain in the area and all infrastructure connections (power, ventilation and water) to the panels will be disconnected. Any vehicle fuels will be removed to the surface. In addition, the steel work and shaft concrete liner removed during the closure of the ventilation shaft will be placed in the area. The concrete monoliths created at the base of each shaft will extend into the repository tunnels to form a single monolith at the repository level.	System and its Evolution NWMO DGR-TR-2011-28 Section 2.2.3.3	DEC
LIC-106	The ventilation shaft will be decommissioned and its seal installed before the same operation is carried out on the main shaft.	System and its Evolution NWMO DGR-TR-2011-28 Section 2.2.3.4	DEC
LIC-107	It is intended that the HDZ around the shafts from below about 180 mBGS will be mechanically removed as part of the backfilling and sealing process. The HDZ will be left in place around the DGR tunnels and emplacement rooms for worker safety.	System and its Evolution NWMO DGR-TR-2011-28 Section 2.3.6.5	DEC
LIC-108	Ultimately, the characteristics of the damaged zone will be verified by site-specific information as the shafts and tunnels are excavated.	System and its Evolution NWMO DGR-TR-2011-28 Section 2.3.6.5	D&C

Table A.4: Commitments in Other Support Documents				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
LIC-109	Measures will be taken in the near-term to ensure that information regarding the purpose, location, design and contents of the repository is preserved so that future generations are made aware of the consequences of any actions they may choose to take.	System and its Evolution NWMO DGR-TR-2011-28	Section 8.1 (Table 8.1)	DEC
LIC-110	Site investigation: Available data from the current site characterization is being used in the assessment. Results of future site characterization studies will be used in any future assessments.	Features, Events and Processes NWMO DGR-TR-2011-29	FEP 1.1.01	D&C
LIC-111	A monitoring programme will be in place during the operation of the facility (Section 6.11 and 6.12 of the Preliminary Safety Report). After closure, there would be a further period of monitoring to confirm that the DGR is performing as expected (Section 2.6.5, DGR Project Description).	Features, Events and Processes NWMO DGR-TR-2011-29	FEP 1.1.13	OPS
LIC-112	The DGR will be operated in a staged manner, with a period of monitoring and closure activity after operations have ended, during which there will be access to the DGR level and any necessary remedial operations can be undertaken with a fair degree of control to ensure that they do not have a detrimental impact on repository safety.	Features, Events and Processes NWMO DGR-TR-2011-29	FEP 1.4.13	DEC
LIC-113	Various materials are used as backfill in the shaft design assessed in the Postclosure SA. A 70:30 bentonite/sand mix will be used as the main backfill. An asphalt mastic mix will also be used in a thick section in the lower shaft to provide an alternative low-permeability barrier. The backfill in the upper shaft will be compacted engineered fill such as sand. Backfill will not be keyed into the surrounding rock. The role of the backfill is to limit migration of contaminants in groundwater and gas.	Features, Events and Processes NWMO DGR-TR-2011-29	FEP 2.1.05.02	DEC
LIC-114	A low heat generating concrete will be used for the monolith and bulkheads in the shafts.	Features, Events and Processes NWMO DGR-TR-2011-29	FEP 2.1.10.02	DEC
LIC-115	The HDZ will be removed from the shaft wall prior to sealing the shafts, from about 180 m below surface to the repository horizon.	Features, Events and Processes NWMO DGR-TR-2011-29	FEP 2.2.03.02	DEC
LIC-116	(under Shaft EDZ characterization and shaft seal effectiveness) Site specific measurement of the shaft EDZ is considered as part of the DGR construction. This work is part of the Geoscientific Verification Plan.	Gas Modelling NWMO DGR-TR-2011-31	Section 9.2.3	D&C

Table A.4: Commitments in Other Support Documents			
Commitment No.	**Commitment Description**	**Reference**	**DGR Phase**
LIC-117	Ash bins will be overpacked in a DGR-ready LLW sheet metal overpack.	Data NWMO DGR-TR-2011-32 Section 3.2.1	OPS
LIC-118	Non-processible wastes are stored in a family of non-pro boxes having a standard footprint and differing in height (and therefore volume capacity). The boxes are of painted sheet metal, and generally open topped. Lids will be provided when they are transferred (without any overpack) for emplacement in the DGR.	Data NWMO DGR-TR-2011-32 Section 3.2.1	OPS
LIC-119	ALW sludges are stored in carbon steel sludge boxes, which will be placed in LLW sheet metal overpacks prior to consignment to the DGR.	Data NWMO DGR-TR-2011-32 Section 3.2.1	OPS
LIC-120	For operational radiation protection purposes, most resin liners will be overpacked in cylindrical concrete shields. Each overpack will contain one or two resin liners, depending on the specific design. The reference concrete overpack has a concrete wall thickness of 0.25 m. Variant concrete overpacks will also be used where greater shielding is needed (one with a wall thickness of 0.35 m, and one with wall thickness of 0.35 m and a 40 mm thick steel insert).	Data NWMO DGR-TR-2011-32 Section 3.2.2	OPS
LIC-121	The underground layout will have a slight grade, and its depth will vary slightly also with local surface topology. The emplacement rooms are all aligned with the assumed direction of the major principal horizontal stresses of the rock mass in the Cobourg formation (i.e., east-north-east) to minimize the risks of rockfall, especially during the period in which the repository is open but also postclosure.	Data NWMO DGR-TR-2011-32 Section 4.2	D&C
LIC-122	The shaft base will be filled on closure with a concrete monolith at the foot of each shaft. Each monolith provides long-term support for the shaft seals and for the rock around the shafts. The concrete will be placed in mass (i.e., without structural reinforcement). Once completed, the monolith will extend from each shaft's base (taken to be 719.1 mBGS for the main shaft and 746.4 mBGS for the ventilation shaft) to 662.1 mBGS in both shafts. The monoliths will extend into the repository tunnels to form a single monolith at repository level. Bulkheads (to contain the monolith's concrete) will be located to ensure support to a minimum distance of 60 m from each of the shafts. There will be no removal of the damaged zone in the tunnels.	Data NWMO DGR-TR-2011-32 Section 4.3.1	OPS DEC
LIC-123	The concrete liner and HDZ are removed above repository floor level.	Data NWMO DGR-TR-2011-32 Table 4.7	DEC

Table A.4: Commitments in Other Support Documents			
Commitment No.	**Commitment Description**	**Reference**	**DGR Phase**
LIC-124	As part of the repository closure process, the concrete liner in the ventilation shaft will be removed from the top of the Salina F formation down to the repository floor (see Section 13.6.3.1 of the PSR). The current assessment assumes that the removed liner material (~ 4900 m^3) is placed in the repository. The main shaft liner will be disposed elsewhere as the repository will be no longer accessible as the liner is being removed.	Data NWMO DGR-TR-2011-32 Table 4.8	DEC
LIC-125	As part of the repository closure process, the steel work and reinforced concrete liner in the ventilation shaft will be removed (see Section 13.6.3.1 of the PSR. The current assessment assumes that the removed steel work (accounting for ~ 350,000 kg C-steel) and liner material (accounting for ~ 190,000 kg C-steel) is placed in the repository. In addition, it is assumed that metal equipment used in the DGR, such as forklifts and cranes, will be left in repository (accounting for ~ 330,000 kg C-steel). The steel work and reinforced concrete liner from the main shaft liner will be disposed elsewhere as the repository will be no longer accessible as the shaft is being decommissioned.	Data NWMO DGR-TR-2011-32 Table 4.9	DEC
LIC-126	The preliminary design of the shaft seals is based on durable materials and is consistent with international practice. This design concept is summarized below. • A concrete monolith will be constructed at the base of each shaft. • Concrete bulkheads will be placed in each shaft at specific points. These will provide immediate permeability control as well as structural support. One bulkhead will be located towards the top of the Silurian rock formations at the boundary between the saline lower rock formations and the upper freshwater formations. Two other bulkheads will be located around the two more permeable zones in the Silurian rock formations. Other bulkheads may be added for further structural support, or if needed to separate the bentonite/sand and asphalt seals. • The shaft will be sealed with durable materials. A bentonite/sand mix will be used for the majority of seals, especially in the lower Ordovician formations. An asphalt mastic mix will be used in one section to provide a different low-permeable material barrier. The shaft in the upper formations will be filled with compacted engineered fill such as sand. • A concrete cap will be constructed at the top of each shaft.	Data NWMO DGR-TR-2011-32 Section 4.3.2	DEC
LIC-127	The concrete used for all structures, other than the monoliths and bulkheads (and backfilling the rock handling and ramp excavations), is taken to use Canadian Standards Association (CSA) Type 10 (GU) Portland cement, or similar. In the case of the surficial cap, closure walls and emplacement room floors, it will be	Data NWMO DGR-TR-2011-32 Section 4.4.1	DEC

Table A.4: Commitments in Other Support Documents			
Commitment No.	**Commitment Description**	**Reference**	**DGR Phase**
	placed in mass (i.e., without structural reinforcement). The concrete used for the access tunnel floors, room walls and shaft liners will be reinforced. The concrete used for the access tunnel floors, room walls and shaft liners will be reinforced with rebars. The shotcrete used for the walls and ceilings will be reinforced with steel fibre.		
LIC-128	The concrete used for the monoliths and bulkheads (and the rock handling and ramp excavations) will be placed in mass (i.e., without structural reinforcement). The concrete will use sulphate-resistant Portland cement and will be expansive with a low permeability and a low heat of hydration.	Data NWMO DGR-TR-2011-32 Section 4.4.1	DEC
LIC-129	The reference clay seal is bentonite mixed with sand to a 70:30 mix (by weight). The reference bentonite is Wyoming Type Sodium Bentonite (MX80), which is a montmorillonite-based clay material. The reference sand component will be a washed, silica-based material with particle sizes no greater than 2.5 mm. Alternatives that may be considered for the final design include use of a higher clay fraction, and also the use of finely crushed limestone sand rather than silica sand.	Data NWMO DGR-TR-2011-32 Section 4.4.2	DEC
LIC-130	The asphalt mastic mix is taken to have the same composition at that proposed for use in the shaft seal for the Waste Isolation Pilot Plant (WIPP 2009). It will contain 70% (by weight) silica sand (with a maximum diameter of 2.36 mm), 20% (by weight) asphalt and 10% (by weight) hydrated lime.	Data NWMO DGR-TR-2011-32 Section 4.4.3	DEC
LIC-131	Structural concrete will be used for the waste packaging, the shaft lining, the floors, walls and ceilings of tunnels/emplacement rooms, and the closure and room walls. A low heat high performance concrete such as AECL's LHHPC will be used for the DGR shaft monoliths, ramp backfill, and bulkheads.	Data NWMO DGR-TR-2011-32 Section 4.5.2.1	D&C OPS
LIC-132	The HDZ in the Deep and Intermediate Bedrock Groundwater Zones will be removed from the shaft walls from the level of DGR upwards by means of over-excavation before the shafts are sealed during DGR closure (Section 13.6.3 of the Preliminary Safety Report). The EDZ will remain in place. The HDZ and EDZ will not be removed in the Shallow Bedrock Groundwater Zone and the Surficial Groundwater Zone.	Data NWMO DGR-TR-2011-32 Section 5.2.1	DEC

Table A.4: Commitments in Other Support Documents			
Commitment No.	**Commitment Description**	**Reference**	**DGR Phase**
LIC-133	The general ventilation levels for emplacement rooms will be as follows: • Active (i.e., rooms in the process of being filled) emplacement rooms will be ventilated at a rate of 18 m^3/s during the day and 3 m^3/s at night. • Empty emplacement rooms will not be ventilated. • Filled emplacement rooms will be ventilated at a rate of approximately 1 m^3/s. A wall will be installed at the entrance to the room, but will still allow for ventilation.	Radon Assessment NWMO DGR-TR-2011-34 Sec. 2.3.3.2	D&C
LIC-134	Empty emplacement rooms are equipped with an entry barricade with signage.	Radon Assessment NWMO DGR-TR-2011-34 Sec. 2.3.3.2	D&C
LIC-135	Workers are not permitted to enter an empty, unventilated emplacement room.	Radon Assessment NWMO DGR-TR-2011-34 Sec. 4.3.2 Sec. 5.0	OPS
LIC-136	Implications from this study: • Increasing the elevation/grade of Interconnecting Road in the vicinity of the DGR site is anticipated to increase PMF water levels across the DGR site. • If the final design for drainage works (e.g. ditches and culverts) is of a similar nature to that depicted in the Preliminary Safety Report, then computed PMF water levels will be similar to that documented in this report. "Upsized" drainage infrastructure could, however, potentially have a positive influence on computed PMF water levels (e.g. lower water level) and conversely downsizing could have a negative impact.	Maximum Flood Hazard Assessment NWMO DGR-TR-2011-35 ES Sec. 5.3.5	D&C
LIC-137	Stormwater runoff from the 'built' area of the DGR and the Waste Rock Management Area (WRMA) will be collected in a network of vegetated, trapezoidal drainage ditches with widths in the 9 m to 17 m range. Drawing H333000-WP404-10-042-0001 (waste rock management area- site grading and drainage) is used as a reference. The commitment to vegetate the drainage ditches constructed around the WRMA is also made in Chapter 6 of the Preliminary Safety Report (Section 6.2.3.2). Drawing H333000-WP404-10-042-0001 is provided in PSR.	Maximum Flood Hazard Assessment NWMO DGR-TR-2011-35 Sec. 3.2	D&C

Table A.4: Commitments in Other Support Documents			
Commitment No.	**Commitment Description**	**Reference**	**DGR Phase**
LIC-138	During the detailed site design phase, potential on-site flooding hazards should be re-assessed taking into account final design parameters, in particular the final site grading, stormwater infrastructure and internal stormwater ditch crossings.	Maximum Flood Hazard Assessment NWMO DGR-TR-2011-35 Sec. 7.0	D&C
LIC-139	A final ALARA Assessment report will be prepared in support of the DGR's operating licence.	Preliminary ALARA Assessment NWMO DGR-TR-2011-36 Sec. 1.1	D&C
LIC-140	Since this is a preliminary design-phase assessment, results are conservative and will be revised when a more detailed design becomes available.	Preliminary ALARA Assessment NWMO DGR-TR-2011-36 Sec. 1.2	D&C
LIC-141	There will be no waste conditioning or processing at the DGR that could generate particulates. (Sec. 7.4 of PSR).	Preliminary ALARA Assessment NWMO DGR-TR-2011-36 Sec. 3.1	OPS
LIC-142	It is expected that a maximum of 24 LLW packages and 2 resin liner shields will be staged inside the WPRB (in the corner of the WPRB, as shown in Figure 3.1) at one time.	Preliminary ALARA Assessment NWMO DGR-TR-2011-36 Sec. 3.1	OPS
LIC-143	Additional equipment or facility shielding could be provided. Facility operational requirements as stated in OPG's RPRs include access control, signage, contamination control, hazard detection, monitoring and alarms. For example, the use of Electronic Personal Dosimeters (EPDs) will be implemented.	Preliminary ALARA Assessment NWMO DGR-TR-2011-36 Sec. 7.1	OPS
LIC-144	The DGR package handling areas are mostly unoccupied except for the duration of the delivery of items to be emplaced. The procedures for the handling, stacking and placement of waste packages within the buildings and emplacement rooms will minimize worker contact with the waste to reduce radiation exposure and the risk of personal contamination. Facility and equipment inspection and maintenance procedures can be designed to minimize exposure and the proximity of workers to the stored waste packages.	Preliminary ALARA Assessment NWMO DGR-TR-2011-36 Sec. 7.1	OPS

Table A.4: Commitments in Other Support Documents			
Commitment No.	**Commitment Description**	**Reference**	**DGR Phase**
LIC-145	Increasing the distance from waste packages, where practical, is a common method used to decrease dose. This can be ensured by imposing physical barriers and providing the necessary tools to complete the required task at a safe distance. Tasks will be typically performed at the greatest reasonable distance.	Preliminary ALARA Assessment NWMO DGR-TR-2011-36 Sec. 7.1	OPS
LIC-146	All workers in the DGR will receive specific training, so that their tasks can be performed efficiently and safely. For example, forklift drivers that are trained will take less time to place waste packages in the proper location, thus reducing their dose.	Preliminary ALARA Assessment NWMO DGR-TR-2011-36 Sec. 7.1	OPS
LIC-147	The primary contributors to occupational dose are the ILW shield containers, which have not yet been designed. Therefore, there is an opportunity to reduce individual and collective occupational dose by optimizing the detailed design of these waste containers.	Preliminary ALARA Assessment NWMO DGR-TR-2011-36 Sec. 7.3	OPS
LIC-148	There will be variability in dose rate within waste packages. It is recommended that waste packages with relatively high dose rate be emplaced at the far end of the emplacement room or WPRB staging area, so they are shielded by lower dose rate packages at the front of the room. This is current practice at WWMF, but was not credited in this ALARA assessment.	Preliminary ALARA Assessment NWMO DGR-TR-2011-36 Sec. 7.3	OPS
LIC-149	The results were based on conservative assumptions and on a preliminary design, such that they will be updated when a more detailed design becomes available.	Preliminary ALARA Assessment NWMO DGR-TR-2011-36 Sec. 8	D&C
LIC-150	While individual annual worker dose is within CNSC worker dose limits and OPG's internal Administrative Dose Limits, it exceeds OPG's Exposure Control Level of 10 mSv/year. Measures would be taken to prevent this exposure from occurring. Doses are expected to be ALARA due to design measures developed using an iterative design approach and through the use of administrative controls and procedures that will be in place during the operational phase.	Preliminary ALARA Assessment NWMO DGR-TR-2011-36 Sec. 8	OPS

Table A.4: Commitments in Other Support Documents				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
LIC-151	The operation of the DGR will span a period of about 40 years. A plan for the transfer of packages will be drawn up prior to commencement of emplacement operations, which will take into account the storage locations and accessibility of the packages at the WWMF and the requirements for emplacement underground, so that groups of packages are delivered to the DGR efficiently.	Preliminary ALARA Assessment NWMO DGR-TR-2011-36	Appendix A	OPS
LIC-152	Geoscientific Verification Plan, NWMO DGR-TR-2011-38 (The complete document is essentially commitments)	N/A		D&C
LIC-153	Preliminary Decommissioning Plan, NWMO DGR-TR-2011-39 (The complete document is essentially commitments)	N/A		D&C OPS
LIC-154	Design and Construction Phase Management System (OPG's L&ILW DGR), DGR-PD-EN-0001 (The complete document is essentially commitments)	N/A		D&C
LIC-155	Deep Geologic Repository Project, Management System, 00216-CHAR-0001 (The complete document is essentially commitments)	N/A		D&C
LIC-156	The financial guarantee will be provided in the form of a Letter of Credit on a sliding scale basis that escalates as the financial guarantee obligation increases during the construction program.	OPG Letter dated Apr.14, 2011, 00216-CORR-00531-00090	Attach. 3 to letter, Decommissioning Financial Guarantee	D&C
LIC-157	The financial guarantee estimate for the ensuing period before the next update will be used to determine the value of the Letter of Credit for that period.	OPG Letter dated Apr.14, 2011, 00216-CORR-00531-00090	Attach. 3 to letter, Decommissioning Financial Guarantee	D&C
LIC-158	Regular reports to the CNSC will provide status on program progress, estimated cost and the required financial guarantee.	OPG Letter dated Apr.14, 2011, 00216-CORR-00531-00090	Attach. 3 to letter, Decommissioning Financial Guarantee	D&C
LIC-159	The Operation Phase financial guarantee will be needed in the future to support an application for an operating licence.	OPG Letter dated Apr.14, 2011, 00216-CORR-00531-00092	Decommissioning Cost Estimate, pp.A-1	OPS

Table A.4: Commitments in Other Support Documents				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
LIC-160	The financial guarantee will be provided in the form of a Letter of Credit on a sliding scale basis that escalates as the financial guarantee obligation increases during the construction program.	OPG Letter dated Apr.14, 2011, 00216-CORR-00531-00092	Financial Guarantee Provision, pp.A-2	D&C OPS
LIC-161	Regular reports to the CNSC will provide status on program progress, estimated cost and the required financial guarantee. The financial guarantee estimate for the ensuing period before the next update will be used to determine the value of the Letter of Credit for that period.	OPG Letter dated Apr.14, 2011, 00216-CORR-00531-00092	Periodic Review, pp.A-3	D&C OPS

Table A.5: Commitments in Other OPG Submissions

Table A.5: Commitments in Other OPG Submissions				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
LIC-162	OPG is committed to ongoing, meaningful engagement and dialogue with Municipal, First Nation and Métis communities regarding the DGR and OPG's nuclear waste management operations. The avenue for these conversations could include community councils, or some other form of mutually agreeable structure.	PMD 13-P1.4A	Sec. 3.0	All
LIC-163	OPG is committed to an ongoing dialogue (and education) on the DGR, nuclear waste management and OPG's other activities in SON territory. […] Engagement could take the form of a community council, community discussions or other forms of interaction as agreed upon by SON and OPG.	PMD 13-P1.4A	Sec. 4.0	All
LIC-164	OPG will not move forward with the construction of a deep geologic repository for low and intermediate level nuclear waste until the SON community is supportive of the project. The determination of the SON's support shall include diligent efforts by OPG and the SON for good faith, informed resolution of any impacts on the SON's aboriginal and treaty rights identified in the environmental assessment of this project or project impacts otherwise agreed to through the ongoing engagement between SON and OPG.	OPG Letter dated Sep. 9, 2013, 00216-CORR-00531-00208	Enclosure 1	D&C

APPENDIX B: CONSOLIDATED LISTS OF OPG COMMITMENTS MADE IN IR RESPONSES, OPG STATEMENTS AT JRP TECHNICAL INFORMATION SESSIONS, DGR HEARINGS, AND IN OPG UNDERTAKINGS

Table B.1: Commitments in OPG Responses to JRP EIS Information Requests

Table B.1: Commitments in OPG Responses to JRP EIS Information Requests				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-01.01	Measures will need to be taken to control ground water inflow into the excavation from the underlying permeable bedrock.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	EIS-01-01	D&C
IRC-EIS-01.02	Once the two shaft collars are established, the excavation around the collars will be backfilled with compacted fill material. The approved engineered fill will be placed in approximately 200 mm thick loose lifts and uniformly compacted.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	EIS-01-01	D&C
IRC-EIS-01.03	However, prior to establishing the shaft collars and the start of shaft sinking, the upper 180 m of bedrock around each shaft will be treated by either ground freezing or grouting.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	EIS-01-01	D&C
IRC-EIS-01.04	Water will be removed from the shaft excavations by pumping to ground surface.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	EIS-01-01	D&C
IRC-EIS-01.05	Once the hydrostatic shaft liners are installed and sealed (nominal depth 230 m below ground surface), the shafts will be hydraulically isolated and no longer influence the groundwater system. Verification of assessment results will be achieved through proposed routine groundwater and shaft discharge monitoring programs.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	EIS-01-01	D&C
IRC-EIS-01.06	Well monitoring includes monitoring of tritium and the results will be documented in an annual report. An additional 8 downgradient and 2 background shallow groundwater wells are being installed in 2012 and will become part of the monitoring network to provide baseline information and continue to be monitored through construction. Water samples will be taken from the shafts during construction to verify that the tritium concentrations are not of concern. Periodic monitoring of shaft construction water inflow and outflow will be conducted during the initial phases of shaft construction. Routine monitoring frequency will be established following an assessment of initial monitoring results.	OPG Letter dated Jul. 10, 2012, 00216-CORR-00531-00118 (CEAA Registry Doc# 606)	EIS-01-01a	D&C
IRC-EIS-01.07	It should be noted that there will be no facilities for the production of explosives at the Bruce nuclear site, only storage.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	EIS-01-02	All

Table B.1: Commitments in OPG Responses to JRP EIS Information Requests				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-01.08	Should on-site storage be found practical for storage of explosives and initiating devices, the storage magazines will be installed to meet the above NRCan requirements.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	EIS-01-02	D&C
IRC-EIS-01.09	Propane will be used for heating the DGR during construction, but only electrical heat will be used during operation.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	EIS-01-03	D&C OPS
IRC-EIS-01.10	Continuing work is underway which will improve the estimates of total projected DGR radionuclide activity. A revised reference inventory will be presented as part of the application for the Operating Licence.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	EIS-01-06	OPS
IRC-EIS-01.11	Furthermore, a diversion of site surface water runoff from the Stream C catchment will be implemented to avoid the discharge of any stormwater from the DGR Project site into the more sensitive coldwater habitat of the Stream C watershed and to ensure the treatment of all the drainage from the DGR Project in a stormwater management pond, prior to discharge to ditches that lead to MacPherson Bay. No releases from the site will be directed to the Stream C watershed.	Attach. 2 to OPG Letter dated Aug.9, 2012, 00216-CORR-00531-00126 (CEAA Registry Doc# 683)	EIS-01-15a	D&C
IRC-EIS-01.12	The DGR Project will avoid disturbance of the marsh area, and no vegetation within the marsh area will be cleared.	Attach. 2 to OPG Letter dated Aug.9, 2012, 00216-CORR-00531-00126 (CEAA Registry Doc# 683)	EIS-01-15a	D&C
IRC-EIS-01.13	Exclusionary fencing will be constructed around the construction site. In the event of a spring construction start, and with considerations for spring emergence, fencing around the DGR Project site will be erected prior to May 25 in time to ensure mobile reptiles do not enter the construction site.	Attach. 2 to OPG Letter dated Aug.9, 2012, 00216-CORR-00531-00126 (CEAA Registry Doc# 683)	EIS-01-15a	D&C
IRC-EIS-01.14	Section 8.3.3 of the Terrestrial Environment TSD confirms that nesting migratory birds will be protected by avoiding vegetation clearing during the breeding bird season of May 1st to July 31st) whenever possible.	Attach. 2 to OPG Letter dated Aug.9, 2012, 00216-CORR-00531-00126 (CEAA Registry Doc# 683)	EIS-01-15a	D&C
IRC-EIS-01.15	… vegetation clearing will be confined to the DGR Project site…	Attach. 2 to OPG Letter dated Aug.9, 2012, 00216-CORR-00531-00126 (CEAA Registry Doc# 683)	EIS-01-15a	D&C

Table B.1: Commitments in OPG Responses to JRP EIS Information Requests				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-01.16	There is also further waste characterization underway which will improve on this basis.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	EIS-01-20	OPS
IRC-EIS-01.17	During DGR operations, an updated current inventory of waste volume and total radioactivity stored at the DGR will be provided on a quarterly or annual basis, similar to the quarterly reports presently issued by the Western Waste Management Facility to the CNSC.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	EIS-01-20	OPS
IRC-EIS-01.18	The dose planning and monitoring program for the DGR Project will implicitly incorporate the dose contributions from all licensed activities.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	EIS-01-25	OPS
IRC-EIS-01.19	In addition, doses will be further controlled to ALARA using OPG's administrative and procedural controls.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	EIS-01-25	OPS
IRC-EIS-01.20	The DGR Facility will ensure that dose rates in Zone 1 areas will have "a general radiation background as low as possible and in any case shall have an average monthly radiation field level less than 0.5 mrem/h" (0.5 µSv/h).	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	EIS-01-25	OPS
IRC-EIS-01.21	A more detailed description of worker dose will be provided in the Final ALARA Assessment as part of the Operating Licence application.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	EIS-01-26	OPS
IRC-EIS-01.22	The activities will be controlled such that the worker's cumulative dose exposure will be within OPG's Administrative Dose Limits.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	EIS-01-26	OPS
IRC-EIS-01.23	Plans to monitor waste degradation within the repository will be provided as part of submissions supporting the operating licence application.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	EIS-01-32	D&C
IRC-EIS-01.24	During DGR operations, all waste packages sent to the DGR will be checked against the DGR waste acceptance criteria, which will include measuring the waste package dose rate to ensure it is within specified limits.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	EIS-01-33	OPS

Table B.1: Commitments in OPG Responses to JRP EIS Information Requests				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-01.25	The measurement data are integrated into OPG's waste tracking database. This information will be used to generate an updated estimate of the projected DGR inventory, which will be provided as part of the Operating Licence application.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	EIS-01-33	D&C
IRC-EIS-01.26	A program for verifying waste inventories during the operational phase will be developed and provided as part of the Operating Licence application.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	EIS-01-33	D&C
IRC-EIS-01.27	During DGR operations, an updated current inventory of waste volume and total radioactivity stored at the DGR will be provided on a quarterly or annual basis, similar to the quarterly reports presently issued by the Western Waste Management Facility to the CNSC. An updated projected inventory based on the received waste packages and future forecast packages would be provided in support of subsequent licence renewal applications.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	EIS-01-33	OPS
IRC-EIS-02.01	OPG will obtain a Certificate of Approval for the stormwater management pond. Effluent from the stormwater management pond will be analyzed. In the event that contaminant levels exceed certificate of approval discharge criteria, effluent will not be released until discharge criteria are met.	OPG Letter dated Jun.1, 2012, 00216-CORR-00531-00115 (CEAA Registry Doc# 523)	EIS-02-34	D&C

Table B.1: Commitments in OPG Responses to JRP EIS Information Requests				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-02.02	The following measures will be undertaken during DGR construction, in accordance with the submitted Geoscientific Verification Plan, to gather geologic information necessary to validate the presence or absence of faults or structural geological features, which could influence the safety of the repository: • During lateral development high resolution digital images and LIDAR profiling (mm accuracy) will be completed of all excavated openings. This information will be used to document and aid geologic mapping of the bedrock exposures for the entire DGR footprint (Section 2.2.4.1). • In additional to the above, detailed geologic mapping of lateral walls to validate rock mass characteristics, stratigraphy, lithology, discontinuities, structure and other rock conditions will be conducted during each excavation cycle/shift. Geological, geomechanical and any hydrogeological features will be observed, imaged, measured and recorded. Joint and bedding plane orientation, spacing and characteristics will be recorded Section 2.2.4.1). • Suitable specimens of fracture infill materials encountered during geologic mapping will be collected for characterization including, fluid inclusion thermometry and radiometric age dating. • A seismic reflection survey will be conducted along the entire length of all emplacement rooms. This geophysical work is to explore for structural features betwe en room pillars and to identify structural discontinuities in the underlying Precambrian basement that may signify the occurrence of geologic structural features within the overlying sedimentary sequence (Section 2.2.4.2).	OPG Letter dated Jun.1, 2012, 00216-CORR-00531-00115 (CEAA Registry Doc# 523)	EIS-02-37	D&C
IRC-EIS-02.03	The DGR planned mitigation measures, such as watering of roadways to reduce dust and maintaining equipment to reduce noise emissions, will contribute to reducing the identified potential effect of diminished quality of activities at the Jiibegmegoong Spirit Place. Mitigation measures to reduce the visual effect of the DGR Project include a setback or buffer of 200 m from the Interconnecting Road to the long-term waste rock management area and other visual screening (e.g., berm and/or trees).	OPG Letter dated Jun.1, 2012, 00216-CORR-00531-00115 (CEAA Registry Doc# 523)	EIS-02-42	D&C
IRC-EIS-03.01	The DGR will not be accepting ALW (active liquid waste).	OPG Letter dated Jul.9, 2012, 00216-CORR-00531-00117 (CEAA Registry Doc# 608)	EIS-03-50	All

Table B.1: Commitments in OPG Responses to JRP EIS Information Requests				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-03.02	The DGR will only accept solid wastes for emplacement. The DGR will not be accepting ALW (active liquid waste).	OPG Letter dated Jul.9, 2012, 00216-CORR-00531-00117 (CEAA Registry Doc# 608)	EIS-03-51	All
IRC-EIS-03.03	It is recognized that there will be several areas of development that will limit egress to single access (e.g., south panel access tunnel). This type of development is not uncommon in mining operations and appropriate procedural control will be in place to address these situations.	OPG Letter dated Jul.9, 2012, 00216-CORR-00531-00117 (CEAA Registry Doc# 608)	EIS-03-53	D&C OPS
IRC-EIS-03.04	Each end-wall adjacent the ventilation exhaust tunnel will be equipped with a personnel door for egress. This provides for multiple egress/refuge capability. In the event that an end wall is required at the entrance to the emplacement room for shielding purposes, personnel will not have access to the emplacement room.	OPG Letter dated Jul.9, 2012, 00216-CORR-00531-00117 (CEAA Registry Doc# 608)	EIS-03-53	D&C OPS
IRC-EIS-03.05	Planned routine monitoring underground will provide advanced notification if there are increases in contaminant levels.	OPG Letter dated Jul.9, 2012, 00216-CORR-00531-00117 (CEAA Registry Doc# 608)	EIS-03-56	D&C
IRC-EIS-03.06	The pond invert elevation will be set at 177 to 179 mASL (invert elevation will be confirmed with the detailed site grading plan), and thus there would be a minimum of 7 m of glacial till separating the base of the pond and and the underlying bedrock aquifer.	OPG Letter dated Jul.9, 2012, 00216-CORR-00531-00117 (CEAA Registry Doc# 608)	EIS-03-57	D&C
IRC-EIS-03.07	Packing optimization and placement scheduling will be further developed through the operating phase of the DGR.	OPG Letter dated Jul.9, 2012, 00216-CORR-00531-00117 (CEAA Registry Doc# 608)	EIS-03-62	OPS
IRC-EIS-03.08	This decision does not need to be made for several decades, and will be informed by long-term seal material tests that can be undertaken under in-situ conditions, as outlined in Section 2.2.8 of the Geoscientific Verification Plan.	OPG Letter dated Jul.9, 2012, 00216-CORR-00531-00117 (CEAA Registry Doc# 608)	EIS-03-63	OPS

Table B.1: Commitments in OPG Responses to JRP EIS Information Requests				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-03.09	During the operational phase, there will be concrete plugs in the access tunnels to isolate panels of filled rooms, but no bulkheads on the rooms. At the time of closure, a concrete monolith will be installed around the bottom of the shafts, concrete bulkheads will be installed in the shaft at specific locations, and the rest of the shaft filled up to about 191 mBGS (metres below ground surface) with bentonite-sand seals and, in one location, an asphalt seal.	OPG Letter dated Jul.9, 2012, 00216-CORR-00531-00117 (CEAA Registry Doc# 608)	EIS-03-64	OPS
IRC-EIS-03.10	The shaft seal detailed design does not need to be finalized for several decades, and will be informed by long-term seal material tests undertaken under in-situ conditions, as outlined in Section 2.2.8 of the Geoscientific Verification Plan.	OPG Letter dated Jul.9, 2012, 00216-CORR-00531-00117 (CEAA Registry Doc# 608)	EIS-03-64	OPS
IRC-EIS-03.11	This waste rock pile will be covered with a soil cap and vegetated at the time that the DGR facility is decommissioned.	OPG Letter dated Jul.9, 2012, 00216-CORR-00531-00117 (CEAA Registry Doc# 608)	EIS-03-96	DEC
IRC-EIS-03.12	All waste rock storage locations will be stripped of vegetation and topsoil, and then prepared to receive the waste rock. The base of the waste rock storage areas will be graded to promote drainage towards perimeter ditches. Thus any precipitation onto the waste rock piles will not pond inside the piles and will be directed to the perimeter ditches. The perimeter ditching will be located between the waste rock piles and the wetland to the northeast and this ditching will prevent seepage from the waste rock piles reaching the wetland.	OPG Letter dated Jul.9, 2012, 00216-CORR-00531-00117 (CEAA Registry Doc# 608)	EIS-03-96	D&C
IRC-EIS-03.13	Best blasting practices will be followed to limit blasting residue on the waste rock.	OPG Letter dated Jul.9, 2012, 00216-CORR-00531-00117 (CEAA Registry Doc# 608)	EIS-03-96	D&C
IRC-EIS-04.01	OPG has publicly committed that used fuel will not be placed in the L&ILW DGR.	OPG Letter dated Aug.27, 2012, 00216-CORR-00531-00134 (CEAA Registry Doc# 704)	EIS-04-99	All
IRC-EIS-04.02	Used fuel will not be placed in the DGR.	OPG Letter dated Aug.27, 2012, 00216-CORR-00531-00134 (CEAA Registry Doc# 704)	EIS-04-103	All

Table B.1: Commitments in OPG Responses to JRP EIS Information Requests				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-04.03	In support of the operating licence application, a Final Safety Report, with updated safety case, will be submitted to the CNSC in accordance with Class 1 Nuclear Facility Regulations. An operating licence is typically initially granted for a period of five or ten years, and renewed thereafter for similar periods. The renewal process requires the updating of the Final Safety Report. It is by this means that the safety case is updated to reflect changes to data, assessment methodology and regulatory requirements. It is not expected that the changes to the safety case would be significant from revision to revision but would be iterative in nature and build upon previous assessments. The process of updating the Final Safety Report will follow the quality principles and processes described in OPG's DGR Project, Management System document. These include conducting and documenting each iteration of safety assessment following the applicable safety assessment procedures and maintaining a record of it in accordance with the record management procedures.	OPG Letter dated Aug.27, 2012, 00216-CORR-00531-00134 (CEAA Registry Doc# 704)	EIS-04-118	OPS
IRC-EIS-04.04	As described in Section 7.5.1.2 of the Preliminary Safety Report (PSR) , each waste container will be visually inspected prior to transfer to the DGR. Containers which do not meet all of the applicable WAC conditions, including those stated above for condition of the waste container, will be remediated (e.g., by placing into an overpack) prior to transfer and acceptance in the DGR.	OPG Letter dated Aug.27, 2012, 00216-CORR-00531-00134 (CEAA Registry Doc# 704)	EIS-04-122	OPS
IRC-EIS-04.05	Other ILW packages will need to be provided with an add-on shield to protect workers while these waste packages are transferred underground. This shielding will sometimes be removed if safe to do so and re-used if practical, otherwise it will be retained on the waste after emplacement.	OPG Letter dated Sep.28, 2012, 00216-CORR-00531-00143 (CEAA Registry Doc# 759)	EIS-04-123	OPS
IRC-EIS-04.06	OPG does not envisage a scenario where waste retrieval will be necessary, but wastes will be retrievable as described in the response to IR-EIS-04-122.	OPG Letter dated Sep.28, 2012, 00216-CORR-00531-00143 (CEAA Registry Doc# 759)	EIS-04-124	OPS DEC
IRC-EIS-04.07	The stormwater management system design will require Ontario Ministry of the Environmental (MOE) approval through the Environmental Compliance Approval (ECA) process and thus may be modified should there be additional requirements imposed by the MOE.	OPG Letter dated Sep.28, 2012, 00216-CORR-00531-00143 (CEAA Registry Doc# 759)	EIS-04-130	D&C

Table B.1: Commitments in OPG Responses to JRP EIS Information Requests				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-04.08	The stormwater management system will be decommissioned during general site restoration work at the end of the DGR operation phase, and will not be operational during the postclosure phase.	OPG Letter dated Sep.28, 2012, 00216-CORR-00531-00143 (CEAA Registry Doc# 759)	EIS-04-130	OPS
IRC-EIS-04.09	If deemed necessary through future analysis of climate change data, the active storage volume in the pond will be increased to accommodate potential impacts of climate change on extreme rainfall intensity over the life of the project.	OPG Letter dated Sep.28, 2012, 00216-CORR-00531-00143 (CEAA Registry Doc# 759)	EIS-04-130	D&C OPS
IRC-EIS-04.10	Final water quality criteria for the effluent from the SWMP will be developed as part of the Ontario Environmental Compliance Approval (ECA). The limits will be established taking into consideration the Provincial Water Quality Objectives, the acute toxicity thresholds for sensitive species that are present in the receiving environment, and the existing water quality in the receiving water at MacPherson Bay. The regulatory process will not allow the release of effluent from the SWMP that is acutely toxic to aquatic receptors.	OPG Letter dated Sep.28, 2012, 00216-CORR-00531-00143 (CEAA Registry Doc# 759)	EIS-04-130	D&C
IRC-EIS-04.11	Particular attention will be paid to salinity and nitrogen compounds when developing water quality criteria.	OPG Letter dated Sep.28, 2012, 00216-CORR-00531-00143 (CEAA Registry Doc# 759)	EIS-04-130	D&C
IRC-EIS-04.12	Several options, largely related to source reduction or elimination, will be explored to ensure the concentrations of salinity and nitrogen compounds are below acceptable levels in the SWMP discharge.	OPG Letter dated Sep.28, 2012, 00216-CORR-00531-00143 (CEAA Registry Doc# 759)	EIS-04-130	D&C
IRC-EIS-04.13	To manage nitrogen compounds in SWMP discharge, use of emulsion will be maximized and best-blasting practices will be implemented to minimize amount of blast residue left on the waste rock.	OPG Letter dated Sep.28, 2012, 00216-CORR-00531-00143 (CEAA Registry Doc# 759)	EIS-04-130	D&C
IRC-EIS-04.14	The results of the monitoring will be coupled to criteria, established through relevant regulatory processes described above, which will ensure there are no significant adverse effects to the environment.	OPG Letter dated Sep.28, 2012, 00216-CORR-00531-00143 (CEAA Registry Doc# 759)	EIS-04-130	D&C OPS

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-04.15	Treatment for suspended solids concentrations will be achieved by the provision of retention and a permanent pool in the SWMP.	OPG Letter dated Sep.28, 2012, 00216-CORR-00531-00143 (CEAA Registry Doc# 759)	EIS-04-130	D&C OPS
IRC-EIS-04.16	A valve/gate will be installed in the discharge pipe in the SWMP's outlet structure as a contingency measure.	OPG Letter dated Sep.28, 2012, 00216-CORR-00531-00143 (CEAA Registry Doc# 759)	EIS-04-130	D&C OPS
IRC-EIS-04.17	During operations, water that is pumped from underground will be directed through a water quality separator to remove excess oil, grease and grit before discharge into to ditch system leading to SWMP.	OPG Letter dated Sep.28, 2012, 00216-CORR-00531-00143 (CEAA Registry Doc# 759)	EIS-04-130	OPS
IRC-EIS-04.18	This weekly inspection will also occur in the aforementioned temporary settling pond during construction. If the results of this weekly inspection show there is excessive amounts of oil and grease being routinely released into the water, then steps will be taken to eliminate the source of this oil and grease. If the source of oil and grease cannot be eliminated then treatment with the temporary water treatment plant will be implemented. The frequency of this monitoring could be increased if oil and grease is shown to be an ongoing concern. In the event that the Total Suspended Solids (TSS) concentration in the discharge water from the SWMP is found above acceptable levels and the elevated TSS is due to excessive solids in water being pumped from underground, then the temporary water treatment plant will be put into use.	OPG Letter dated Sep.28, 2012, 00216-CORR-00531-00143 (CEAA Registry Doc# 759)	EIS-04-130	D&C

Table B.1: Commitments in OPG Responses to JRP EIS Information Requests				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-04.19	The maintenance program will encompass the drainage network and the SWMP on the DGR site and the drainage system downstream on Bruce Power lands. It will consist of the following: • Regular inspections of the stormwater management system. [The EA Follow-up Monitoring Program] proposes weekly inspection during site preparation and construction, and monthly inspection during operations. The system will also be inspected after significant runoff events. Inspections will be conducted to: – check for trash, debris and sediment buildup in the drainage network and pond; – monitor the erosion of channels, embankments and the pond shoreline; – check the level of the permanent pool in the pond; – check for unwanted vegetation growth and algal blooms in the drainage ditches and pond; – check for a sheen, frothiness and discoloration of the water in the pond; and – confirm the health of plantings around the pond shoreline. Corrective maintenance will be carried out should any significant issues, with respect to the proper function of the stormwater management system, be identified during regular inspections. • Routine monitoring of the water quality, water level and sediment depth in the SWMP to ensure that the system is operating as designed. • Regular maintenance of the sewerage system including: – cleaning of catch basins, sewers lines and manholes; – inspection of sewer lines by visual or camera techniques; and – repair or replacement of damaged catchbasins, pipes and manholes. • Regular maintenance of the drainage ditches and culvert crossings including: – removal of trash, debris and accumulated sediment; – control of unwanted vegetation growth; – replanting of grass lining in channels; and – repairs to channels and culvert pipes and embankments. • Regular maintenance of the SWMP including: – removal of floating trash and debris from the pond surface; – drainage of the permanent pool and removal of accumulated	OPG Letter dated Sep.28, 2012, 00216-CORR-00531-00143 (CEAA Registry Doc# 759)	EIS-04-130	D&C OPS

Table B.1: Commitments in OPG Responses to JRP EIS Information Requests				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
	sediment; – handling of algal blooms in the pond should these occur; – addition of makeup water to the permanent pool if the water surface falls below the normal water level; – control of unwanted vegetation growth and replanting of desired vegetation around the pond perimeter; – embankment and shoreline repairs; – removal of trash, debris and plugged ice from the inlet and outlet works; – repairs or replacement of pipe culverts, concrete structures; and – lubrication and replacement of seals in the valve in the discharge pipe. Sediment accumulation and clear-out frequency is being considered in the design of the SWMP. An allowance has been made for sediment accumulation in the permanent pool; this volume is sufficiently large such that the clear-out frequency will be annually, at a maximum.			
IRC-EIS-04.20	There will be no radioactive waste present during the site preparation and construction phase.	OPG Letter dated Sep.6, 2012, 00216-CORR-00531-00138 (CEAA Registry Doc# 725)	EIS-04-134	D&C
IRC-EIS-04.21	The monitoring program proposed, as described in the report [EA Follow-up Monitoring Program], will be assessed annually.	OPG Letter dated Sep.6, 2012, 00216-CORR-00531-00138 (CEAA Registry Doc# 725)	EIS-04-134	D&C OPS DEC
IRC-EIS-04.22	All of the aforementioned air quality parameters will be monitored at a single location upstream of the main underground exhaust fans. Temperature, CO and airflow will be monitored at backend of active emplacement rooms where ventilation air exhausts into return air tunnels.	OPG Letter dated Sep.6, 2012, 00216-CORR-00531-00138 (CEAA Registry Doc# 725)	EIS-04-134	D&C OPS DEC
IRC-EIS-04.23	(1) there will be no waste conditioning processes at the DGR; (2) all the waste packages arriving at the DGR will be closed with lids, and (3) external loose contamination will be checked prior to acceptance at the DGR.	OPG Letter dated Sep.28, 2012, 00216-CORR-00531-00143 (CEAA Registry Doc# 759)	EIS-04-135	OPS

Table B.1: Commitments in OPG Responses to JRP EIS Information Requests				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-04.24	There will be explosives other than ANFO used in the development of the DGR. Emulsion blends and packaged products will be used in the shafts and it is expected that emulsion blends will also be used in lateral development. The types and quantities of explosives will not be determined until the development contractor(s) are identified.	OPG Letter dated Sep.6, 2012, 00216-CORR-00531-00138 (CEAA Registry Doc# 725)	EIS-04-136	D&C
IRC-EIS-04.25	Site activities will be planned and organized to minimize dust emissions. Best management practices which can be used to address fugitive emissions and contribute to meeting these objectives include physical controls, procedural controls and reactive controls. Administrative controls will be in place at all times; hence, no trigger is provided. Physical controls are also considered to be normal operating practice. A trigger is provided for reactive measures which would be put in place as needed.	OPG Letter dated Sep.6, 2012, 00216-CORR-00531-00138 (CEAA Registry Doc# 725)	EIS-04-137	D&C
IRC-EIS-04.26	The Best management practices will be finalized after detailed construction design is complete but may include the practices listed in Table 1.	OPG Letter dated Sep.6, 2012, 00216-CORR-00531-00138 (CEAA Registry Doc# 725)	EIS-04-137	OPS
IRC-EIS-04.27	Table 4c provides a checklist of activities that will be included in monitoring and recorded. An Environmental Management Program will be in place for the design and construction phase of the DGR Project. This program will include procedures documenting required inspections, frequency of inspections, and processes for recording results of inspections.	OPG Letter dated Sep.6, 2012, 00216-CORR-00531-00138 (CEAA Registry Doc# 725)	EIS-04-137	D&C OPS
IRC-EIS-04.28	Table 3a outlines the atmospheric monitoring program that will be conducted during site preparation and construction. PM10 and PM2.5 will be monitored continuously during the first year of construction, with continuation of the program being re-evaluated at that time. Daily inspections for dust emissions will be completed at shafts and access roads within the Waste Rock Management Area. An annual EA Follow-up Monitoring Report will be prepared and will include the results of the atmospheric monitoring program.	OPG Letter dated Sep.6, 2012, 00216-CORR-00531-00138 (CEAA Registry Doc# 725)	EIS-04-137	D&C OPS
IRC-EIS-04.29	Nuisance complaints due to fugitive source emissions will be recorded along with the corrective/preventive action taken and the response.	OPG Letter dated Sep.6, 2012, 00216-CORR-00531-00138 (CEAA Registry Doc# 725)	EIS-04-137	D&C OPS

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-04.30	NWMO and OPG are certified to ISO 14001 Environmental Management System. This registration, which requires that programs are in place to prevent pollution and an annual internal environmental management system audit and external registration/maintenance audit, will provide assurance that programs are implemented for the monitoring and reporting of dust emissions from the site preparation and construction phase of the DGR Project.	OPG Letter dated Sep.6, 2012, 00216-CORR-00531-00138 (CEAA Registry Doc# 725)	EIS-04-137	D&C OPS
IRC-EIS-04.31	In addition, the best management practices outlined above will further reduce emissions; specifically watering will be used on dry days to decrease emissions from roads.	OPG Letter dated Sep.6, 2012, 00216-CORR-00531-00138 (CEAA Registry Doc# 725)	EIS-04-137	D&C
IRC-EIS-04.32	The capability of downstream culverts to handle the 24-hour, 100-year return period storm is being further assessed as part of the final design process. […] As part of finalizing the site grading plan, OPG will update the Maximum Flood Hazard Assessment (AMEC NSS 2011) to provide assurance that the maximum flood level will be below the shaft collar height considering the latest estimates of PMP, including consideration of climate change.	OPG Letter dated Sep.28, 2012, 00216-CORR-00531-00143 (CEAA Registry Doc# 759)	EIS-04-143	D&C
IRC-EIS-04.33	Provided that the leachate toxic wastes meet all the other conditions of the DGR WAC, they will be accepted at the DGR. In the event that they are not acceptable under the DGR WAC, they will either be stabilized into an acceptable form, or they will be sent to another facility licensed to handle that type of waste.	OPG Letter dated Aug.27, 2012, 00216-CORR-00531-00134 (CEAA Registry Doc# 704)	EIS-04-147	OPS
IRC-EIS-04.34	If required, additional in-shaft grouting will be performed to ensure groundwater inflows do not exceed 3 L/s for shaft sinking.	OPG Letter dated Sep.28, 2012, 00216-CORR-00531-00143 (CEAA Registry Doc# 759)	EIS-04-151	D&C
IRC-EIS-04.35	The underground dewatering system used for operations will be sized to handle both the aforementioned normal inflow plus additional groundwater inflow that might occur during a postulated abnormal operations event.	OPG Letter dated Sep.28, 2012, 00216-CORR-00531-00143 (CEAA Registry Doc# 759)	EIS-04-151	D&C
IRC-EIS-04.36	The wastes to be accepted in the DGR will be controlled by the DGR Waste Acceptance Criteria (WAC).	OPG Letter dated Aug.27, 2012, 00216-CORR-00531-00134 (CEAA Registry Doc# 704)	EIS-04-152	OPS

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-04.37	All waste containers, regardless of age, will be inspected prior to receipt at the DGR to ensure that they meet the WAC. Any containers not meeting the WAC will be remediated to the extent required to meet the WAC prior to acceptance at the DGR.	OPG Letter dated Aug.27, 2012, 00216-CORR-00531-00134 (CEAA Registry Doc# 704)	EIS-04-152	OPS
IRC-EIS-04.38	If both fans are out of service, notifications will be made to personnel underground to stop work activities and assemble in the refuge station.	OPG Letter dated Sep.28, 2012, 00216-CORR-00531-00143 (CEAA Registry Doc# 759)	EIS-04-154	OPS
IRC-EIS-04.39	… if there is a failure of a fresh air supply fan(s) sufficient to affect air quality, notifications will be made to stop work and have personnel egress from the area to the refuge station until such a time as the operation of the fan(s) is restored.	OPG Letter dated Sep.28, 2012, 00216-CORR-00531-00143 (CEAA Registry Doc# 759)	EIS-04-154	D&C
IRC-EIS-04.40	As the waste rock pile will develop slowly during the first year while the shafts are being excavated, a reasonable approach to confirm the geochemical properties and modelling predictions would be to monitor the waste shale rock as it is excavated, as well as the drainage chemistry from the WRMA. Should monitoring results indicate that the waste shale rock pile is behaving differently than suggested by the laboratory data, adjustments can be made such as removing the shale from the site, covering the shale pile earlier or changing runoff collection routing, to ensure proper mitigation and treatment.	OPG Letter dated Sep.28, 2012, 00216-CORR-00531-00143 (CEAA Registry Doc# 759)	EIS-04-159	D&C
IRC-EIS-04.41	The waste rock monitoring program will include collection and geochemical testing of rock samples from each major horizon during shaft sinking, at a maximum interval of 50 metres.	OPG Letter dated Sep.28, 2012, 00216-CORR-00531-00143 (CEAA Registry Doc# 759)	EIS-04-160	D&C
IRC-EIS-04.42	Waste rock testing will include elemental composition (by aqua regia digestion and XRF), acid-base accounting, and short-term leach testing (modified from ASTM D3987 for a 4:1 water to rock ratio).	OPG Letter dated Sep.28, 2012, 00216-CORR-00531-00143 (CEAA Registry Doc# 759)	EIS-04-160	D&C

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-04.43	Waste rock monitoring will be concurrent with surface water quality monitoring and each will complement and inform the other. Surface water samples will be submitted for laboratory analysis for metals, anions and salinity, among others, and will provide additional assurance that the waste rock and its leachate have been accurately characterized. These data will also provide information that can be used to design additional mitigation measures if required.	OPG Letter dated Sep.28, 2012, 00216-CORR-00531-00143 (CEAA Registry Doc# 759)	EIS-04-160	D&C
IRC-EIS-04.44	At least one surface water monitoring location will be sited immediately downstream of the WRMA in order to characterize the runoff prior to discharge to the stormwater management pond. Samples will be collected quarterly at a minimum throughout the site preparation and construction phase as described in the EA Follow-up Monitoring Program.	OPG Letter dated Sep.28, 2012, 00216-CORR-00531-00143 (CEAA Registry Doc# 759)	EIS-04-160	D&C
IRC-EIS-04.45	Because of the variability of site conditions (waste rock characteristics and seasonal variations in precipitation and runoff events), the timing and frequency of the sampling will be determined in the field to best observe and understand the characteristics of the WRMA runoff.	OPG Letter dated Sep.28, 2012, 00216-CORR-00531-00143 (CEAA Registry Doc# 759)	EIS-04-160	D&C
IRC-EIS-04.46	The waste rock will be segregated at surface into three areas based on the type of rock (dolostones, shales, limestone). The shale and dolostones resulting from the shaft excavations will either be reused onsite or covered within one year of excavation, therefore further segregation is not proposed. Additionally, the rock reused in berms will be covered, providing further means to manage and redirect runoff.	OPG Letter dated Sep.28, 2012, 00216-CORR-00531-00143 (CEAA Registry Doc# 759)	EIS-04-160	D&C
IRC-EIS-04.47	Monitoring results characterizing the initial waste rock at the repository horizon will be available before the majority of rock from this horizon is brought to surface. These rock characteristics will be used to confirm whether proposed surface water management strategies are appropriate.	OPG Letter dated Sep.28, 2012, 00216-CORR-00531-00143 (CEAA Registry Doc# 759)	EIS-04-160	D&C
IRC-EIS-05.01	It is anticipated that institutional controls will be put in place as part of the Licence to Abandon granted by the Canadian Nuclear Safety Commission that would involve land zoning restrictions that would prevent the authorization of deep drilling near the DGR site.	OPG Letter dated Nov.7, 2012, 00216-CORR-00531-00146 (CEAA Registry Doc# 793)	EIS-05-162	DEC

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-05.02	Wetland 3 will be disturbed by site preparation and construction activities; however, appropriate environmental management plans will ensure that potential effects on sensitive turtles that might be utilizing the habitat at that time are controlled through generally accepted mitigation measures.	OPG Letter dated Oct.24, 2012, 00216-CORR-00531-00145 (CEAA Registry Doc# 776)	EIS-05-168	D&C
IRC-EIS-05.03	Waste rock remaining in the waste rock management area at the time of decommissioning the DGR will be covered by a soil cap and vegetated. The rock pile will be covered with a minimum of 15 cm of soil and topsoil that is suited to the requirements of the local flora (refer to OPG's response to Undertaking TIS-09). Prior to covering, the waste rock surface will be scarified in the areas where the rock has been compacted by vehicle traffic.	OPG Letter dated Nov.7, 2012, 00216-CORR-00531-00146 (CEAA Registry Doc# 793)	EIS-05-171	DEC
IRC-EIS-05.04	The surface of the rock pile will be contoured to promote drainage and to minimize wind and water erosion. Wind breaks will be established, if necessary, for further erosion control until such time that the vegetation is sufficiently established. The pile will be inspected for tension cracks at the crest of any slopes for signs of new or ongoing failure, and rill or gully erosion both on the rock pile and on the soil cover.	OPG Letter dated Nov.7, 2012, 00216-CORR-00531-00146 (CEAA Registry Doc# 793)	EIS-05-171	DEC
IRC-EIS-05.05	Vegetation will be consistent with that of local conditions and that it is capable of providing vigorous, plentiful cover not later than its third growing season with minimal care (Environmental Protection Act – Ontario Regulation 232/98, s.29(1)). The use of native species will be incorporated in the detailed revegetation plan while invasive species will be avoided. Opportunities to develop habitat will be considered during the development of the revegetation plan.	OPG Letter dated Nov.7, 2012, 00216-CORR-00531-00146 (CEAA Registry Doc# 793)	EIS-05-171	DEC
IRC-EIS-05.06	One sample location will be sited at the sump discharge, through which all underground water will flow, in order to characterize the sump water quality. A second location, chosen near the Waste Rock Management Area, will characterize the surface water runoff from the waste rock piles and other areas of the DGR Project site. The sample site located at the SWMP outlet will be used to verify that the discharge meets Environmental Compliance Approval (ECA) criteria (previously called Certificate of Approval discharge criteria).	OPG Letter dated Nov.7, 2012, 00216-CORR-00531-00146 (CEAA Registry Doc# 793)	EIS-05-172	D&C OPS

Table B.1: Commitments in OPG Responses to JRP EIS Information Requests				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-05.07	All surface runoff from the DGR site will drain to the SWMP via the perimeter ditch system thus preventing a contaminant pathway via surface runoff.	OPG Letter dated Nov.7, 2012, 00216-CORR-00531-00146 (CEAA Registry Doc# 793)	EIS-05-172	D&C
IRC-EIS-05.08	Although the till underlying the DGR site is expected to prevent any shallow groundwater flow to the wetland, the shallow groundwater monitoring well network will also be capable of detecting changes resulting from site activities and changes to the water table near the marsh in the northeast portion of the Project Area.	OPG Letter dated Nov.7, 2012, 00216-CORR-00531-00146 (CEAA Registry Doc# 793)	EIS-05-172	D&C
IRC-EIS-05.09	Key design features to control contaminant concentrations in the stormwater discharge include: • all surface water (including the shaft sump discharge) from the site will drain to the SWMP via a perimeter ditch system for a single point of discharge from the site; • vegetated perimeter ditches for the DGR site to control sediment loading; • SWMP design will control sediment and suspended solids; • an oil/water separator (e.g., stormceptor) will control hydrocarbon releases, Total Suspended Solids (TSS), and metals associated with TSS; • shaft liner design will minimize the amount of groundwater seepage into the shaft, thus minimizing sump discharge; and • SWMP discharge is conveyed through approximately 1 km of vegetated drainage ditch prior to discharge to MacPherson Bay.	OPG Letter dated Nov.7, 2012, 00216-CORR-00531-00146 (CEAA Registry Doc# 793)	EIS-05-172	D&C OPS DEC
IRC-EIS-05.10	A detailed sampling plan will be developed prior to the site preparation and construction phase as described in Section 12 of the EA Follow-up Monitoring Program, and that sample frequency may be adjusted based on the data quality objectives of the detailed sampling plan.	OPG Letter dated Nov.7, 2012, 00216-CORR-00531-00146 (CEAA Registry Doc# 793)	EIS-05-172	D&C

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-05.11	EA follow-up sampling will occur for one year during operations to confirm: the predictions in the Environmental Impact Statement that the concentrations of COPCs will peak during site preparation and construction; that the effects will be mitigated through the stormwater management system design; and that the discharge criteria are not exceeded. If data are not consistent with predictions, then further monitoring will be recommended, as part of the EA follow-up monitoring process. Note that surface water sampling will continue for the ECA throughout the operations phase as described in the EA Follow-up Monitoring Program Table 6, Activity C-REG-SW1) and will comply with the conditions of the approval.	OPG Letter dated Nov.7, 2012, 00216-CORR-00531-00146 (CEAA Registry Doc# 793)	EIS-05-172	OPS
IRC-EIS-05.12	In addition, weekly inspections will be conducted to ensure the pond is free of floating and settleable solids, and does not contain oil or any other substance in amounts sufficient to create a visible film, foam or discoloration or any other deleterious substance (Table 3a, Activity C-EA-SW2). Weekly visual inspections of the entire stormwater management system (including perimeter ditches) will be conducted under the Environmental Management Plan (EMP) monitoring program (Activity C-EMP-SW2 and O-EMP-SW2 of Table 4a and 4b respectively).	OPG Letter dated Nov.7, 2012, 00216-CORR-00531-00146 (CEAA Registry Doc# 793)	EIS-05-172	D&C OPS DEC
IRC-EIS-05.13	As stated in the EA Follow-up Monitoring Program (Section 12), detailed sampling plans will be developed in accordance with N288.4-10 for field sampling programs summarized in Table 3 and will include a statistical evaluation to support the sampling schedule. The Data Quality Objectives process is an iterative process. Preliminary sample frequencies, locations, durations and water quality objectives have been outlined in Table 3a. Current baseline surface water quality characterization work is ongoing at MacPherson Bay (SW6). The sample frequency and duration needed to detect an effect is influenced by the estimated baseline variability, and the results of the surface water modeling. Once the current surface water baseline monitoring program and the surface water modeling are completed, a detailed surface water sampling plan can be developed.	OPG Letter dated Nov.7, 2012, 00216-CORR-00531-00146 (CEAA Registry Doc# 793)	EIS-05-172	D&C OPS DEC

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-05.14	Further identification of performance or acceptance criteria for surface water data will be developed concurrently with the detailed sampling plan for site preparation and construction, and will incorporate input from the regulators during the ECA process. Preliminary baseline monitoring is currently underway, and will include statistical analysis that will influence the detailed sampling plan and data quality objectives, including the performance/acceptance criteria.	OPG Letter dated Nov.7, 2012, 00216-CORR-00531-00146 (CEAA Registry Doc# 793)	EIS-05-172	D&C
IRC-EIS-05.15	Analysis for pH, conductivity, temperature and major ions will provide basic information on groundwater quality and will allow for a charge balance to be completed as a quality assurance measure. Trace elemental analysis will allow for the early detection of elements which may indicate groundwater contamination from activities at the surface facilities. Tritium and gross beta will be analyzed to detect radionuclides which may indicate migration from surface facilities and/or the existing Western Waste Management Facility (WWMF). These analytes are the same as those included in the existing radiological monitoring program at the WWMF. Petroleum hydrocarbons are included in order to detect any influence from vehicular sources and other common industrial sources at the surface facilities. Quarterly sampling will allow seasonal trends to be identified.	OPG Letter dated Nov.7, 2012, 00216-CORR-00531-00146 (CEAA Registry Doc# 793)	EIS-05-173	D&C OPS DEC
IRC-EIS-05.16	Values for COPCs will be assessed against baseline levels and Table 3 of Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act (MOE 2011) for a non-potable groundwater condition. In support of the Data Quality Objective process, Method Detection Limits (MDLs) are being reviewed to ensure they are adequately low compared to current levels of COPCs or regulatory criteria where they exist, to ensure the monitoring program can detect any significant changes from baseline conditions.	OPG Letter dated Nov.7, 2012, 00216-CORR-00531-00146 (CEAA Registry Doc# 793)	EIS-05-173	D&C OPS DEC

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-05.17	A detailed sampling plan will be developed for the site preparation and construction phase in accordance with CSA N288.4-10 (CSA 2010), and will include data quality objectives and actions levels (performance or acceptance criteria) that will be influenced by the results of the ongoing baseline monitoring. The design of the groundwater monitoring program will be reviewed before the end of the site preparation and construction phase to assess the appropriate monitoring frequency during operations.	OPG Letter dated Nov.7, 2012, 00216-CORR-00531-00146 (CEAA Registry Doc# 793)	EIS-05-173	D&C
IRC-EIS-05.18	Ozone (O3) will not be emitted by the DGR Project and, while compounds that could be considered precursors for ozone will be emitted (NOx and small quantities of VOCs), there is no expectation that the amounts emitted will cause an increase in ozone on either a local or regional scale.	OPG Letter dated Oct.24, 2012, 00216-CORR-00531-00145 (CEAA Registry Doc# 776)	EIS-05-175	D&C OPS DEC
IRC-EIS-05.19	The maximum values predicted in the EIS are the proposed criteria that will be used to evaluate the measured concentrations of the indicator compounds monitored, and are listed under activity C-EA-ATM1 of Table 3a in the EA Follow-up Monitoring Program.	OPG Letter dated Oct.24, 2012, 00216-CORR-00531-00145 (CEAA Registry Doc# 776)	EIS-05-176	D&C
IRC-EIS-05.20	... an abandonment plan will be developed and submitted to the Canadian Nuclear Safety Commission (CNSC) in support of the application for a Licence to Abandon, which would include a description of institutional controls. The DGR Preliminary Decommissioning Plan provides a description of decommissioning activities as well as the planned end state for the site. Detailed pre-requisites for obtaining an abandonment licence will be determined after discussions with the CNSC during the decommissioning phase of the DGR project.	OPG Letter dated Oct.24, 2012, 00216-CORR-00531-00145 (CEAA Registry Doc# 776)	EIS-05-181	DEC
IRC-EIS-05.21	The detailed abandonment plan will be prepared after a final end-state report has been submitted to the CNSC on completion of decommissioning of the DGR, as per CNSC Regulatory Guide G-219, “Decommissioning Planning for Licensed Activities”. The end-state report will demonstrate that the intended end state has been achieved in accordance with the Detailed Decommissioning Plan and regulatory requirements, and will identify what further work, if any, remains to be done prior to abandonment.	OPG Letter dated Oct.24, 2012, 00216-CORR-00531-00145 (CEAA Registry Doc# 776)	EIS-05-181	DEC

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-05.22	The WRMA and Stormwater Management Pond (SWMP) will be constructed within an area underlain by between 0.7 to 1.5 m of surficial sand and gravel to clayey silt (fill materials) overlying at least 10 m of hard low-permeability glacial till. The cohesionless surficial fill materials within the footprint of the WRMA and SWMP will be removed as part of site preparation activities. The SWMP will be excavated into this thick glacial till unit and the till will serve as a natural liner for the pond. The pond side walls will be lined, as required, to limit lateral seepage into any surrounding permeable overburden that overlies the till.	OPG Letter dated Nov.7, 2012, 00216-CORR-00531-00146 (CEAA Registry Doc# 793)	EIS-05-185	D&C
IRC-EIS-05.23	Final water quality criteria for the effluent from the stormwater management pond (SWMP) will be developed as part of the Ontario Environmental Compliance Approval (ECA) and other regulatory processes (e.g., Canadian Nuclear Safety Commission licensing). The limits will be established taking into consideration the Provincial Water Quality Objectives, the acute toxicity thresholds for sensitive species that are present in the receiving environment, and the existing water quality in the receiving water at MacPherson Bay.	OPG Letter dated Nov.7, 2012, 00216-CORR-00531-00146 (CEAA Registry Doc# 793)	EIS-05-185	D&C
IRC-EIS-05.24	Particular attention will be paid to salinity and nitrogen compounds when developing water quality criteria.	OPG Letter dated Nov.7, 2012, 00216-CORR-00531-00146 (CEAA Registry Doc# 793)	EIS-05-185	D&C
IRC-EIS-05.25	Actions will be taken to ensure the concentrations of nitrogen compounds and salinity are below acceptable levels in the SWMP discharge. To manage nitrogen compounds in SWMP discharge, use of emulsion will be maximized and best blasting practices will be implemented to minimize amount of blast residue left on waste rock.	OPG Letter dated Nov.7, 2012, 00216-CORR-00531-00146 (CEAA Registry Doc# 793)	EIS-05-185	D&C
IRC-EIS-05.26	Emergency procedures that are currently in place at the Bruce nuclear site, as well as any additional measures that are conceived in the Preliminary Safety Report due to the presence of the DGR, are designed to ensure that malfunctions and/or accidents will be addressed in a timely manner, which will not allow for a measurable infiltration of radiological or non-radiological contaminants to the sub-surface, and by extension, to potential potable water supply sources.	OPG Letter dated Nov.7, 2012, 00216-CORR-00531-00146 (CEAA Registry Doc# 793)	EIS-05-185	D&C OPS DEC

Table B.1: Commitments in OPG Responses to JRP EIS Information Requests				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-05.27	The underground Maintenance Shop and Diesel Fuelling Station will each have their own isolated containment sumps to capture fluids from accidents/spills. Similar to surficial accidents or malfunctions, emergency procedures are designed to ensure that malfunctions and/or accidents will be addressed in a timely manner.	OPG Letter dated Nov.7, 2012, 00216-CORR-00531-00146 (CEAA Registry Doc# 793)	EIS-05-185	D&C OPS DEC
IRC-EIS-05.28	At the repository level (access tunnels and emplacement rooms), the rock support will be provided through combinations of the following materials: 25-mm-diameter galvanized hollow-core mechanical rock bolts, 15.2- mm-diameter cable bolts, fibre-reinforced shotcrete, plain (or un-reinforced) shotcrete, and welded wire mesh. In the emplacement rooms it is planned to install 3-m-long bolts on 2.05 m × 2.05 m spacing. A spacing pattern of 1.68 m × 1.68 m and 2.4-m-long bolts will likely be used in the access tunnels. Supplementary cable bolts will be installed in selected areas such as shaft stations, maintenance areas and locations with wide intersections.	OPG Letter dated Oct.24, 2012, 00216-CORR-00531-00145 (CEAA Registry Doc# 776)	EIS-05-187	D&C
IRC-EIS-05.29	Groutable mechanical bolts will be installed and initially pre-stressed to about 2 tonnes. In addition to bolting, wire mesh or fibre-reinforced shotcrete will be applied after each round to prevent small “loose rock” from falling and jeopardizing the safety of the workers. When wire mesh is used, then plain shotcrete will be applied over the mesh at a later time when it is most convenient in the construction cycle. As the rooms and tunnels are advanced, grouting of the rock bolts will be performed through their hollow cores. The grout will provide an additional corrosion protective layer around outside of bolts to ensure longevity of the rock support system.	OPG Letter dated Oct.24, 2012, 00216-CORR-00531-00145 (CEAA Registry Doc# 776)	EIS-05-187	D&C
IRC-EIS-05.30	… as water discharged from the stormwater management pond will meet the Environmental Compliance Approval discharge criteria.	OPG Letter dated Oct.24, 2012, 00216-CORR-00531-00145 (CEAA Registry Doc# 776)	EIS-05-188	D&C OPS
IRC-EIS-05.31	Temporary stockpiles will be used during the initial site construction activities (e.g. construction of the shaft collars) and through the shaft sinking activities (approximately 2 years). These materials will be used in the overall site grading plan and contouring. Where possible, materials will be placed directly to the end-use location to avoid the need for re-handling.	OPG Letter dated Oct.24, 2012, 00216-CORR-00531-00145 (CEAA Registry Doc# 776)	EIS-05-191	D&C

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-05.32	Prior to the deposition of waste rock in the Waste Rock Management Area, silt curtains will be installed between the drainage ditches and the toe of the waste rock pile (i.e. the permanent stockpile of limestone). These will be maintained for the development of the waste rock pile during of the construction phase until it is observed that silty material is no longer being released from the waste rock pile. In addition, vegetation will be re-established in the area between the silt curtain and the waste rock pile to assist in limiting the migration of sediment to the silt curtains and the drainage ditches.	OPG Letter dated Oct.24, 2012, 00216-CORR-00531-00145 (CEAA Registry Doc# 776)	EIS-05-192	D&C
IRC-EIS-05.33	Drainage ditches will undergo routine inspection and maintenance as described in OPG's response to Information Request EIS-04-130. In the event of sediment buildup in the ditches the sediment will be excavated from the ditch and disposed of as per established waste handling practices. The inspection and maintenance program for the drainage ditches will consist of the following: • Regular inspections of the stormwater management system. [The EA Follow-up Monitoring Program] proposes weekly inspection during site preparation and construction, and monthly inspection during operations. The system will also be inspected after significant runoff events. Inspections will be conducted to: – check for trash, debris and sediment buildup in the drainage network and pond; – monitor the erosion of channels, embankments and the pond shoreline; – check the level of the permanent pool in the pond; – check for unwanted vegetation growth and algal blooms in the drainage ditches and pond; – check for a sheen, frothiness and discoloration of the water in the pond; and – confirm the health of plantings around the pond shoreline. • Corrective maintenance will be carried out should any significant issues, with respect to the proper function of the drainage ditch system, be identified during regular inspections. • Regular maintenance of the drainage ditches and culvert crossings including: – removal of trash, debris and accumulated sediment; – control of unwanted vegetation growth;	OPG Letter dated Oct.24, 2012, 00216-CORR-00531-00145 (CEAA Registry Doc# 776)	EIS-05-192	D&C OPS

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
	– replanting of grass lining in channels; and – o repairs to channels and culvert pipes and embankments.			
IRC-EIS-05.34	Surface runoff and groundwater from the DGR Project will be directed to a stormwater management pond prior to discharge to MacPherson Bay.	OPG Letter dated Nov.7, 2012, 00216-CORR-00531-00146 (CEAA Registry Doc# 793)	EIS-05-193	D&C OPS
IRC-EIS-05.35	When possible, services of water delivery and septage pumping will be coordinated for the DGR Project site with other similar services provided on-site to reduce the number of trucks.	OPG Letter dated Nov.7, 2012, 00216-CORR-00531-00146 (CEAA Registry Doc# 793)	EIS-05-199	D&C OPS
IRC-EIS-05.36	They will not materially adversely affect the flow of traffic in and out of the site and will not result in changes to Levels of Service of roads/intersections within the study area.	OPG Letter dated Nov.7, 2012, 00216-CORR-00531-00146 (CEAA Registry Doc# 793)	EIS-05-199	D&C OPS
IRC-EIS-05.37	Placement of engineered backfill materials will largely occur in the vicinity of DGR surface facilities for purpose of setting site grade elevations at the shaft collars.	OPG Letter dated Oct.24, 2012, 00216-CORR-00531-00145 (CEAA Registry Doc# 776)	EIS-05-200	D&C OPS
IRC-EIS-05.38	Table 1 - Long-Term Facility Management: The EISdoes not predict any significant adverse effects of the Project on the environment or members of the public, and monitoring programs, as discussed above, will be in place to identify any unanticipated effects.	OPG Letter dated Nov.7, 2012, 00216-CORR-00531-00146 (CEAA Registry Doc# 793)	EIS-05-203	D&C OPS DEC
IRC-EIS-05.39	Table 2: - Engineering: The ground support design will incorporate rock bolts and welded-wire mesh and/or shotcrete to prevent spalled or “loose rock” from falling from the tunnel roof (refer to IR response EIS-05-187).	OPG Letter dated Nov.7, 2012, 00216-CORR-00531-00146 (CEAA Registry Doc# 793)	EIS-05-203	D&C
IRC-EIS-05.40	The concrete monolith is described in Section 13.6.2 of the PSR. The monolith will not be reinforced or keyed into the tunnel walls and will be mass poured-in-place over the extent described in Section 13.6.2 and illustrated in Figure 13-1.	OPG Letter dated Oct.24, 2012, 00216-CORR-00531-00145 (CEAA Registry Doc# 776)	EIS-05-207	DEC

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-05.41	The Site Preparation and Construction activities will be governed through NWMO's Design and Construction Phase Management System and supporting plans and procedures.	OPG Letter dated Oct.24, 2012, 00216-CORR-00531-00145 (CEAA Registry Doc# 776)	EIS-05-212	D&C
IRC-EIS-05.42	There are several guiding documents that will be in-place for the construction phase that further define activities at the site including the construction management plan, health and safety management plan and environment management plan. These, in conjunction with the project quality plan, establish accountability and communication requirements.	OPG Letter dated Oct.24, 2012, 00216-CORR-00531-00145 (CEAA Registry Doc# 776)	EIS-05-212	D&C
IRC-EIS-05.43	With respect to health, safety and the environment, the DGR Project health and safety management plan and DGR Project environmental management plan will further describe roles, responsibilities and accountabilities for the execution of work. These areas would be registered/certified to the CSA Z1000 and ISO 14001 standards, respectively, and will be externally audited for compliance. Event identification, notification and follow-up requirements and accountabilities will be detailed in the plans and associated procedures.	OPG Letter dated Oct.24, 2012, 00216-CORR-00531-00145 (CEAA Registry Doc# 776)	EIS-05-212	D&C
IRC-EIS-05.44	In the event of a reportable incident on-site, the requirements for notification, investigation, reporting and follow-up will be clearly described. Such an event would also be tracked through NWMO's non-conformance and corrective action processes and communicated through all levels of the organization.	OPG Letter dated Oct.24, 2012, 00216-CORR-00531-00145 (CEAA Registry Doc# 776)	EIS-05-212	D&C
IRC-EIS-05.45	NWMO's corporate Performance Assurance group will provide an oversight role to ensure the quality activities at the project level are consistent with NWMO's corporate requirements.	OPG Letter dated Oct.24, 2012, 00216-CORR-00531-00145 (CEAA Registry Doc# 776)	EIS-05-212	D&C
IRC-EIS-05.46	The roles identified in Figure 4.14-1 are project specific and will be working closely together on a day-to-day basis. Regular project meetings will ensure key issues are discussed and progressed.	OPG Letter dated Oct.24, 2012, 00216-CORR-00531-00145 (CEAA Registry Doc# 776)	EIS-05-212	D&C
IRC-EIS-05.47	Activities during the operations phase will be governed by OPG's Nuclear Charter N-CHAR-AS-0002 "Nuclear Management System" which communicates Chief Nuclear Officer expectations regarding implementation of the Nuclear Management System.	OPG Letter dated Oct.24, 2012, 00216-CORR-00531-00145 (CEAA Registry Doc# 776)	EIS-05-213	OPS

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-05.48	Operators will be trained to complete the tasks that they undertake and will be monitored through the mechanisms of the Health and Safety Management Plan and associated procedures.	OPG Letter dated Oct.24, 2012, 00216-CORR-00531-00145 (CEAA Registry Doc# 776)	EIS-05-217	OPS
IRC-EIS-05.49	Monitoring of equipment function (e.g. ventilation system performance, dewatering systems, etc) will be managed through local human-machine interfaces with status of operation provided to the surface control room.	OPG Letter dated Oct.24, 2012, 00216-CORR-00531-00145 (CEAA Registry Doc# 776)	EIS-05-217	OPS
IRC-EIS-05.50	A segregated fund, known as the Decommissioning Fund, has been established by Ontario Power Generation, and these accumulated funds will be used to pay for the DGR Project.	OPG Letter dated Oct.24, 2012, 00216-CORR-00531-00145 (CEAA Registry Doc# 776)	EIS-05-224	All
IRC-EIS-05.51	The WRMA will include a base of graded silty clay till. The SWMP with its base at 177.5 metres would be excavated into till which is at an elevation of 180 metres or higher in this area based on the four boreholes drilled on the SWMP perimeter.	OPG Letter dated Oct.24, 2012, 00216-CORR-00531-00145 (CEAA Registry Doc# 776)	EIS-05-229	D&C
IRC-EIS-06.01	Well 231 (also known as Water Sampling Hole 231) has not been and will not be used as a drinking water source.	OPG Letter dated Oct.31, 2012, 00216-CORR-00531-00148 (CEAA Registry Doc# 795)	EIS-06-230	All
IRC-EIS-06.02	At such time as the well is no longer used for monitoring, it will be abandoned in accordance with the requirements of O. Reg. 903, Wells (MOE 1990), which establishes requirements and record keeping for well abandonment.	OPG Letter dated Oct.31, 2012, 00216-CORR-00531-00148 (CEAA Registry Doc# 795)	EIS-06-230	D&C OPS

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-06.03	The overall objective of the follow-up monitoring program during the decommissioning phase will be consistent with the requirements of subsection 2(1) of the Canadian Environmental Assessment Act (CEAA 2012), to verify the accuracy of the EA and to determine the effectiveness of any measures taken to mitigate any environmental effects predicted in the decommissioning EA. The decommissioning follow-up program will be developed in a similar manner to the DGR EA Follow-up Monitoring Program and will be compliant with relevant regulatory standards and guidance at the time of its development. It will employ a similar systematic planning process that will comprise: • Definition of the objectives of the follow-up program; • Identification of the information required to meet the defined objectives; • Definition of the spatial boundaries of the follow-up program; • Determination of how data collection will be used to achieve the defined objectives; • Specification of performance or acceptance criteria; and • Development of detailed monitoring design required to obtain the data. The systematic process outlined above will incorporate a pathways model identification that will include air, groundwater, surface water and soil.	OPG Letter dated Oct.31, 2012, 00216-CORR-00531-00148 (CEAA Registry Doc# 795)	EIS-06-235	DEC
IRC-EIS-06.04	Adaptive management will be incorporated into the EA follow-up plan for the decommissioning phase by including contingency procedures and plans to comply with/conform to regulatory standards or guidelines that are applicable at the time of decommissioning.	OPG Letter dated Oct.31, 2012, 00216-CORR-00531-00148 (CEAA Registry Doc# 795)	EIS-06-235	DEC
IRC-EIS-06.05	The need for follow-up monitoring during abandonment will be discussed with the regulator at the time of applying for the Licence to Abandon and will be based on the results of the decommissioning monitoring. If necessary, the follow-up monitoring will be developed using a systematic approach.	OPG Letter dated Oct.31, 2012, 00216-CORR-00531-00148 (CEAA Registry Doc# 795)	EIS-06-235	DEC
IRC-EIS-06.06	… WSH-231 has not been and will not be used as a drinking water source.	OPG Letter dated Dec.12, 2012, 00216-CORR-00531-00153 (CEAA Registry Doc# 832)	EIS-06-241	All

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-06.07	In addition, following closure of the repository, institutional controls will be put in place to reduce the likelihood of future inadvertent intrusion.	OPG Letter dated Nov.29, 2012, 00216-CORR-00531-00152 (CEAA Registry Doc# 823)	EIS-06-246	DEC
IRC-EIS-06.08	Continuous air quality monitors will be installed at the start of the site preparation and construction phase and will measure several air quality parameters: particulate matter (PM10 and PM2.5) and NOX (Activity C-EA-ATM1 in Table 3a of the DGR EA Follow-up Monitoring Program. If the air quality monitoring results are higher than predicted in the EIS, equipment could be replaced with equipment that meets Tier 3 standards or better (Section 13.5).	OPG Letter dated Nov.29, 2012, 00216-CORR-00531-00152 (CEAA Registry Doc# 823)	EIS-06-252	D&C
IRC-EIS-06.09	The ongoing waste characterization program will further improve the completeness and accuracy of the inventories in the various waste streams.	OPG Letter dated Dec.12, 2012, 00216-CORR-00531-00153 (CEAA Registry Doc# 832)	EIS-06-264	All
IRC-EIS-06.10	At the time of implementation, detailed plans will be developed with the intent of ensuring that the best available practice and techniques, as demonstrated through experimentation at Underground Research Laboratories, will be applied.	OPG Letter dated Nov.29, 2012, 00216-CORR-00531-00152 (CEAA Registry Doc# 823)	EIS-06-266	D&C OPS
IRC-EIS-06.11	With respect to the geophysical measurements alone, the intent is to log rock mass and EDZ properties by ultrasonic velocity logging techniques. These measurements will be conducted in radially oriented boreholes extending 10 m beyond the shaft excavation face.	OPG Letter dated Nov.29, 2012, 00216-CORR-00531-00152 (CEAA Registry Doc# 823)	EIS-06-266	D&C OPS
IRC-EIS-06.12	Other suitable geophysical techniques, such as ground penetrating radar, resistivity, sonic, acoustic emission and seismo-electrical methods will also be considered depending on the site situation.	OPG Letter dated Nov.29, 2012, 00216-CORR-00531-00152 (CEAA Registry Doc# 823)	EIS-06-266	D&C OPS
IRC-EIS-06.13	Prior to any testing and instrumentation, these boreholes will be inspected and logged using a borehole camera (Optical Televiewer) and/or Acoustic Televiewer.	OPG Letter dated Nov.29, 2012, 00216-CORR-00531-00152 (CEAA Registry Doc# 823)	EIS-06-266	D&C OPS

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-06.14	As described in the Geoscientific Verification Plan (Section 2.1.4.2), further sampling of the shaft wall will be carried out at selected boreholes using epoxy resin injection and overcoring as used at the Mont Terri Rock Laboratory and the Laboratoire Meuse Haute Marne (Bure) (FRACTURE SYSTEMS 2011, Section 3.2.3).	OPG Letter dated Nov.29, 2012, 00216-CORR-00531-00152 (CEAA Registry Doc# 823)	EIS-06-266	D&C OPS
IRC-EIS-06.15	The measurement techniques applied will ultimately be selected based on best available technology as demonstrated at Underground Research Laboratories (URL), for example, Mont Terri (Switzerland), Bure (France) and Aspo (Sweden).	OPG Letter dated Nov.29, 2012, 00216-CORR-00531-00152 (CEAA Registry Doc# 823)	EIS-06-267	D&C OPS
IRC-EIS-06.16	The total number of horizontal boreholes required at each measurement location and their bearing will be adjusted during detailed planning to capture maximum expected EDZ development. Based on the Geoscientific Verification Plan, like other EDZ characterization activities, the hydraulic measurement will be conducted at selected horizons in the Salina Formation (F, C, A2 and A1 Units), the Cabot Head Formation, the Queenston Formation, the Georgian Bay Formation and the Blue Mountain Formation. As noted above, best practice will be followed for physical measurement of EDZ permeabilities based on URL experience.	OPG Letter dated Nov.29, 2012, 00216-CORR-00531-00152 (CEAA Registry Doc# 823)	EIS-06-267	D&C OPS
IRC-EIS-06.17	At the time of DGR decommissioning and shaft seal emplacement, approximately 40 to 45 years following initiation of operation, all infrastructure including shaft support structures, concrete liners and an estimated 0.5 m thick layer of EDZ damaged rock along the shafts will be removed. The EDZ properties measured from the activities in the Geoscientific Verification Plan will be re-assessed to confirm predicted seal performance and adequacy.	OPG Letter dated Nov.29, 2012, 00216-CORR-00531-00152 (CEAA Registry Doc# 823)	EIS-06-267	DEC
IRC-EIS-06.18	OPG to support a long-term shaft seal testing program. [NOTE: Wording of this commitment is approximately the entire response to IR-EIS-06-268.]	OPG Letter dated Nov.29, 2012, 00216-CORR-00531-00152 (CEAA Registry Doc# 823)	EIS-06-268	D&C OPS
IRC-EIS-06.19	The above ground structures will be designed with lightning protection.	OPG Letter dated Dec.12, 2012, 00216-CORR-00531-00153 (CEAA Registry Doc# 832)	EIS-06-270	D&C

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-06.20	Electrical – Two main power feeds are planned to supply power to the DGR systems, with redundant buses supplying power to critical loads in the event of the loss of either of the main feeds. In addition, there will be two emergency generators (2 x 100%) for the DGR project site in the event that both main feeds are lost. Uninterruptible power supply units are included as needed (see OPG's response IR-LPSC-01-10). This will ensure there is communication and emergency services provided for postulated preclosure accident scenarios as described in the Preliminary Safety Report (Chapter 7).	OPG Letter dated Nov.29, 2012, 00216-CORR-00531-00152 (CEAA Registry Doc# 823)	EIS-06-275	D&C
IRC-EIS-06.21	For workers underground, stench gas will also be introduced into the ventilation system to notify of an emergency.	OPG Letter dated Nov.29, 2012, 00216-CORR-00531-00152 (CEAA Registry Doc# 823)	EIS-06-275	D&C
IRC-EIS-06.22	There will be full redundancy in fire detection, alarms and suppression systems and redundancy in local suppression systems (e.g., sprinklers or ansul systems).	OPG Letter dated Nov.29, 2012, 00216-CORR-00531-00152 (CEAA Registry Doc# 823)	EIS-06-275	D&C OPS DEC
IRC-EIS-06.23	OPG is committed to maintain the required financial, technical and administrative capabilities to ensure the safe construction and operation of the DGR. It is also important to note that the DGR will operate under the requirements of the Canadian Nuclear Safety and Control Act and will only operate if granted an operating licence by the Canadian Nuclear Safety Commission (CNSC).	OPG Letter dated Nov.29, 2012, 00216-CORR-00531-00152 (CEAA Registry Doc# 823)	EIS-06-275	All
IRC-EIS-06.24	Completing an annual assessment of the performance of the EA follow-up monitoring program that will identify the effectiveness of the existing follow-up monitoring program design and identify any problems and gaps.	OPG Letter dated Nov.29, 2012, 00216-CORR-00531-00152 (CEAA Registry Doc# 823)	EIS-06-276	D&C OPS DEC
IRC-EIS-06.25	Some of the contingency procedures described in the DGR EA Follow-up Monitoring Program (Section 13) apply the principle of risk avoidance, where activities will be halted if exceedances occur or upset conditions are met, and will not resume until alternate mitigation has been implemented Sections 13.2 and 13.6).	OPG Letter dated Nov.29, 2012, 00216-CORR-00531-00152 (CEAA Registry Doc# 823)	EIS-06-276	D&C OPS DEC
IRC-EIS-06.26	Table 1: Emergency back-up power will be provided	OPG Letter dated Dec.12, 2012, 00216-CORR-00531-00153 (CEAA Registry Doc# 832)	EIS-06-278	D&C OPS DEC

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-07.01	As discussed in the Environmental Impact Statement (EIS) (Section 4.4.3.5), surface diesel and fuel storage for mobile equipment will be limited to the site preparation and construction phase and will be removed prior to operations.	OPG Letter dated Dec.20, 2012, 00216-CORR-00531-00151 (CEAA Registry Doc# 843)	EIS-07-279	D&C
IRC-EIS-07.02	Both surface and underground fuel storage areas will be provided with sufficient sump capacity to collect accidental spillage that could occur during fuel transfer or leakage from any tanks or pipes. Berms will be constructed as needed to ensure that any spillage of fuel or lubricant will be retained within the storage and refueling areas.	OPG Letter dated Dec.20, 2012, 00216-CORR-00531-00151 (CEAA Registry Doc# 843)	EIS-07-279	D&C
IRC-EIS-07.03	Annual usage of hazardous materials is relatively small and large volumes of hazardous materials will not be stored at the site.	OPG Letter dated Dec.20, 2012, 00216-CORR-00531-00151 (CEAA Registry Doc# 843)	EIS-07-279	D&C OPS
IRC-EIS-07.04	... the storage tank will be located on a concrete pad which drains to a sump and all releases will be contained.	OPG Letter dated Dec.20, 2012, 00216-CORR-00531-00151 (CEAA Registry Doc# 843)	EIS-07-279	D&C
IRC-EIS-07.05	Above ground, chemicals will be stored in substance appropriate, secured storage cabinets. The location of the storage units will be as required in close proximity to large equipment and determined in consultation with contractors. Below ground, chemicals will be stored in dedicated areas, in substance appropriate, secured cabinets, for example, in the diesel fuel bay, and maintenance shop.	OPG Letter dated Dec.20, 2012, 00216-CORR-00531-00151 (CEAA Registry Doc# 843)	EIS-07-279	D&C OPS
IRC-EIS-07.06	Receipt of explosives at the Bruce nuclear site will be coordinated with Bruce Power security and maintain established transportation routes. The equipment used for the delivery of explosives will be licensed for their transport. Post delivery transport and use of explosives will be in accordance with the requirements of the Ontario Mines and Mining Plants Regulations (O.Reg. 854/90).	OPG Letter dated Dec.20, 2012, 00216-CORR-00531-00151 (CEAA Registry Doc# 843)	EIS-07-280	D&C

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-07.07	Explosives use during excavation activities will use best industry practice and is considered to be typical use within the mining industry.	OPG Letter dated Dec.20, 2012, 00216-CORR-00531-00151 (CEAA Registry Doc# 843)	EIS-07-280	D&C
IRC-EIS-07.08	However, the preliminary design work indicated that the stormwater management system required a higher ground elevation at the DGR surface facilities to facilitate site drainage. The interim finished ground surface elevation around the surface facilities has been increased to 188 mASL. This will be finalized as part of detailed design.	OPG Letter dated Dec.20, 2012, 00216-CORR-00531-00151 (CEAA Registry Doc# 843)	EIS-07-284	D&C
IRC-EIS-07.09	There is a large margin in the current design relative to the risk of flooding. This will be reaffirmed as part of the detailed design process.	OPG Letter dated Dec.20, 2012, 00216-CORR-00531-00151 (CEAA Registry Doc# 843)	EIS-07-285	D&C
IRC-EIS-07.10	The DGR Project will not discharge to Stream C, nor will it discharge to the South and North Railway Ditches.	OPG Letter dated Dec.20, 2012, 00216-CORR-00531-00151 (CEAA Registry Doc# 843)	EIS-07-286	D&C OPS
IRC-EIS-07.11	The Project will not discharge to Stream C or Baie du Doré.	OPG Letter dated Dec.20, 2012, 00216-CORR-00531-00151 (CEAA Registry Doc# 843)	EIS-07-291	D&C OPS
IRC-EIS-07.12	The DGR Project will not discharge to the North and South Railway Ditches, Stream C or Baie du Doré.	OPG Letter dated Dec.20, 2012, 00216-CORR-00531-00151 (CEAA Registry Doc# 843)	EIS-07-292	D&C OPS
IRC-EIS-07.13	During the construction phase, the water in the SWMP will include surface runoff and water pumped from the underground construction areas (i.e., groundwater infiltration and process water from drill and blast). During operations, water from the SWMP will include surface runoff and water pumped from the underground repository (i.e., groundwater infiltration).	OPG Letter dated Dec.20, 2012, 00216-CORR-00531-00151 (CEAA Registry Doc# 843)	EIS-07-294	D&C OPS
IRC-EIS-07.14	The follow-up monitoring program will include monitoring to ensure that the drawdown during construction, and the resulting ZOI, will have no effect on surface water courses or wetland features.	OPG Letter dated Dec.20, 2012, 00216-CORR-00531-00151 (CEAA Registry Doc# 843)	EIS-07-298	D&C OPS
IRC-EIS-07.15	As there will be no surface water discharges from the project to Stream C, and only a slight decrease (0.8%) in runoff, changes in surface water should have no measurable effect in temperature.	OPG Letter dated Dec.20, 2012, 00216-CORR-00531-00151 (CEAA Registry Doc# 843)	EIS-07-298	D&C OPS

Table B.1: Commitments in OPG Responses to JRP EIS Information Requests				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-07.16	The EA Follow-up Monitoring Program (Table 2) includes collection of flow data for the North Railway Ditch and the drainage ditch near the stormwater management pond outlet as part of baseline monitoring. The data will be measured on a quarterly basis and after each of two storm events, and can be used to calculate an annual discharge volume. Flow rates will also be monitored during the site preparation and construction and operations phases to confirm the effects predicted in the assessment (Tables 3a and 3b).	OPG Letter dated Dec.20, 2012, 00216-CORR-00531-00151 (CEAA Registry Doc# 843)	EIS-07-299	D&C OPS
IRC-EIS-07.17	As noted, the DGR Project will not discharge any effluent or runoff to the North or South Railway Ditches, to Stream C, or ultimately to Baie du Doré.	OPG Letter dated Dec.20, 2012, 00216-CORR-00531-00151 (CEAA Registry Doc# 843)	EIS-07-299	D&C OPS
IRC-EIS-07.18	As described in OPG's response to Information Request EIS-04-130, underground water and surface runoff will be routed to the stormwater management pond, and subsequently to the drainage ditch for discharge to MacPherson Bay. Discharges from the stormwater management pond will meet all applicable discharge criteria. These criteria will be developed in conjunction with the Ministry of the Environment (MOE) as part of the Ontario Environmental Compliance Approval (ECA) and other regulatory processes (e.g., Canadian Nuclear Safety Commission licensing), and will be protective of the environment. The limits will be established taking into consideration the Provincial Water Quality Objectives, the acute toxicity thresholds for sensitive species that are present in the receiving environment, and the existing water quality in the receiving water at MacPherson Bay.	OPG Letter dated Dec.20, 2012, 00216-CORR-00531-00151 (CEAA Registry Doc# 843)	EIS-07-299	D&C OPS
IRC-EIS-07.19	The stormwater management system will be decommissioned at the end of operations, and will not be operational during the postclosure phase.	OPG Letter dated Dec.20, 2012, 00216-CORR-00531-00151 (CEAA Registry Doc# 843)	EIS-07-299	DEC
IRC-EIS-07.20	The DGR Project will not discharge to the North or South Railway Ditches, Stream C or Baie du Doré.	OPG Letter dated Dec.20, 2012, 00216-CORR-00531-00151 (CEAA Registry Doc# 843)	EIS-07-300	D&C OPS

Table B.1: Commitments in OPG Responses to JRP EIS Information Requests				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-07.21	... all underground water and all surface runoff from the DGR Project site will be routed to the stormwater management pond (SWMP) via the perimeter ditch system thus preventing a contaminant pathway to Stream C, Baie du Dore, the North Railway Ditch and the South Railway Ditch via surface runoff.	OPG Letter dated Dec.20, 2012, 00216-CORR-00531-00151 (CEAA Registry Doc# 843)	EIS-07-301	D&C OPS
IRC-EIS-07.22	The discharge from the SWMP is expected to meet the criteria that will be set as part of the permitting process and to prevent adverse effects to the surface water quality of MacPherson Bay. This prediction will be verified by the surface water quality sampling program (including temperature) described in the DGR EA Follow-up Monitoring Program (Tables 3a and 6). Since the SWMP is the only pathway for effects on surface water from the DGR Project to MacPherson Bay, this program will meet the requirement to verify the accuracy of the environmental assessment and to determine the effectiveness of the mitigation measures, as outlined in the EIS Guidelines.	OPG Letter dated Dec.20, 2012, 00216-CORR-00531-00151 (CEAA Registry Doc# 843)	EIS-07-301	D&C OPS
IRC-EIS-07.23	Verification of assessment results will be achieved through proposed routine groundwater and shaft discharge monitoring programs, as discussed in the DGR EA Follow-up Monitoring Program (Section 3). The shallow groundwater monitoring program in particular, described in the EA Follow-up Monitoring Program (Table 3a, with additional detail provided in OPG's response to IR EIS-05-173), will be capable of identifying any changes to the local water table and shallow hydraulic gradients that may have an impact on base flow and recharge in the site study area. It is by these means that the accuracy of the predictions and effectiveness of the mitigation measures presented in the EIS will be verified.	OPG Letter dated Dec.20, 2012, 00216-CORR-00531-00151 (CEAA Registry Doc# 843)	EIS-07-301	D&C OPS
IRC-EIS-07.24	There will be no surface water discharges from the DGR site to the North Railway Ditch.	OPG Letter dated Dec.20, 2012, 00216-CORR-00531-00151 (CEAA Registry Doc# 843)	EIS-07-301	D&C OPS
IRC-EIS-07.25	This change in flow will be verified through the flow monitoring described in the EA Follow-up Monitoring Program (Table 3a).	OPG Letter dated Dec.20, 2012, 00216-CORR-00531-00151 (CEAA Registry Doc# 843)	EIS-07-301	D&C OPS
IRC-EIS-07.26	...there will be no surface water discharges to the South Railway Ditch from the DGR project…	OPG Letter dated Dec.20, 2012, 00216-CORR-00531-00151 (CEAA Registry Doc# 843)	EIS-07-301	D&C OPS

Table B.1: Commitments in OPG Responses to JRP EIS Information Requests				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-07.27	The annual assessment of the effectiveness of the EA Follow-up Monitoring Program (Section 16) will provide an opportunity to revise the program should any problems or gaps be identified.	OPG Letter dated Dec.20, 2012, 00216-CORR-00531-00151 (CEAA Registry Doc# 843)	EIS-07-301	D&C OPS
IRC-EIS-07.28	A detailed geotechnical investigation and monitoring plan will be developed for the shaft and repository excavations in advance of development activities. This plan will include geotechnical monitoring and related instrumentation/equipment, geological and geomechanical investigations during construction, as well as, long-term monitoring requirements during the operation phase.	OPG Letter dated Dec.20, 2012, 00216-CORR-00531-00151 (CEAA Registry Doc# 843)	EIS-07-302	D&C OPS
IRC-EIS-07.29	Specific to deformation/displacement monitoring, vertical displacement (single and multiple point borehole extensometers) and stress measurements (strain cells) are planned in multiple locations for the large span areas of the repository (e.g., main access tunnel, maintenance shop, large tunnel intersections), as well as, within the panel access tunnels and the emplacement rooms. In many locations, monitoring equipment will be installed in both the back (roof of the tunnel) and the floor.	OPG Letter dated Dec.20, 2012, 00216-CORR-00531-00151 (CEAA Registry Doc# 843)	EIS-07-302	D&C OPS
IRC-EIS-07.30	A detailed monitoring program will be developed with the shaft sinking contractor, and in consultation with Bruce Power, after the contract has been awarded and the blasting design finalized.	OPG Letter dated Dec.20, 2012, 00216-CORR-00531-00151 (CEAA Registry Doc# 843)	EIS-07-303	D&C
IRC-EIS-07.31	In addition, other geoscientific activities as described in [the Geoscientific Verification Plan] (Sections 2.1.5.2 and 2.2.6.3) that involve laboratory testing of large diameter core (>75 mm) or block samples will also be used to investigate time-dependent rock behaviour.	OPG Letter dated Dec.20, 2012, 00216-CORR-00531-00151 (CEAA Registry Doc# 843)	EIS-07-306	D&C
IRC-EIS-07.32	A detailed testing plan, beyond that described in the Geoscience Verification Plan, will be developed prior to DGR shaft construction.	OPG Letter dated Dec.20, 2012, 00216-CORR-00531-00151 (CEAA Registry Doc# 843)	EIS-07-312	D&C
IRC-EIS-07.33	In-situ geomechanical testing within Cobourg Formation will be performed at first opportunity during shaft sinking once the formation is exposed.	OPG Letter dated Dec.20, 2012, 00216-CORR-00531-00151 (CEAA Registry Doc# 843)	EIS-07-312	D&C

Table B.1: Commitments in OPG Responses to JRP EIS Information Requests				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-07.34	Stress change cells will also be installed at the end of selected pilot holes to capture the response of the rock mass. These measurements will be back-analyzed to confirm the rock mass modulus and the in-situ stresses. This work will be performed in conjunction with horizontally oriented over-coring stress measurements at selected horizons within the shaft as described by the [Geoscientific Verification Plan] (Section 2.1.6.1).	OPG Letter dated Dec.20, 2012, 00216-CORR-00531-00151 (CEAA Registry Doc# 843)	EIS-07-312	D&C
IRC-EIS-07.35	As described in the Geoscientific Verification Plan, a geophysical survey will be carried out along all emplacement rooms for their entire length to detect possible geologic structure between room pillars and below the repository to the Precambrian basement (Section 2.2.4.2). This geophysical survey will also provide information necessary to confirm, if required given the demonstrated lithostratigraphic continuity, the lower Cobourg Formation contact.	OPG Letter dated Dec.20, 2012, 00216-CORR-00531-00151 (CEAA Registry Doc# 843)	EIS-07-312	D&C
IRC-EIS-07.36	In terms of timing, all geoscientific verification activities will be coordinated with the construction schedule for vertical and lateral DGR development. This will need to consider: i) construction progress in gaining shaft access to the nine proposed horizons (i.e., Salina (F, C, A2 and A1 Units), Cabot Head, Queenston, Georgian Bay, Blue Mountain and Cobourg formations ([Geoscientific Verification Plan], Table 2.2)); and ii) the necessity to obtain verification results as early as achievable to support design verification and preparation of an operating licence application.	OPG Letter dated Dec.20, 2012, 00216-CORR-00531-00151 (CEAA Registry Doc# 843)	EIS-07-312	D&C
IRC-EIS-08.01	...OPG acknowledges that an ECA (Environmental Compliance Approval [formerly Certificate of Approval (Air)]), will be required for the operation of any equipment that may discharge a contaminant to the atmosphere. The ECA application for air emissions from the project will be completed in accordance with O.Reg. 419 and/or regulations relevant at the time of submission.	OPG Letter dated Feb.28, 2013, 00216-CORR-00531-00170 (CEAA Registry Doc# 902)	EIS-08-321	D&C
IRC-EIS-08.02	...OPG acknowledges that an Environmental Compliance Approval (ECA [formerly Certificate of Approval (Air)]), will be required for the appropriate emission sources from the DGR Project. The ECA application for air emissions from the Project will be completed in accordance with O. Reg. 419/05 and/or regulations relevant at the time of application.	OPG Letter dated Feb.14, 2013, 00216-CORR-00531-00160 (CEAA Registry Doc# 886)	EIS-08-324	D&C

Table B.1: Commitments in OPG Responses to JRP EIS Information Requests				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-08.03	...OPG acknowledges that an Environmental Compliance Approval (ECA [formerly Certificate of Approval (Air)]), will be required for the relevant emission sources of the DGR Project, and that approval by the Ministry of Environment (MOE) to use local meteorological data is required under section 13 of O. Reg. 419/05. The ECA application for air emissions from the project will be completed in accordance with O. Reg. 419/05 and/or regulations relevant at the time of submission.	OPG Letter dated Feb.14, 2013, 00216-CORR-00531-00160 (CEAA Registry Doc# 886)	EIS-08-326	D&C
IRC-EIS-08.04	... The surface facilities associated with the DGR Project will be located on vacant, OPG-retained lands to the north of the existing Western Waste Management Facility, within the Bruce nuclear site.	OPG Letter dated Feb.28, 2013, 00216-CORR-00531-00170 (CEAA Registry Doc# 902)	EIS-08-331	All
IRC-EIS-08.05	No buildings, in the Site or Local Study Areas, will be removed or demolished for the Project.	OPG Letter dated Feb.14, 2013, 00216-CORR-00531-00160 (CEAA Registry Doc# 886)	EIS-08-332	All
IRC-EIS-08.06	… each package will be visually inspected prior to transfer to the DGR. If any deterioration that compromises package safety is detected, it will be remediated prior to transfer and emplacement in the DGR.	OPG Letter dated Feb.14, 2013, 00216-CORR-00531-00160 (CEAA Registry Doc# 886)	EIS-08-342	OPS
IRC-EIS-08.07	... each package will be visually inspected prior to transfer to the DGR to ensure it meets the DGR waste acceptance criteria. If any deterioration that compromises package safety is detected, it will be remediated prior to transfer and emplacement in the DGR.	OPG Letter dated Feb.14, 2013, 00216-CORR-00531-00160 (CEAA Registry Doc# 886)	EIS-08-343	OPS
IRC-EIS-08.08	Waste package movement at the DGR, through surface handling, shaft handling, underground transfer and placement in emplacement rooms, will be conducted in a physically stable configuration utilizing practices that meet applicable regulations.	OPG Letter dated Feb.14, 2013, 00216-CORR-00531-00160 (CEAA Registry Doc# 886)	EIS-08-344	OPS
IRC-EIS-08.09	Waste packages will be transferred from the WWMF to the DGR and inspected to ensure that damage has not occurred in transfer and confirm that waste acceptance criteria have been met.	OPG Letter dated Feb.14, 2013, 00216-CORR-00531-00160 (CEAA Registry Doc# 886)	EIS-08-344	OPS

Table B.1: Commitments in OPG Responses to JRP EIS Information Requests				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-08.10	OPG continuously operates with waste minimization in mind, stations have waste minimization strategies, and this ongoing process will be applied to retrieved wastes prior to emplacement in the DGR.	OPG Letter dated Feb.14, 2013, 00216-CORR-00531-00160 (CEAA Registry Doc# 886)	EIS-08-346	OPS
IRC-EIS-08.11	… each package will be visually inspected prior to transfer to the DGR to ensure it meets the DGR waste acceptance criteria. If any significant deterioration in the package resulting in leakage is detected, it will be remediated prior to transfer and emplacement in the DGR.	OPG Letter dated Feb.14, 2013, 00216-CORR-00531-00160 (CEAA Registry Doc# 886)	EIS-08-348	OPS
IRC-EIS-08.12	... worker doses will be kept within OPG limits and consistent with the ALARA principle through design measures (such as shielding or distance) to be developed as part of the detailed design, and through the use of monitoring, administrative controls and procedures during operations.	OPG Letter dated Feb.28, 2013, 00216-CORR-00531-00170 (CEAA Registry Doc# 902)	EIS-08-351	OPS
IRC-EIS-08.13	During construction, the majority of roads and laydown areas will be gravel and graded to discharge surface run-off to the stormwater management system. Silt curtains, berming and vegetation will be used to minimize the amount of suspended solids entering the stormwater ditches and pond.	OPG Letter dated Feb.14, 2013, 00216-CORR-00531-00160 (CEAA Registry Doc# 886)	EIS-08-352	D&C
IRC-EIS-08.14	The stormwater management ditches and pond will be constructed as part of site preparation activities, and the site graded to capture all stormwater collected on the site, and directed it to the stormwater management pond. During operations, the ditch system will be maintained and impervious surfaces will continue to drain to the stormwater system.	OPG Letter dated Feb.14, 2013, 00216-CORR-00531-00160 (CEAA Registry Doc# 886)	EIS-08-352	D&C
IRC-EIS-08.15	Where possible, opportunities to retain tree cover could be investigated, and where retention is not possible, exclusionary fencing to prevent additional loss during construction surrounding the DGR Project site will be installed. Temporary construction fencing to protect vegetation will help prevent incidental damage and soil compaction within driplines and along vegetation community edges caused by equipment and workers encroaching into areas proposed for protection within the Site Study Area.	OPG Letter dated Mar.15, 2013, 00216-CORR-00531-00171 (CEAA Registry Doc# 915)	EIS-08-353	D&C

Table B.1: Commitments in OPG Responses to JRP EIS Information Requests				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-08.16	In addition, generally accepted Best Management Practices during construction will be used to minimize the transfer of soils from the DGR Project site to natural features within the Project Area and Site Study Area, including the installation and monitoring of a silt management fence. Regular scheduled monitoring (weekly inspection during construction of rail bed crossing) of the both the silt management fence and temporary construction fencing is planned to prevent fence failure through the identification of damage and direct repairs or replacement.	OPG Letter dated Mar.15, 2013, 00216-CORR-00531-00171 (CEAA Registry Doc# 915)	EIS-08-353	D&C
IRC-EIS-08.17	Re-vegetation will be completed for the rock pile as described in OPG's response to Information Request (IR) EIS-05-171 and for the drainage ditches as described in OPG's response to IR-EIS-05-192. Re-growth will be monitored as described in EA Follow-up Monitoring Program (Tables 3 and 6). Drainage ditches will undergo routine inspection and maintenance as described in OPG's response to IR-EIS-04-130 and IR-EIS-05-192. Trees will be planted on the berms, and architectural trees will be planted near the amenities buildings. Once site preparation and construction is completed, all unpaved surfaces will be re-vegetated with native, non-invasive species.	OPG Letter dated Mar.15, 2013, 00216-CORR-00531-00171 (CEAA Registry Doc# 915)	EIS-08-353	D&C
IRC-EIS-08.18	One-time monitoring of the plant species communities and wildlife habitat use will be conducted after construction of the surface facilities in the mixed forest adjacent to the areas which have been cleared during the site preparation and construction phase ([EA Follow-up Monitoring Program], Table 3a). Presence of suitable habitat will be used as a measure of success.	OPG Letter dated Mar.15, 2013, 00216-CORR-00531-00171 (CEAA Registry Doc# 915)	EIS-08-353	D&C
IRC-EIS-08.19	The EA Follow-up Monitoring Program will be assessed annually (Section 16) in accordance with CSA N288.4-10.	OPG Letter dated Mar.15, 2013, 00216-CORR-00531-00171 (CEAA Registry Doc# 915)	EIS-08-353	D&C OPS
IRC-EIS-08.20	If the annual assessment of the EA Follow-up Monitoring Program determines that the objectives of the monitoring programs are not met (e.g., mitigation measures are ineffective, verification of EA assumptions/predictions is not achieved), the EA Follow-up Monitoring Program will be revised.	OPG Letter dated Mar.15, 2013, 00216-CORR-00531-00171 (CEAA Registry Doc# 915)	EIS-08-353	D&C OPS

Table B.1: Commitments in OPG Responses to JRP EIS Information Requests				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-08.21	All mitigation during site preparation and construction will be managed within the framework of the ISO 14001 Environmental Management System.	OPG Letter dated Mar.15, 2013, 00216-CORR-00531-00171 (CEAA Registry Doc# 915)	EIS-08-353	D&C
IRC-EIS-08.22	The Bruce site emergency plan will be modified to include the DGR facility in its notification and response areas when the DGR starts construction.	OPG Letter dated Mar.15, 2013, 00216-CORR-00531-00171 (CEAA Registry Doc# 915)	EIS-08-354	D&C
IRC-EIS-08.23	OPG has established event notification procedures and will establish them for the DGR project.	OPG Letter dated Mar.15, 2013, 00216-CORR-00531-00171 (CEAA Registry Doc# 915)	EIS-08-354	D&C OPS
IRC-EIS-08.24	… OPG's DGR: (a) will only contain low and intermediate level waste;…	OPG Letter dated Feb.28, 2013, 00216-CORR-00531-00170 (CEAA Registry Doc# 902)	EIS-08-355	All
IRC-EIS-08.25	An annual report will be prepared documenting the results of the DGR EA Follow-up Monitoring Program.	OPG Letter dated Feb.28, 2013, 00216-CORR-00531-00170 (CEAA Registry Doc# 902)	EIS-08-356	D&C OPS
IRC-EIS-08.26	The monitoring program will be managed as a whole within the structure of an Environmental Management System (EMS). Planned environmental monitoring activities will be implemented, results will be reviewed and changes to the monitoring program identified if necessary, within the EMS and in accordance with the CSA standard "Environmental monitoring programs at Class I nuclear facilities and uranium mines and mills" (CSA 2010).	OPG Letter dated Mar.15, 2013, 00216-CORR-00531-00171 (CEAA Registry Doc# 915)	EIS-08-359	D&C OPS
IRC-EIS-08.27	The period of monitoring following DGR closure will be determined in consultation with the community and regulatory authorities many decades from now.	OPG Letter dated Feb.14, 2013, 00216-CORR-00531-00160 (CEAA Registry Doc# 886)	EIS-08-363	DEC
IRC-EIS-08.28	...documentation of design and operational information useful for the postclosure phase will be maintained in a secure records management system to ensure knowledge preservation.	OPG Letter dated Feb.14, 2013, 00216-CORR-00531-00160 (CEAA Registry Doc# 886)	EIS-08-364	OPS DEC
IRC-EIS-08.29	Utilization of international experience has been, and will continue to be, an important aspect in the development and future operation and decommissioning of the DGR.	OPG Letter dated Feb.14, 2013, 00216-CORR-00531-00160 (CEAA Registry Doc# 886)	EIS-08-366	OPS DEC

Table B.1: Commitments in OPG Responses to JRP EIS Information Requests				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-08.30	The EA Follow-up Monitoring Program (Table 12.2-1) indicates that public attitude research (PAR) will be completed during the peak year of employment, when the magnitude of effects of the site preparation and construction phase workers are predicted to be greatest, and subsequent to accidents or malfunctions resulting in a release of radioactive contamination to the environment. Subsequently, this activity will be integrated with the PAR activities conducted by OPG (in accordance with CNSC RD 393) for its operating facilities at the Western Waste Management Facility (WWMF).	OPG Letter dated Mar.15, 2013, 00216-CORR-00531-00171 (CEAA Registry Doc# 915)	EIS-08-368	D&C OPS DEC
IRC-EIS-08.31	Through continuation of its engagement programs, described in the Preliminary Safety Report (Section 12), OPG will maintain an awareness of stakeholder and public concerns that might relate to effects on the socio-economic environment.	OPG Letter dated Mar.15, 2013, 00216-CORR-00531-00171 (CEAA Registry Doc# 915)	EIS-08-368	All
IRC-EIS-08.32	...no access or harvest for consumption will be allowed within the Site Study Area.	OPG Letter dated Mar.15, 2013, 00216-CORR-00531-00171 (CEAA Registry Doc# 915)	EIS-08-371	All
IRC-EIS-08.33	As described in the Geoscience Verification Plan, activities undertaken to confirm sub-surface conditions during vertical and lateral DGR development in support of an Operating Licence application will provide another opportunity to assess confidence in the understanding of the site and regional scale bedrock stratigraphy and structure.	OPG Letter dated Feb.28, 2013, 00216-CORR-00531-00170 (CEAA Registry Doc# 902)	EIS-08-380	D&C
IRC-EIS-08.34	Results and recommendations from the 2D and 3D modeling will be incorporated into the design basis and will support the design of the rock support system for various underground openings. The modeling will also support the development of the geotechnical investigation and monitoring plan as described in OPG's response to Information Request EIS-07-302.	OPG Letter dated Feb.14, 2013, 00216-CORR-00531-00160 (CEAA Registry Doc# 886)	EIS-08-381	D&C

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-08.35	To mitigate the risk of major falls of ground, the following major activities have been or will be undertaken: 1. Geomechanical modeling based on conservative assumptions of rock mass properties; 2. Testing and monitoring of the rock response both during shaft sinking and lateral development to confirm rock mass behaviour as predicted by modeling; 3. Adjustment of rock support design based on observation of rock mass behavior during excavation; 4. Implementation of a rigorous quality control program during procurement and installation of the rock support system; and 5. Long-term monitoring of cavern response and periodic testing of the rock support system during DGR operations to ensure safe operating conditions in the underground repository.	OPG Letter dated Feb.14, 2013, 00216-CORR-00531-00160 (CEAA Registry Doc# 886)	EIS-08-381	D&C
IRC-EIS-08.36	The DGR monitoring well network was installed in the summer of 2012. Routine monitoring activities, which will include hydraulic head and groundwater quality sampling, will be conducted on a quarterly basis.	OPG Letter dated Feb.14, 2013, 00216-CORR-00531-00160 (CEAA Registry Doc# 886)	EIS-08-383	D&C
IRC-EIS-08.37	The shallow groundwater monitoring program commissioned in summer 2012 will provide baseline and future operational data sets to verify this assessment.	OPG Letter dated Mar.15, 2013, 00216-CORR-00531-00171 (CEAA Registry Doc# 915)	EIS-08-386	Complete
IRC-EIS-08.38	The routine quarterly shallow groundwater monitoring program implemented in summer 2012 for the DGR project area will provide baseline groundwater quality data with which to confirm this assessment during facility operation.	OPG Letter dated Mar.15, 2013, 00216-CORR-00531-00171 (CEAA Registry Doc# 915)	EIS-08-386	Complete
IRC-EIS-08.39	... all surface water, groundwater and process water from the DGR Project will be routed to the Stormwater Management Pond (SWMP).	OPG Letter dated Mar.15, 2013, 00216-CORR-00531-00171 (CEAA Registry Doc# 915)	EIS-08-387	D&C OPS

Table B.1: Commitments in OPG Responses to JRP EIS Information Requests				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-08.40	OPG's responses to IR-EIS-07-298 and IR-EIS-07-301 discuss the absence of a groundwater pathway between the DGR project and Stream C, as well as the monitoring activities that will confirm this prediction.	OPG Letter dated Mar.15, 2013, 00216-CORR-00531-00171 (CEAA Registry Doc# 915)	EIS-08-387	D&C OPS
IRC-EIS-08.41	The DGR EA Follow-up Monitoring Program (Sections 2 and 3.1) describes the monitoring that will take place to confirm that these linkages are not present, by monitoring the shallow groundwater for indications of seepage from the stormwater management pond and the waste rock management area (WRMA), run-off from the WRMA, and run-off and seepage from construction activities. Water level monitoring described in the DGR EA Follow-up Monitoring Program in both deep and shallow monitoring wells will confirm absence of a linkage between dewatering activities and Stream C.	OPG Letter dated Mar.15, 2013, 00216-CORR-00531-00171 (CEAA Registry Doc# 915)	EIS-08-387	D&C OPS
IRC-EIS-08.42	Once the hydrostatic shaft liners are installed and sealed (nominal depth 230 m below ground surface), the shafts will be hydraulically isolated and no longer influence the groundwater system.	OPG Letter dated Feb.14, 2013, 00216-CORR-00531-00160 (CEAA Registry Doc# 886)	EIS-08-391	D&C
IRC-EIS-08.43	Verification of assessment results will be achieved through proposed routine groundwater and shaft discharge monitoring programs, as discussed in OPG's supplementary response to IR-EIS-01-01.	OPG Letter dated Feb.14, 2013, 00216-CORR-00531-00160 (CEAA Registry Doc# 886)	EIS-08-391	D&C OPS
IRC-EIS-08.44	The quality of the water that comes in contact with the waste rock (both seepage water and runoff) will be monitored to determine concentrations of Contaminants of Potential Concern (COPC) that would drain to the Stormwater Management Pond (SWMP).	OPG Letter dated Feb.28, 2013, 00216-CORR-00531-00170 (CEAA Registry Doc# 902)	EIS-08-394	D&C OPS
IRC-EIS-08.45	The rock will be monitored throughout the construction phase as discussed in OPG's response to Information Request (IR) EIS-04-160 and the quality of water that comes into contact with the rock in the WRMA will be monitored in the construction phase and in the first few years of the operations phase.	OPG Letter dated Feb.28, 2013, 00216-CORR-00531-00170 (CEAA Registry Doc# 902)	EIS-08-394	D&C OPS

Table B.1: Commitments in OPG Responses to JRP EIS Information Requests				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-08.46	OPG will collect and analyze composite water samples from the rock pile(s) dring first flush events until contaminant elvels in runoff appear stable or show a decreasing trend below acceptable benchmarks.	OPG Letter dated Feb.14, 2013, 00216-CORR-00531-00160 (CEAA Registry Doc# 886)	EIS-08-395	D&C
IRC-EIS-08.47	The rock will be monitored throughout the construction phase, as noted in OPG's response to Information Request EIS-04-160, and the quality of water that comes into contact with the rock in the WRMA will be monitored in the construction phase as well and in the operations phase. In addition, several mitigative options have been identified (covering of the waste piles and treatment, if necessary) as a contingency should the behavior of the waste rock be different than that predicted by the standard laboratory testing.	OPG Letter dated Feb.14, 2013, 00216-CORR-00531-00160 (CEAA Registry Doc# 886)	EIS-08-399	D&C
IRC-EIS-09.01	During the Operations phase of the DGR facility, there will be no explosives required on site.	OPG Letter dated Apr.15, 2013, 00216-CORR-00531-00180 (CEAA Registry Doc# 957)	EIS-09-403	OPS
IRC-EIS-09.02	During shaft sinking, both the main and ventilation shafts will be developed in parallel.	OPG Letter dated Apr.15, 2013, 00216-CORR-00531-00180 (CEAA Registry Doc# 957)	EIS-09-403	D&C
IRC-EIS-09.03	All on-site transportation will be done in accordance with Part VI of the Occupational Health and Safety Act and Regulation for Mines and Mining Plants – R.R.O. 1990, Reg. 854, as well as, with the Transportation of Dangerous Goods Act.	OPG Letter dated Apr.15, 2013, 00216-CORR-00531-00180 (CEAA Registry Doc# 957)	EIS-09-403	D&C OPS
IRC-EIS-09.04	Only personnel licensed to work with explosives, as defined under the Explosives Use Act, will be permitted to handle, use, store, and clean up spills related to explosives.	OPG Letter dated Apr.15, 2013, 00216-CORR-00531-00180 (CEAA Registry Doc# 957)	EIS-09-403	D&C
IRC-EIS-09.05	Damaged or unused explosive materials will generally be removed from the DGR site and disposed of by the explosive supplier.	OPG Letter dated Apr.15, 2013, 00216-CORR-00531-00180 (CEAA Registry Doc# 957)	EIS-09-403	D&C

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-09.06	A detailed ERP will be prepared prior to the start of construction and incorporate coordination with Bruce Power for the security and safe transport of explosives on the Bruce nuclear site. Emergency response planning, development and implementation of safe operating procedures and monitoring for compliance will be part of the DGR Project managed systems including the Health and Safety Management Plan and Environmental Management Plan. It will not be included in the Nuclear Waste Management Division Environmental and Safety Program.	OPG Letter dated Apr.15, 2013, 00216-CORR-00531-00180 (CEAA Registry Doc# 957)	EIS-09-403	D&C
IRC-EIS-09.07	As part of retrieval of resin containers for transfer from the Western Waste Management Facility (WWMF) to the DGR, they will be inspected and vented if appropriate.	OPG Letter dated Mar.28, 2013, 00216-CORR-00531-00178 (CEAA Registry Doc# 949)	EIS-09-405	OPS
IRC-EIS-09.08	As part of retrieval of waste packages from the WWMF for transfer to the DGR, the waste package conditions will be assessed. Containers that are considered to be in poor condition will be overpacked and/or vented prior to transfer to the DGR.	OPG Letter dated Mar.28, 2013, 00216-CORR-00531-00178 (CEAA Registry Doc# 949)	EIS-09-405	OPS
IRC-EIS-09.09	Note of Table 1: Action level criteria will be developed as part of the Data Quality Objectives in the detailed sampling plans as per the DGR EA Follow-up Monitoring Program and in accordance with CSA N288.4-10.	OPG Letter dated Apr.15, 2013, 00216-CORR-00531-00180 (CEAA Registry Doc# 957)	EIS-09-411	OPS
IRC-EIS-09.10	In accordance with CSA N288.4-10, an annual review of the EA Follow-up Monitoring Program will be conducted. Gaps in the program will be identified using the criteria listed in the standard, and changes will be made to the program. This review will be completed in accordance with CSA N288.4-10.	OPG Letter dated Apr.15, 2013, 00216-CORR-00531-00180 (CEAA Registry Doc# 957)	EIS-09-411	D&C OPS
IRC-EIS-09.11	...the program will typically be reviewed by a team of qualified persons of various expertise involved with different aspects of the EA Follow-up Program (i.e., program coordinator, manager of engineering, QA/QC auditor). Assessment tools, such as a Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis, will typically be used to assess the program. The analysis of opportunities, weaknesses and threats will assist in the identification of potential program gaps. The identified gaps would be addressed by considering possible improvements or recommendations for improvement.	OPG Letter dated Apr.15, 2013, 00216-CORR-00531-00180 (CEAA Registry Doc# 957)	EIS-09-411	D&C OPS

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-09.12	Typically the recommendations will be analyzed using a decision making tool such as a Force Field Analysis. A report will be prepared based on the analysis, and recommendations and improvements will be tracked through the EMS.	OPG Letter dated Apr.15, 2013, 00216-CORR-00531-00180 (CEAA Registry Doc# 957)	EIS-09-411	D&C OPS
IRC-EIS-09.13	Any environmental events or incidents that occur will also be identified as a nonconformance under the EMS. Events will include any event that results in the implementation of a contingency plan, accidents and spills, but can also include exceedances to criteria and unpredicted trends and effects. Through the EMS, these events will be identified as 'nonconformance events', and will cause the development and implementation of a corrective or preventative action.	OPG Letter dated Apr.15, 2013, 00216-CORR-00531-00180 (CEAA Registry Doc# 957)	EIS-09-411	D&C OPS
IRC-EIS-09.14	Conformance with the NWMO ISO 14001 EMS, and CSA N288.4-10 standard will ensure that the annual assessment of the program will contribute timely and effective feedback and will allow changes to be made to the program.	OPG Letter dated Apr.15, 2013, 00216-CORR-00531-00180 (CEAA Registry Doc# 957)	EIS-09-411	D&C OPS
IRC-EIS-09.15	Using a two-tiered (ISO 14001 and CSA N288.4-10) approach for environmental management will provide redundancy thereby increasing the successful identification of potential gaps and the necessary corrective actions.	OPG Letter dated Apr.15, 2013, 00216-CORR-00531-00180 (CEAA Registry Doc# 957)	EIS-09-411	D&C OPS
IRC-EIS-09.16	The detailed sampling programs will be designed in accordance with CSA N288.4-10. The data quality objectives (DQO) process will be used to determine sample frequency and sample size. The requirement for an annual review of the data will be factored into the DQO process, particularly in the selection of sample frequency and size to ensure the program is sensitive and responsive to trends.	OPG Letter dated Apr.15, 2013, 00216-CORR-00531-00180 (CEAA Registry Doc# 957)	EIS-09-411	D&C OPS
IRC-EIS-09.17	Staff gauge water level monitoring at a location in the northeast wetland is to be conducted as follows: • Baseline: Monthly monitoring for a period of one year prior to site preparation and construction. • Follow-up: Weekly during the site preparation and construction phase. The program will be discontinued if there is not an observed effect at the end of the construction phase.	OPG Letter dated Apr.15, 2013, 00216-CORR-00531-00180 (CEAA Registry Doc# 957)	EIS-09-413	D&C

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-09.18	In addition, baseline shallow groundwater monitoring will be conducted and will continue throughout the site preparation and construction phase (see also OPG's responses to IRs EIS-05-172 and EIS-05-173). As the detailed project design is finalized, the monitoring program will be updated accordingly. The follow-up monitoring programs will be assessed annually for effectiveness. At a minimum, the follow-up monitoring program will be evaluated once every five years, or once during each project phase, to ensure the program remains effective and relevant ([EA Follow-up Monitoring Program], Section 16).	OPG Letter dated Apr.15, 2013, 00216-CORR-00531-00180 (CEAA Registry Doc# 957)	EIS-09-413	D&C OPS
IRC-EIS-09.19	The noise assessment of the DGR Project was completed considering mitigation measures integral to the design. For example, all equipment will be fitted with appropriate silencers and be maintained in good working order.	OPG Letter dated Apr.15, 2013, 00216-CORR-00531-00180 (CEAA Registry Doc# 957)	EIS-09-454	D&C
IRC-EIS-09.20	Planned actions that will further contribute to reduced noise levels include: • Near-surface blasting during only daylight hours – The Project will use best practices for blasting and has already made a commitment to day-time blasting for near surface use. However, this represents a limited amount of blasting as the first 10 to 15 m of the shafts will be opened mechanically (i.e., without explosives). The next 15 to 20 m will be developed using explosives only during daytime hours. Once shaft development is beyond this point, and the headframe is in place, noise effects at off-site receptors due to shaft sinking are not anticipated. • Noise Screening – Natural vegetation will be retained as much as possible. OPG also plans to plant additional trees for visual screening of the rock pile and these will also provide additional noise screening. Finally, the design of the DGR Project includes the use of low material berms at selected areas along the perimeter of the site. These aspects will collectively assist in reducing off-site noise.	OPG Letter dated Apr.15, 2013, 00216-CORR-00531-00180 (CEAA Registry Doc# 957)	EIS-09-454	D&C
IRC-EIS-09.21	As discussed during the TIS #2 presentation, the waste rock management pile will be constructed in such a way as to minimize the noise impacts on the closest receptors.	OPG Letter dated Apr.15, 2013, 00216-CORR-00531-00180 (CEAA Registry Doc# 957)	EIS-09-454	D&C
IRC-EIS-09.22	Site preparation, construction and operation of the DGR facility will be compliant with the Municipality of Kincardine noise By-Law (No. 2008-076).	OPG Letter dated Apr.15, 2013, 00216-CORR-00531-00180 (CEAA Registry Doc# 957)	EIS-09-454	D&C OPS

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-09.23	With respect to the role of the project Quality Assurance Manager position shown on Figure 4.14.1-1, this position, in conjunction with the NWMO corporate Performance Assurance Director position, will ensure that all DGR project-related quality objectives and requirements are met through providing guidance to project staff and contractors and in conducting audits and assessment of performance. More specifically, the project Quality Assurance Manager will: • Maintain the Construction Quality Assurance Plan, • Maintain the Field Quality and Inspection Manual, • Communicate the requirements of the Construction Quality Assurance Plan and Field Quality and Inspection Manual, • Audit the inspection and test process to confirm that acceptance criteria have been established and are being achieved, • Provide quality oversight of construction activities to ensure requirements of the Construction Quality Assurance Plan are achieved, • Monitor the work of contractors to ensure that quality assurance and control activities are completed as required.	OPG Letter dated Mar.28, 2013, 00216-CORR-00531-00178 (CEAA Registry Doc# 949)	EIS-09-455	D&C
IRC-EIS-09.24	The project Quality Assurance Manager will be located at site during the Site Preparation and Construction Phase, as will the majority of the other identified manager positions in Figure 4.14.1-1. The project Quality Assurance Manager will communicate with the other identified manager positions in the following ways: • Participation at planned project team meetings (i.e. daily, weekly and monthly), • Delivery of project quality assurance and control orientation training, • Interactions and discussions during monitoring of quality of the project work, • Monitoring and tracking preventative and corrective actions, • Discussions during assessments and audits pertaining to quality assurance and control activities, • Reports, email and correspondence pertaining to the quality assurance of the project work. A high degree of communication will be achieved amongst all the identified manager-level positions by: • Participation at regular project team meetings (i.e. daily, weekly and monthly),	OPG Letter dated Mar.28, 2013, 00216-CORR-00531-00178 (CEAA Registry Doc# 949)	EIS-09-455	D&C

Table B.1: Commitments in OPG Responses to JRP EIS Information Requests				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
	• Interactions and discussions occurring during planning, directing and controlling of the project work, • Participation in review meetings to confirm project requirements (e.g. progress, quality, safety, and environment) are being achieved, • Participation in ad-hoc meetings as may be required to address project work and associated issues, • Interactions and discussions occurring during the management of suppliers and contractors, • Email and correspondence pertaining to any and all aspects of the project work, • Information is provided to the project team via the "Project Web" including minutes of meetings, monitoring of action logs and tracking of key performance indicators related to schedule progress, quality, safety and environmental performance.			
IRC-EIS-09.25	The following illustrates how the Health, Safety and Environment (HSE) Manager will communicate to ensure that there is sufficient planning and training, awareness of issues as they arise, appropriate responses and documentation are made as per applicable policies and procedures, and follow-up is done to ensure the effectiveness of the responses. • Participation at planned project team meetings (i.e., daily, weekly and monthly), • Participation in HSE risk assessment and hazard identification planning, • Reviews and provides input to the development and implementation of safe work plans and work instructions, • Provides training to project staff and contractors of the requirements of the HSE plans and procedures, • Conducts audits and assessments of HSE performance at the project site, • Communicates to all levels of the organization on the project HSE performance, • Monitoring and tracking HSE non-conformances and corrective actions, • Reports, e-mail and correspondence pertaining to the HSE of the project.	OPG Letter dated Mar.28, 2013, 00216-CORR-00531-00178 (CEAA Registry Doc# 949)	EIS-09-455	D&C

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-09.26	...a governance structure will always be in place, regardless of the organization layout, that will ensure that the facility is operating under the requirements of the Nuclear Safety and Control Act.	OPG Letter dated Apr.15, 2013, 00216-CORR-00531-00180 (CEAA Registry Doc# 957)	EIS-09-456	All
IRC-EIS-09.27	The plan indicates that communications will continue to be developed in a manner that "ensures citizens are apprised of the general nature and characteristics of the anticipated effects on the environment and health and safety of persons during site preparation and construction and subsequent phases of the project."	OPG Letter dated Apr.15, 2013, 00216-CORR-00531-00180 (CEAA Registry Doc# 957)	EIS-09-458	D&C OPS
IRC-EIS-09.28	Consistent with public communications undertaken throughout the course of the DGR Project, specific engagement strategies during the site preparation and construction phases will continue to use a multitude of communication methods and tools to inform persons living in the vicinity of the site of the general nature and characteristics of the anticipated effects on the environment, health and safety of persons during site preparation and construction.	OPG Letter dated Apr.15, 2013, 00216-CORR-00531-00180 (CEAA Registry Doc# 957)	EIS-09-458	D&C OPS
IRC-EIS-09.29	... the content of the communication activities planned during site preparation and construction will reflect project activities and progress, mitigation efforts and their effectiveness, and the results of monitoring activities undertaken to confirm predicted effects.	OPG Letter dated Apr.15, 2013, 00216-CORR-00531-00180 (CEAA Registry Doc# 957)	EIS-09-458	D&C OPS
IRC-EIS-09.30	The results of follow-up monitoring for conventional air quality, surface water quality, aquatic habitat, groundwater quality, the results of public attitude research, and the results of any other undertakings as a result of the regulatory approvals process will also be communicated. A broad range of engagement opportunities will be provided for key stakeholders and members of the public and First Nations and Métis communities to become updated, ask questions, provide meaningful comment, and raise concerns about key DGR activities, milestones and decisions. Requests for information and concerns from the public will continue to be addressed in a timely manner.	OPG Letter dated Apr.15, 2013, 00216-CORR-00531-00180 (CEAA Registry Doc# 957)	EIS-09-458	D&C OPS
IRC-EIS-09.31	Panel 1 will be filled in two stages (Panel 1a and 1b).	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00179 (CEAA Registry Doc# 989)	EIS-09-463	D&C

Table B.1: Commitments in OPG Responses to JRP EIS Information Requests				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-09.32	Prior to closure of each panel section, the emplacement rooms in that portion of the repository will be ventilated.	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00179 (CEAA Registry Doc# 989)	EIS-09-463	OPS
IRC-EIS-09.33	The buildup in pressure will be slow and will be monitored.	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00179 (CEAA Registry Doc# 989)	EIS-09-463	OPS
IRC-EIS-09.34	Table: Site characterization boreholes will be sealed with durable low-permeability backfill when no longer needed.	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00179 (CEAA Registry Doc# 989)	EIS-09-466	DEC
IRC-EIS-09.35	Workforce requirements during these phases will be filled through contracting for services. The DGR procurement process will be guided by Supply Chain policies and procedures.	OPG Letter dated Apr.15, 2013, 00216-CORR-00531-00180 (CEAA Registry Doc# 957)	EIS-09-468	D&C
IRC-EIS-09.36	At the start of field activities, the DGR project site will be fenced to control access, and silt curtains installed on the project side (or working side) of the fence line. The primary function of this silt curtain will be to contain any sediment runoff from the project site to the existing ditch system that surrounds the site, which includes the North Railway Ditch.	OPG Letter dated Mar.28, 2013, 00216-CORR-00531-00178 (CEAA Registry Doc# 949)	EIS-09-471	D&C
IRC-EIS-09.37	The site stormwater management ditch system and the stormwater management pond will be constructed as part of the site preparation phase.	OPG Letter dated Mar.28, 2013, 00216-CORR-00531-00178 (CEAA Registry Doc# 949)	EIS-09-471	D&C
IRC-EIS-09.38	Berming and vegetation will be used to minimize the amount of suspended solids entering the stormwater ditches and pond.	OPG Letter dated Mar.28, 2013, 00216-CORR-00531-00178 (CEAA Registry Doc# 949)	EIS-09-471	D&C
IRC-EIS-09.39	The site will be graded to direct all precipitation collected on the site to the ditch system and to the stormwater management pond. The project will minimize the disturbance to the natural vegetation on the site in the areas not identified for buildings, access, equipment/materials storage and waste rock storage. Additional effort will be placed on the revegetation of berms, embankments and areas that will not be used for laydown of equipment. Post construction, laydown areas will be cleared, cleaned and revegetated.	OPG Letter dated Mar.28, 2013, 00216-CORR-00531-00178 (CEAA Registry Doc# 949)	EIS-09-471	D&C

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-09.40	With the exception of the southwest corner of the site where the surface conditions will be paved during the operations phase to support Zone 2 radiological requirements (refer to OPG's response to IR-EIS-08-352), the surface conditions will not vary significantly from that of in-situ conditions with the exception of grading and removal of vegetation as required.	OPG Letter dated Mar.28, 2013, 00216-CORR-00531-00178 (CEAA Registry Doc# 949)	EIS-09-471	D&C
IRC-EIS-09.41	Going forward, these potential water quality issues will be addressed through source reduction or elimination. Specifically to manage nitrogen compounds in SWMP discharge, use of emulsion explosives will be maximized and best-blasting practices will be implemented so as to minimize the amount of blast residue on the waste rock. To manage salinity, the Salina A1 and Guelph formations will be grouted to reduce or eliminate saline groundwater inflow from these formations into the two shafts and ultimately to the SWMP (see OPG's response to Information Request EIS-04-130).	OPG Letter dated Mar.28, 2013, 00216-CORR-00531-00178 (CEAA Registry Doc# 949)	EIS-09-472	D&C
IRC-EIS-09.42	During shaft sinking, the Salina A1 and Guelph formations will be treated by cover grouting. Water discharged from the grouted Salina A1 and Guelph formations will be monitored during shaft sinking. If the actual quantity and quality of saline water discharging from these formations is predicted to cause elevated salinity in the SWMP discharge water, then additional grouting of these two formations will be performed to further reduce flow before a water quality issue is created.	OPG Letter dated Mar.28, 2013, 00216-CORR-00531-00178 (CEAA Registry Doc# 949)	EIS-09-472	D&C
IRC-EIS-09.43	The contractor(s) for shaft sinking and lateral development will be required to have a portable treatment plant available on site. It will be available for rapid deployment in the event that oil, grease or suspended solids in process water (i.e., water used for drilling and dust suppression) have elevated concentrations and cannot be effectively treated by the installed systems.	OPG Letter dated Mar.28, 2013, 00216-CORR-00531-00178 (CEAA Registry Doc# 949)	EIS-09-472	D&C
IRC-EIS-09.44	The final detailed project design will ensure that runoff from the DGR Project site and the Waste Rock Management Area (WRMA) is managed by the stormwater management pond (SWMP) and will not measurably affect inflows (runoff) to the wetland in the northeast portion of the Project Area.	OPG Letter dated Apr.15, 2013, 00216-CORR-00531-00180 (CEAA Registry Doc# 957)	EIS-09-473	D&C

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-09.45	As indicated in the DGR EA Follow-up Monitoring Program document, baseline flow rate values will be recorded at both locations for one year prior to the site preparation and construction phase.	OPG Letter dated Apr.15, 2013, 00216-CORR-00531-00180 (CEAA Registry Doc# 957)	EIS-09-473	D&C
IRC-EIS-09.46	• Baseline monitoring is to be conducted on a quarterly basis and after each of two storm events. As indicated in the DGR EA Follow-up Monitoring Program document, baseline flow rate values will be recorded for one year prior to the site preparation and construction phase. • Follow-up flow monitoring will be completed on a weekly basis and the flow data will be averaged monthly. This follow-up monitoring will conclude after three years since the highest flows are predicted for the site preparation and construction phase.	OPG Letter dated Apr.15, 2013, 00216-CORR-00531-00180 (CEAA Registry Doc# 957)	EIS-09-473	D&C
IRC-EIS-09.47	Shallow Groundwater Monitoring: Baseline and follow-up monitoring is planned on a quarterly basis to establish seasonal fluctuations and to confirm the assumptions used to predict that there will be no adverse effect on the shallow groundwater quality or flow attributable to shaft dewatering, the operation of the SWMP, and any infiltration through the WRMA. The shallow groundwater monitoring well network comprises upgradient and downgradient wells, and will serve as an early detection network of on-site or off-site contaminant migration on or through the DGR Project site.	OPG Letter dated Apr.15, 2013, 00216-CORR-00531-00180 (CEAA Registry Doc# 957)	EIS-09-473	D&C
IRC-EIS-09.48	For other classes of higher dose-rate wastes, such as some ion exchange resins, shielding overpacks will be used in order to meet the waste package dose rate restrictions of the waste acceptance criteria. The reference overpacking and shielding assumptions for each waste type are given in Table 2.1 of the DGR Reference Inventory report. These will be reviewed as the DGR design and the waste acceptance criteria are finalized. Note that some of the overpacks have not yet been designed. These will be developed in conjunction with the finalization of the DGR design, safety assessment and waste acceptance criteria development to ensure that they meet all applicable requirements and are fully integrated into the design and safety assessment.	OPG Letter dated Mar.28, 2013, 00216-CORR-00531-00178 (CEAA Registry Doc# 949)	EIS-09-474	OPS

Table B.1: Commitments in OPG Responses to JRP EIS Information Requests				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-09.49	... each waste package will be visually inspected prior to transfer to the DGR and if it does not meet the final waste acceptance criteria, it will be remediated as necessary prior to transfer.	OPG Letter dated Mar.28, 2013, 00216-CORR-00531-00178 (CEAA Registry Doc# 949)	EIS-09-474	OPS
IRC-EIS-09.50	Quantitative inspection criteria for container damage have not yet been developed, but will be developed in the future as the waste acceptance criteria are finalized.	OPG Letter dated Mar.28, 2013, 00216-CORR-00531-00178 (CEAA Registry Doc# 949)	EIS-09-474	OPS
IRC-EIS-09.51	As with package remediation, this would be done prior to transfer of the waste package to the DGR. The requirements and needs for this will be developed in the future as part of OPG's preparations for retrieval of the existing wastes in storage under the current WWMF operating licence.	OPG Letter dated Mar.28, 2013, 00216-CORR-00531-00178 (CEAA Registry Doc# 949)	EIS-09-474	OPS
IRC-EIS-09.52	Prior to transfer to the DGR, the open-topped containers will be fitted with a lid and the open-sided containers will be provided with side panels or overpacked as necessary. This will enclose the contents during handling and transfer to the DGR. As mentioned previously, any containers that are "at risk" or do not pass the inspection step will be remediated prior to transfer to the DGR, thus increasing their remaining life.	OPG Letter dated Mar.28, 2013, 00216-CORR-00531-00178 (CEAA Registry Doc# 949)	EIS-09-474	OPS
IRC-EIS-09.53	All of the containers are procured using a technical specification for each type, which includes required design life, gross mass and stacking requirements. Similar technical specifications will be prepared for new containers and overpacks that have not yet been designed.	OPG Letter dated Mar.28, 2013, 00216-CORR-00531-00178 (CEAA Registry Doc# 949)	EIS-09-474	OPS
IRC-EIS-09.54	Each of these will be stacked no higher than they are currently stored.	OPG Letter dated Mar.28, 2013, 00216-CORR-00531-00178 (CEAA Registry Doc# 949)	EIS-09-474	OPS
IRC-EIS-09.55	Any containers considered to be "at risk" during the pre-acceptance inspection will be suitably remediated prior to transfer to ensure that the required service life can be achieved.	OPG Letter dated Mar.28, 2013, 00216-CORR-00531-00178 (CEAA Registry Doc# 949)	EIS-09-474	OPS
IRC-EIS-09.56	Containers identified as having a high risk of failure (e.g., drum rack, old style ash container, old resin containers) will be remediated at the time of transfer to the Low and Intermediate Level Waste Deep Geologic Repository (L&ILW DGR).	OPG Letter dated Apr.15, 2013, 00216-CORR-00531-00180 (CEAA Registry Doc# 957)	EIS-09-475	OPS

Table B.1: Commitments in OPG Responses to JRP EIS Information Requests				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-09.57	At the time of transfer of the waste containers to the L&ILW DGR, a visual inspection will be performed on all containers to ensure container integrity will be met prior to transfer to the DGR. Containers with questionable integrity will be remediated at that time.	OPG Letter dated Apr.15, 2013, 00216-CORR-00531-00180 (CEAA Registry Doc# 957)	EIS-09-475	OPS
IRC-EIS-09.58	These types of containers were already identified as having a high risk for failure during aging management and will be overpacked prior to transferring to the DGR.	OPG Letter dated Apr.15, 2013, 00216-CORR-00531-00180 (CEAA Registry Doc# 957)	EIS-09-475	OPS
IRC-EIS-09.59	All treatment, conditioning and packaging of wastes will continue to be performed at the WWMF under its existing operating licence and/or at other specialized facilities licensed for this purpose, prior to transfer to the DGR.	OPG Letter dated Mar.28, 2013, 00216-CORR-00531-00178 (CEAA Registry Doc# 949)	EIS-09-476	OPS
IRC-EIS-09.60	"Wetland 3" is located within the Project Site and will be removed during site preparation activities.	OPG Letter dated Apr.15, 2013, 00216-CORR-00531-00180 (CEAA Registry Doc# 957)	EIS-09-477	D&C
IRC-EIS-09.61	The mitigation measures best suited to protect individual snapping turtles using the marginal habitat units identified within the Project Area include the following measures: • avoidance through timing of activities to allow turtles to move from wintering to spring and summer habitats (when feasible); • installation and regular monitoring of exclusion fencing to prevent turtles from overwintering in poorly drained areas that will be cleared during the site preparation activities; and • close consultation with the local Ministry of Natural Resources (MNR) to develop mitigation plans, including strategies for relocating species to optimal habitats located within the Site Study Area and Local Study Area.	OPG Letter dated Apr.15, 2013, 00216-CORR-00531-00180 (CEAA Registry Doc# 957)	EIS-09-477	D&C
IRC-EIS-09.62	OPG will continue consultation with the MNR to develop plans that are appropriate to the specific requirements of snapping turtle as they relate to the habitat in the DGR Project Area. The plans will be developed and applied prior to the commencement of any construction activities.	OPG Letter dated Apr.15, 2013, 00216-CORR-00531-00180 (CEAA Registry Doc# 957)	EIS-09-477	D&C

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-10.01	During site preparation and construction, there will be no sources of incremental radioactive emissions from the DGR site. Monitoring during this time will provide baseline data. Monitoring will continue throughout the Operations Phase, including emissions monitoring of sump water from underground and emissions from the vent shaft. The results will be compared with the baseline data to identify any changes.	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00185 (CEAA Registry Doc# 990)	EIS-10-478	D&C OPS
IRC-EIS-10.02	Process water used during excavation, and service water used during operation, will be drawn from the Bruce nuclear site service water supply and will be at the site background water tritium levels.	OPG Letter dated May 10, 2013, 00216-CORR-00531-00187 (CEAA Registry Doc# 1048)	EIS-10-483	D&C OPS
IRC-EIS-10.03	Some mitigation is in the form of design elements, such as ground support, and others will be implemented as part of construction activities (e.g., geotechnical program, health and safety procedures, inspection and verification, etc.).	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00185 (CEAA Registry Doc# 990)	EIS-10-485	D&C
IRC-EIS-10.04	Any containers not meeting the acceptance criteria will be remediated as required, such as by overpacking.	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00185 (CEAA Registry Doc# 990)	EIS-10-488	OPS
IRC-EIS-10.05	Most of the resin liners and overpacks will be further protected by new shielding concrete overpacks at the time they are transferred to the DGR.	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00185 (CEAA Registry Doc# 990)	EIS-10-488	OPS
IRC-EIS-10.06	The primary focus of reptile mitigation measures in Ontario has been the installation of reptile exclusion fencing surrounding areas that will be disturbed during site preparation and construction activities. This fencing would remain in place throughout the year to prevent snakes from entering the DGR Project Site where construction activities will occur.	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00185 (CEAA Registry Doc# 990)	EIS-10-490	D&C
IRC-EIS-10.07	An exclusion fence will be erected around the perimeter of the construction site to prevent reptile species from entering this area.	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00185 (CEAA Registry Doc# 990)	EIS-10-490	D&C
IRC-EIS-10.08	… the detailed stormwater management pond (SWMP) design will be finalized to ensure that there will be no measurable loss of wetland habitat.	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00185 (CEAA Registry Doc# 990)	EIS-10-491	D&C

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-10.09	The SWMP invert elevation will be set at 177 to 179 mASL (invert elevation to be confirmed with the detailed site grading plan). Thus, there would be a minimum of 7 m of undisturbed glacial till separating the base of the pond and the underlying bedrock aquifer.	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00185 (CEAA Registry Doc# 990)	EIS-10-491	D&C
IRC-EIS-10.10	… baseline shallow groundwater monitoring will be conducted and will continue throughout the site preparation and construction phase.	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00185 (CEAA Registry Doc# 990)	EIS-10-491	D&C
IRC-EIS-10.11	Staff gauge water level monitoring at a location in the northeast wetland is to be conducted as follows: • Baseline: Monthly monitoring for a period of one year prior to site preparation and construction. • Follow-up: Weekly during the site preparation and construction phase is suggested. The program will be discontinued if there is not an observed effect at the end of the construction phase.	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00185 (CEAA Registry Doc# 990)	EIS-10-491	D&C
IRC-EIS-10.12	However, in the DGR the temperatures will be low, groundwater movement will be very slow (i.e., diffusion-dominant transport), and a low-pH cement will be used, which will minimize the extent of this reaction to a small portion of the bentonite/sand seal adjacent to the concrete.	OPG Letter dated May 10, 2013, 00216-CORR-00531-00187 (CEAA Registry Doc# 1048)	EIS-10-492	D&C
IRC-EIS-10.13	This provides a total of three locations downstream of the Stormwater Management Pond for the 2013 calendar year and is sufficient to be statistically representative of baseline conditions. Note that the statistical analysis of the sample results is an iterative process, and the program will be adjusted if necessary.	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00185 (CEAA Registry Doc# 990)	EIS-10-493	D&C
IRC-EIS-10.14	The light duty model [forklift] will be used for the majority of the LLW packages, while the heavy duty model will be used for the heavier packages (mostly shielded ILW packages).	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00185 (CEAA Registry Doc# 990)	EIS-10-496	D&C
IRC-EIS-10.15	Certain waste packages and other irregular shaped waste objects (such as heat exchangers) not suited for forklift handling will be transferred from the WWMF to the DGR on a flatbed or similar truck. Prior to the trip, the waste package will be secured to the vehicle using tiedowns attached to designated points on the package and vehicle, as per standard OPG practice. The vehicle will be unloaded at the DGR by an overhead crane using OPG approved rigging and lifting practices.	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00185 (CEAA Registry Doc# 990)	EIS-10-496	D&C

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-10.16	The exact nature of the markings or guides will be determined during the detailed design of the cart.	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00185 (CEAA Registry Doc# 990)	EIS-10-496	D&C
IRC-EIS-10.17	The need for specific physical restraints (e.g. clamps or tiedowns) for various types of waste packages will be determined during the detailed design phase.	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00185 (CEAA Registry Doc# 990)	EIS-10-496	D&C
IRC-EIS-10.18	The design of the chairing mechanism will be finalized during the detailed design. However, it will be based on existing, proven mining industry designs for similar cage types and loads. The battery-powered rail cart is moved into the cage under manual pendant control at a maximum speed of approximately 0.5 m/s and the brakes applied once it reaches position. Safety stops and electrical interlocks will be designed into the cage and cart to prevent over travel. The cart is then mechanically secured to the cage with a locking device. The cart locking device will be designed during the detailed design phase.	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00185 (CEAA Registry Doc# 990)	EIS-10-496	D&C
IRC-EIS-10.19	Waste packages will be stacked according to the specifications for each type using approved procedures, similar to those currently used by OPG in its surface storage facilities.	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00185 (CEAA Registry Doc# 990)	EIS-10-496	OPS
IRC-EIS-10.20	Carts with waste packages that require off-loading by crane will be driven to the special rail-equipped emplacement rooms under manual pendant control at a maximum speed of approximately 0.5 m/s and off-loaded using a gantry crane. Rigging and lifting practices will be as per approved OPG procedures.	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00185 (CEAA Registry Doc# 990)	EIS-10-496	OPS
IRC-EIS-10.21	Species-specific mitigation measures will be developed on an as-needed basis with input from MNR Species at Risk biologists. Mitigation measures are likely to be focused around avoidance of the species during important life cycle periods.	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00185 (CEAA Registry Doc# 990)	EIS-10-498	D&C

Table B.1: Commitments in OPG Responses to JRP EIS Information Requests				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-10.22	Close consultation with the local MNR SAR biologist will take place at the onset of the survey program to ensure that field biologists are following the most current generally accepted protocol suitable for both the site and project.	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00185 (CEAA Registry Doc# 990)	EIS-10-498	D&C
IRC-EIS-11.01	OPG will adhere to all applicable law which includes this municipal by-law [Noise By-law #2008-076]	OPG Letter dated Jun.6, 2013, 00216-CORR-00531-00190 (CEAA Registry Doc# 1157)	EIS-11-500	D&C OPS
IRC-EIS-11.02	Prior to transfer and placement of a waste container into the repository, the exterior surfaces of the waste container will be visually inspected per the Deep Geologic Repository (DGR) Waste Acceptance Criteria (WAC). In the event that a container is found not to be in good condition or does not otherwise meet the DGR WAC, the waste container will be repaired, if practical, repackaged or placed into an approved engineered waste overpack. Lifting points (e.g. fork lift pockets) on the container will be inspected, as required per OPG Nuclear (OPG-N) lifting and rigging procedures and OPG-N radiation protection procedures will be followed. Before beginning the overpacking of a container, a pre-job briefing will be conducted with workers, critical tasks, hazards and mitigation measures will be discussed and reviewed, and back-out conditions will be identified. In addition to using a normal waste container handling procedure, a special handling procedure would be prepared, if it was deemed necessary during the work planning process.	OPG Letter dated Jun.6, 2013, 00216-CORR-00531-00190 (CEAA Registry Doc# 1157)	EIS-11-501	OPS
IRC-EIS-11.03	These robust waste packages are placed into interim storage and will be transferred to the DGR once it is in-service.	OPG Letter dated Jun.6, 2013, 00216-CORR-00531-00190 (CEAA Registry Doc# 1157)	EIS-11-504	OPS
IRC-EIS-11.04	…the content of the communication activities planned during site preparation and construction will reflect project activities and progress, mitigation efforts and their effectiveness, and the results of monitoring activities undertaken to confirm predicted effects.	OPG Letter dated Jun.6, 2013, 00216-CORR-00531-00190 (CEAA Registry Doc# 1157)	EIS-11-506	D&C

Table B.1: Commitments in OPG Responses to JRP EIS Information Requests				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-11.05	Communications will continue to be developed in a manner that "ensures citizens are apprised of the general nature and characteristics of the anticipated effects on the environment and health and safety of persons during site preparation and construction and subsequent phases of the project."	OPG Letter dated Jun.6, 2013, 00216-CORR-00531-00190 (CEAA Registry Doc# 1157)	EIS-11-506	D&C OPS DEC
IRC-EIS-11.06	For new containers arriving at OPG's Western Waste Management Facility (WWMF), OPG Supply Chain will perform a receipt inspection, including a visual inspection, to ensure that all required QA documents (e.g., material data report or certificates, test result, etc.) are accompanied with the container shipment and that the container's physical condition is acceptable.	OPG Letter dated Jun.6, 2013, 00216-CORR-00531-00190 (CEAA Registry Doc# 1157)	EIS-11-508	OPS
IRC-EIS-11.07	At the time of transfer to the DGR, each container will be assessed for compliance with requirements specified in the DGR WAC. Containers requiring overpacking will have this done prior to transfer to the DGR in accordance with approved procedures.	OPG Letter dated Jun.6, 2013, 00216-CORR-00531-00190 (CEAA Registry Doc# 1157)	EIS-11-508	OPS
IRC-EIS-12.01	While the predicted increase in flow has the potential to exceed the existing design capacity of the ditch, the flow capacity will be assessed and the ditch re-sized during the final design process, if necessary, to ensure that increases in flow will not cause flooding and/or erosion.	OPG Letter dated Mar.28, 2014, 00216-CORR-00531-00225 (Attach., Table A-1, p.ii) (CEAA Registry Doc# 1836)	EIS-12-510	D&C
IRC-EIS-12.02	There will be no changes in flow in the South Railway Ditch from the DGR Project.	OPG Letter dated Mar.28, 2014, 00216-CORR-00531-00225 (Attach., Sec. 2.3, p.5) (CEAA Registry Doc# 1836)	EIS-12-510	D&C OPS
IRC-EIS-12.03	[…] weathered/fractured tills that could increase vertical connectivity to groundwater are not expected at the site; however, OPG would line the stormwater management pond should such conditions be encountered (OPG 2011, Section 4.4.1.5).	OPG Letter dated Mar.28, 2014, 00216-CORR-00531-00225 (Attach., Sec. 2.3, p.6) (CEAA Registry Doc# 1836)	EIS-12-510	D&C

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-12.04	Although no credit was taken in the assessment for maintenance, excessive sedimentation will be addressed through ongoing maintenance practices, if necessary.	OPG Letter dated Mar.28, 2014, 00216-CORR-00531-00225 (Attach., Sec. 2.4, p.7) (CEAA Registry Doc# 1836)	EIS-12-510	D&C OPS
IRC-EIS-12.05	The ditch will be modified in accordance with accepted practices (e.g., Ministry of Transportation drainage management manual [MTO 1997]), and undergo regular maintenance if current ditch conditions cannot convey the predicted flows (e.g., control of unwanted vegetation) (OPG 2013a).	OPG Letter dated Mar.28, 2014, 00216-CORR-00531-00225 (Attach., Sec. 2.4, p.7) (CEAA Registry Doc# 1836)	EIS-12-510	D&C OPS
IRC-EIS-12.06	While predicted increases in flow have the potential to exceed the existing design capacity of the ditch, the flow capacity will be assessed and the ditch re-sized during the final design process, if necessary, to ensure that increases in flow will not cause flooding and/or erosion.	OPG Letter dated Mar.28, 2014, 00216-CORR-00531-00225 (Attach., Sec. 2.4, p.8) (CEAA Registry Doc# 1836)	EIS-12-510	D&C
IRC-EIS-12.07	Opportunities to retain tree cover will be investigated where possible. Where retention is not possible, exclusionary fencing to prevent additional loss of or effect on specimens and habitat during construction will be installed surrounding the DGR Project site within the Project Area.	OPG Letter dated Mar.28, 2014, 00216-CORR-00531-00225 (Attach., Sec. 3.3, p.16) (CEAA Registry Doc# 1836)	EIS-12-510	D&C
IRC-EIS-12.08	Upon completion of the project, rehabilitation plans include re-establishment of high-quality mixed wood habitats containing large portions of eastern white cedar on the site.	OPG Letter dated Mar.28, 2014, 00216-CORR-00531-00225 (Attach., Sec. 3.4, p.16) (CEAA Registry Doc# 1836)	EIS-12-510	DEC
IRC-EIS-12.09	The DGR Project will comply with relevant MOE criteria, and Health Canada and World Health Organization standards and guidelines. In addition, the DGR Project will meet the requirements of the Municipality of Kincardine Noise Bylaw.	OPG Letter dated Mar.28, 2014, 00216-CORR-00531-00225 (Attach., Sec. 6.5, p.45) (CEAA Registry Doc# 1836)	EIS-12-510	D&C OPS

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-12.10	The access of the SON to this burial site will be unchanged. The burial site itself will not be physically altered by the DGR Project […].	OPG Letter dated Mar.28, 2014, 00216-CORR-00531-00225 (Attach., Sec. 7.3, p.49) (CEAA Registry Doc# 1836)	EIS-12-510	All
IRC-EIS-12.11	All surface facilities will be removed during the decommissioning phase, but the waste rock pile will remain.	OPG Letter dated Mar.28, 2014, 00216-CORR-00531-00225 (Attach., Sec. 7.3, p.49) (CEAA Registry Doc# 1836)	EIS-12-510	DEC
IRC-EIS-12.12	OPG is confident that the DGR Project will not change access to the burial site, as the burial site is located one kilometer from the project, and will not result in physical changes to Aboriginal heritage resources.	OPG Letter dated Mar.28, 2014, 00216-CORR-00531-00225 (Attach., Sec. 7.5, p.50) (CEAA Registry Doc# 1836)	EIS-12-510	All
IRC-EIS-12.13	[…] the visual impacts of the DGR Project will be mitigated through constructing berms or planting trees on the DGR Project Site.	OPG Letter dated Mar.28, 2014, 00216-CORR-00531-00225 (Attach., Sec. 7.5, p.50) (CEAA Registry Doc# 1836)	EIS-12-510	D&C
IRC-EIS-12.14	Measures will be implemented to mitigate the risk of adversely affecting these sensitive ecological areas, such as sustaining a buffer of 30 m between the DGR Project infrastructure and the northeast marsh.	OPG Letter dated Mar.28, 2014, 00216-CORR-00531-00225 (Attach., Sec. 9, p.56) (CEAA Registry Doc# 1836)	EIS-12-510	D&C
IRC-EIS-12.15	All releases and surface runoff from the DGR Project will be captured in the perimeter drainage system and conveyed to the SWMP. Water from the SWMP will be discharged via a controlled outlet to the existing drainage ditch along the Interconnecting Road […].	OPG Letter dated Mar.28, 2014, 00216-CORR-00531-00225 (Attach., Sec. 10, p.59) (CEAA Registry Doc# 1836)	EIS-12-510	D&C OPS

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-12.16	There will be no releases from the DGR Project to either the North or South Railway Ditches, or Stream C (to which they drain).	OPG Letter dated Mar.28, 2014, 00216-CORR-00531-00225 (Attach., Sec. 10, p.59) (CEAA Registry Doc# 1836)	EIS-12-510	D&C OPS
IRC-EIS-12.17	The SWMP will be designed to retain runoff during storm events, and control the total suspended solids concentrations in effluent discharges (MOE 2003).	OPG Letter dated Mar.28, 2014, 00216-CORR-00531-00225 (Attach., Sec. 10, p.59) (CEAA Registry Doc# 1836)	EIS-12-510	D&C
IRC-EIS-12.18	During construction, a temporary settling pond will be used to settle out any excess solids in water pumped from underground before discharge into the ditch system leading to the SWMP.	OPG Letter dated Mar.28, 2014, 00216-CORR-00531-00225 (Attach., Sec. 10, p.59) (CEAA Registry Doc# 1836)	EIS-12-510	D&C
IRC-EIS-12.19	The final water quality criteria for the effluent from the SWMP will be developed as part of the Ontario Environmental Compliance Approval (ECA) process. The limits will be established taking into consideration the PWQOs, the acute toxicity thresholds for sensitive species that are present in the receiving environment, and the existing water quality in the receiving water at MacPherson Bay. The regulatory process will not allow the release of effluent from the SWMP that is acutely toxic to aquatic receptors.	OPG Letter dated Mar.28, 2014, 00216-CORR-00531-00225 (Attach., Sec. 10, p.60) (CEAA Registry Doc# 1836)	EIS-12-510	D&C
IRC-EIS-12.20	The results of the geoscientific activities will be incorporated into a revised DGR Safety Case in support of the Operating Licence application.	OPG Letter dated Jan. 30, 2014, 00216-CORR-00531-00220 (CEAA Registry Doc# 1792)	EIS-12-511	D&C
IRC-EIS-12.21	As the detailed design of the DGR is progressed, the Geoscientific Verification Plan will be updated and reissued as necessary. Any comments received from the CNSC about this revision of the plan (i.e. Rev 001) will be considered in a future revision of this plan. The plan will ultimately be developed in sufficient detail to allow the development of technical specifications for procurement of equipment and for services to execute the plan.	OPG Letter dated Jan. 30, 2014, 00216-CORR-00531-00220 (CEAA Registry Doc# 1792)	EIS-12-511	D&C

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-12.22	The trigger values and mitigation activities will be further refined at a later date when the DGR design has progressed closer to 'issue-for-construction' status and contractor equipment and execution approach are defined. This information will be included in future test plans for the work identified in the GVP.	OPG Letter dated Jan. 30, 2014, 00216-CORR-00531-00220 (CEAA Registry Doc# 1792)	EIS-12-511	D&C
IRC-EIS-12.23	Geoscience verification activities will be completed, or sufficiently completed, during the construction phase such that they directly support an operating licence application and updated repository Safety Case. In certain circumstances long-term demonstration experiments initiated during construction activities will continue into the operation phase.	OPG Letter dated Jan. 30, 2014, 00216-CORR-00531-00220 (CEAA Registry Doc# 1792)	EIS-12-511	D&C OPS
IRC-EIS-12.24	While not expected, given evidence presented in the DGR Safety Case, in the remote event that the data arising from any of the various geosciences verification activities are materially different than those used in DGR safety analyses, the following actions will be taken: (a) the data will be assessed to determine its reliability and (b) new analyses will be undertaken to test the implications on the DGR Safety Case.	OPG Letter dated Jan. 30, 2014, 00216-CORR-00531-00220 (CEAA Registry Doc# 1792)	EIS-12-511	D&C
IRC-EIS-12.25	As part of the proposed under-excavation tests identified in the GVP (Reference 1), pore-pressure measurements would be obtained in the Cobourg Formation with consideration taken as to the reliability of measurements. Pore-pressure measurements would be part of the detailed test plan developed for the under-excavation tests that are to take place in the Geoscience Room.	OPG Letter dated Jun. 6, 2014, 00216-CORR-00531-00241	EIS-12-511	D&C
IRC-EIS-12.26	As part of the geomechanical testing identified in the GVP (Reference 1), rock core samples would be obtained to assess anisotropic rock properties and triaxial testing would also be undertaken. The anisotropic testing and the triaxial testing would be part of the detailed test plan developed for the geomechanical tests.	OPG Letter dated Jun. 6, 2014, 00216-CORR-00531-00241	EIS-12-511	D&C
IRC-EIS-12.27	As part of the characterization of the excavation damage zone in the lateral development identified in the GVP (Reference 1), relative humidity would be monitored. Monitoring of relative humidity would be part of the detailed test plan/procedures.	OPG Letter dated Jun. 6, 2014, 00216-CORR-00531-00241	EIS-12-511	D&C

Table B.1: Commitments in OPG Responses to JRP EIS Information Requests				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-12.28	The geological mapping identified in the GVP (Reference 1) would be conducted in accordance with detailed plan/procedures. In the event that critical fractures are encountered that could compromise underground mechanical stability/safety, kinematic stability analysis would be performed to ensure the sufficiency of ground control.	OPG Letter dated Jun. 6, 2014, 00216-CORR-00531-00241	EIS-12-511	D&C
IRC-EIS-12.29	As part of the excavation deformation measurements in lateral development identified in the GVP (Reference 1), convergence measurement would be performed in the large rooms in the service area. The measurements in the large rooms would be part of the detailed test plan developed for the excavation deformation measurements.	OPG Letter dated Jun. 6, 2014, 00216-CORR-00531-00241	EIS-12-511	D&C
IRC-EIS-12.30	…the topics of rock creep and geophysical methods for fracture detection will be monitored by OPG/NWMO and discussed as part of future geoscience planning that will be informed by research and international studies.	OPG Letter dated Jun. 6, 2014, 00216-CORR-00531-00241	EIS-12-511	D&C
IRC-EIS-12.31	At time of installation, selected bolts will be proof-tested and performance-tested as per recognized standard or procedure (e.g. ASTM D4435-13, BS8081:1989 or equivalent) to confirm that the bolts have been installed in accordance with specifications. If there is evidence of improper bolt installation, the load capacity of the defective bolt will be degraded and additional bolts will be installed and tested.	OPG Letter dated Apr. 4, 2014, 00216-CORR-00531-00227 (CEAA Registry Doc# 1837)	EIS-12a-512	D&C
IRC-EIS-12.32	During operations there will be on-going visual inspection of the ground support systems. After approximately 20 years of operation (or sooner if visual inspection indicates problem bolts), there will be non-destructive testing of selected rock bolts and cable bolts to confirm integrity of bolts. Systematic testing would be performed in accordance with a recognized standard or procedure.	OPG Letter dated Apr. 4, 2014, 00216-CORR-00531-00227 (CEAA Registry Doc# 1837)	EIS-12a-512	OPS
IRC-EIS-12.33	Rock deformation/movement (e.g. by extensometers and other instruments) will be performed throughout the operations phase as per the Geoscientific Verification Plan (NWMO 2014) to detect excessive rock deformation and possible overloading of rock bolts or cable bolts. Additional rock support will be installed, as required, in the event that rock deformation exceeds a predefined allowable amount of deformation.	OPG Letter dated Apr. 4, 2014, 00216-CORR-00531-00227 (CEAA Registry Doc# 1837)	EIS-12a-512	OPS

Table B.1: Commitments in OPG Responses to JRP EIS Information Requests				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-12.34	As for the ongoing operational management of the pond (i.e. removal of fines from the pond), it is expected that these materials will be retained within the project site or the Bruce nuclear site. Prior to removal, the fines will be sampled, analysed, and should there be a need, appropriate off-site waste management plans developed.	OPG Letter dated Apr. 4, 2014, 00216-CORR-00531-00227 (CEAA Registry Doc# 1837)	EIS-12a-512	OPS
IRC-EIS-13.01	A revised inventory is planned to be prepared in support of the future application for an operating licence.	OPG Letter dated May 9, 2014, 00216-CORR-00531-00235 (Attach. A, Sec. 1, p.1) (CEAA Registry Doc# 327)	EIS-13-514	D&C
IRC-EIS-13.02	Based on actual pressure tube data, and including the inventory of garter springs which are disposed along with pressure tubes, some radionuclides have been identified as being underestimated in the reference inventory. These are being addressed in the ongoing waste characterization programme, and revised inventory values will be used in future updates to the reference inventory.	OPG Letter dated May 9, 2014, 00216-CORR-00531-00235 (Attach. A, Sec. 2, p.2) (CEAA Registry Doc# 327)	EIS-13-514	D&C
IRC-EIS-13.03	As discussed in Section 7.4.4.2 of OPG (2011b), the calculations indicate potentially high dose rate in the WPRB for the RWC-PT, and show that a wall around the WPRB staging area similar to WWMF Low Level Storage Building walls will need to be incorporated in the detailed design to ensure that the external dose rate outside of the WPRB remains below 25 μSv/h and that the dose rate in the office/main control room is below 10 mSv/year. These will be addressed during the detailed design.	OPG Letter dated May 9, 2014, 00216-CORR-00531-00235 (Attach. B, Sec. 4.1.2, p.5) (CEAA Registry Doc# 327)	EIS-13-514	D&C
IRC-EIS-13.04	Detailed design of WPRB building/wall will ensure that workers in this location are below 10 mSv/year dose target.	OPG Letter dated May 9, 2014, 00216-CORR-00531-00235 (Attach. B, Sec. 4.1.2, p.6) (CEAA Registry Doc# 327)	EIS-13-514	D&C
IRC-EIS-13.05	Waste Inventory Verification Plan (The plan included in Attach. C of the letter is essentially commitments)	OPG Letter dated May 9, 2014, 00216-CORR-00531-00235 (Attach. C) (CEAA Registry Doc# 327)	EIS-13-514	D&C

Table B.1: Commitments in OPG Responses to JRP EIS Information Requests				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-13.06	When additional information [*on WIPP events*] becomes available, it will also be assessed for applicable lessons for the DGR facility, in accordance with our management system.	OPG Letter dated May 9, 2014, 00216-CORR-00531-00235 (CEAA Registry Doc# 327)	EIS-13-515	D&C
IRC-EIS-13.07	OPG is confident that the measures and processes we have established will prevent or mitigate a similar event at the proposed OPG DGR. Documented programs will be translated thoroughly into training, field procedures and management expectations. Implementation of a common Project Management System to all staff and contractors, and continued monitoring and improvement (i.e. Plan-Do-Check-Act), will help to ensure common understanding and testing of processes.	OPG Letter dated May 9, 2014, 00216-CORR-00531-00235 (CEAA Registry Doc# 327)	EIS-13-515	D&C OPS
IRC-EIS-13.08	Prior to the DGR receiving its operating licence, OPG will have demonstrated to the CNSC that it has a strong and sustainable emergency management system. This program will not only be reflective of those developed for our safe operations, but will consider the unique potential hazards of being deep underground. OPG has a strong performance history in this area and is confident it will further improve with time as we enter into DGR operations.	OPG Letter dated May 9, 2014, 00216-CORR-00531-00235 (CEAA Registry Doc# 327)	EIS-13-515	D&C
IRC-EIS-13.09	OPG will transfer all relevant aspects of these programs into the DGR operations programs prior to receiving its operating licence. To further ensure a robust conduct of operations program, OPG will review and incorporate the appropriate lessons learned from WIPP operations as well as other key repository and mining related operating experience.	OPG Letter dated May 9, 2014, 00216-CORR-00531-00235 (CEAA Registry Doc# 327)	EIS-13-515	D&C
IRC-EIS-13.10	OPG has an active maintenance program and will apply this to the DGR.	OPG Letter dated May 9, 2014, 00216-CORR-00531-00235 (CEAA Registry Doc# 327)	EIS-13-515	D&C OPS DEC

Table B.1: Commitments in OPG Responses to JRP EIS Information Requests				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-EIS-13.11	[…] OPG has a long history of maintaining an effective and regulatory compliant radiation protection program. This is accomplished through a commitment to regulatory compliance, well trained and qualified staff, staying current with advancements in technology and practices and by a continuous view to the industry to learn and improve from operating experience. Prior to placing the DGR into operations, OPG will have demonstrated to the CNSC that it has established an effective radiation protection program which meets all applicable regulatory requirements.	OPG Letter dated May 9, 2014, 00216-CORR-00531-00235 (CEAA Registry Doc# 327)	EIS-13-515	D&C
IRC-EIS-13.12	[…] OPG is accountable for its oversight of contractors in the design, construction and operations of the DGR facility. This accountability will be managed through rigorous management of contracts and direct oversight and auditing of our contractors approved programs.	OPG Letter dated May 9, 2014, 00216-CORR-00531-00235 (CEAA Registry Doc# 327)	EIS-13-515	D&C OPS
IRC-EIS-13.13	It is this deep rooted safety culture that OPG expects will continue to guide and develop the programs and processes for safe DGR construction and operations. There is still more to be learned from the experiences at WIPP and OPG remains committed under our current programs which assure they are evaluated and opportunities for improvement are sought.	OPG Letter dated May 9, 2014, 00216-CORR-00531-00235 (CEAA Registry Doc# 327)	EIS-13-515	D&C OPS
IRC-EIS-13.14	[…] the DGR will be operated through a system of OPG governance including appropriate management systems, programs and plans, and subject to independent regulatory oversight.	OPG Letter dated May 9, 2014, 00216-CORR-00531-00235 (CEAA Registry Doc# 327)	EIS-13-515	D&C OPS DEC
IRC-EIS-13.15	As many of the *[WIPP]* Phase 1 Report findings are directly related to radiological operations, future operating plans and procedures specific to the DGR will consider the WIPP findings in their development.	OPG Letter dated May 9, 2014, 00216-CORR-00531-00235 (CEAA Registry Doc# 327)	EIS-13-515	D&C
IRC-EIS-13.16	OPG will continue a detailed review of the *[WIPP]* Phase 1 report to identify opportunities to incorporate specific findings into the future planning for the DGR project consistent with our management system and the regulatory process.	OPG Letter dated May 9, 2014, 00216-CORR-00531-00235 (CEAA Registry Doc# 327)	EIS-13-515	D&C
IRC-EIS-13.17	[…] OPG will review it *[US DOE Phase 2 report]* for potential lessons when it becomes available.	OPG Letter dated May 9, 2014, 00216-CORR-00531-00235 (CEAA Registry Doc# 327)	EIS-13-515	D&C

Table B.2: Commitments in OPG Responses to JRP LPSC Information Requests

Table B.2: Commitments in OPG Responses to JRP LPSC Information Requests				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-LPSC-01.01	As stated in Section 19.0 of the Project Requirements, DGR-PDR-00120-0001, the most current version of referenced regulations, codes and standards are to be applied to the project, hence any future design work will be compliant with the 2010 edition, or later, as appropriate.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-01	D&C OPS
IRC-LPSC-01.02	In accordance with Section 19.0 of the Project Requirements, which states that 'The latest version of all regulations, standards and codes listed in this section will be used; the newer codes; National Building Code of Canada - 2010 (NBCC) and the National Fire Code of Canada - 2010 (NFCC) will be used for future design of the DGR, along with more stringent applicable requirements in the Ontario Health and Safety Act (OHSA) regulations.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-02	D&C
IRC-LPSC-01.03	NFCC will be followed and alternative solutions (Ref. NFCC A.1.2.1.1.(1)(b)) will be pursued if needed. As well, for the underground portions of the facility, the inspection, testing, and maintenance of the fire protection	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-02	D&C
IRC-LPSC-01.04	In locations of fire hazards, local dry type suppression systems will be used, as well as fire detection systems.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-02	D&C
IRC-LPSC-01.05	Reference to the inspection, testing, and maintenance requirements of the NFCC will be included in the inspection program for the underground portion of the facility to provide added assurance that the inspections required by the OHSA Mines and Mining Plants Regulations are being carried out in accordance with all recognized and accepted practices.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-02	D&C OPS
IRC-LPSC-01.06	Future design activities will use the latest NBCC seismic requirements as provided in NBCC (2010) Appendix C, Volume 2 as follows: • Sa (0.2): 0.11 • Sa (0.5): 0.075 • Sa (1.0): 0.049 • Sa (2.0): 0.016 • PGA: 0.036	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-03	D&C

Table B.2: Commitments in OPG Responses to JRP LPSC Information Requests				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-LPSC-01.07	The use of the CSA N285.0-08 Standard and the two (2) updates; No.1 (2009) and No.2 (2010) will be documented in the System Classification List (SCL) for the pressure retaining systems of the DGR. This requirement will then be translated into the design documentation, as appropriate. Control and compliance with the CSA standard will be accomplished through governance, project management and oversight of the DGR Project.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-04	D&C
IRC-LPSC-01.08	For pressure boundary systems identified in the design, a package will be submitted to the Technical Standards & Safety Authority (TSSA) for registration and will include a copy of the SCL, flow diagrams, calculations, etc.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-04	D&C
IRC-LPSC-01.09	Field verification of measured and expected parameters will be completed as described in the Geoscientific Verification Plan as provided in the licensing submission.	OPG Letter dated Jul.10, 2012, 00216-CORR-00531-00118 (CEAA Registry Doc# 606)	LPSC-01-05a	D&C
IRC-LPSC-01.10	The concrete shaft liners will be designed as plain concrete structures without reinforcing and will be designed according to Section 22 of CAN3-A23.3-04.	OPG Letter dated Jul.10, 2012, 00216-CORR-00531-00118 (CEAA Registry Doc# 606)	LPSC-01-05a	D&C
IRC-LPSC-01.11	The two circular shaft liners will be poured directly against supported rock (refer to response to IR-LPSC-01-32 for preliminary rock support requirements during shaft development). The liners will resist loadings in compression. It is expected the shaft liners will have a minimum thickness of 300 mm, with varying thickness of the liners to resist varying hydrostatic and rock loading conditions. The liners will be constructed as a hydrostatic liner in the upper 200 m of the shafts where rock formations are relatively permeable.	OPG Letter dated Jul.10, 2012, 00216-CORR-00531-00118 (CEAA Registry Doc# 606)	LPSC-01-05a	D&C
IRC-LPSC-01.12	Geomechanical modeling of the shaft excavations are being completed to estimate rock loading over the full depth of the shafts and to estimate how this loading will vary with time. The modeling is iterative with the liner design and will be used to assess impact of dimensional requirements and construction assumptions for shaft development (e.g., excavated diameter, length of the development round, distance the shaft liner trails the shaft sinking face, etc.) on predicted rock loading.	OPG Letter dated Jul.10, 2012, 00216-CORR-00531-00118 (CEAA Registry Doc# 606)	LPSC-01-05a	D&C

Table B.2: Commitments in OPG Responses to JRP LPSC Information Requests				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-LPSC-01.13	These basic load cases will be combined into several load combinations as per 2010 NBCC. Two ANSYS models (one circle ring model simulating of the concrete liner based on plane strain theory, one 3D cylinder model) will be created and analyzed under each load combination. The analysis will identify which parts of the liner exceed the allowable compression and tensile stresses. The liner will be designed against buckling and compression failure under the external load combinations. Elastic mechanics theory will be used to determine the minimum liner thickness to prevent buckling. It is anticipated that the concrete shaft liner will be unreinforced for both the hydrostatic portion of the liner in the Devonian and the Upper Silurian formations above 195 mbgs and the fully drained (leaky) liner below this stratum.	OPG Letter dated Jul.10, 2012, 00216-CORR-00531-00118 (CEAA Registry Doc# 606)	LPSC-01-05a	D&C
IRC-LPSC-01.14	All shaft sections analyzed will be verified using numerical analysis for loading on the liner as well as the changes in stresses in the surrounding rock. Shaft liner loads resulting from the above shaft liner/ground interaction analyses will be used as an input to the structural design of the shaft liner.	OPG Letter dated Jul.10, 2012, 00216-CORR-00531-00118 (CEAA Registry Doc# 606)	LPSC-01-05a	D&C
IRC-LPSC-01.15	The DGR will be compliant with these regulations: • PSR, Section 1.4.1, Section 7.1.2.1 and Section 10.1, indicate that the Radiation Protection Regulations (SOR/2000-203) are applicable to the DGR. • PSR, Table 6-1 and Section 6.10.1, indicate that the DGR will be compliant with the OPG Radiation Protection Requirements. These OPG requirements include equivalent dose limits that are equal to the CNSC limits (Sections 4.1 to 4.3, OPG 2001). • Preliminary ALARA Assessment, Section 4.1 (SENES 2011) indicates that the Radiation Protection Regulations apply (SOR/2000-203), and Section 4.2.1 indicates that the regulations are implemented through the OPG Radiation Protection Requirements.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-07	OPS
IRC-LPSC-01.16	As long as the worker whole body effective dose remains within its limit, practical experience at WWMF indicates that the worker doses will also remain within the equivalent dose limits. This expectation will be confirmed during operations.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-07	OPS

Table B.2: Commitments in OPG Responses to JRP LPSC Information Requests				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-LPSC-01.17	The results of the detailed shielding assessment will specify the shielding requirements in the WPRB that will help ensure that dose rates remain below regulatory limits for NEWs (Zone 2) and non-NEWs (Zone 1), and are ALARA.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-08	OPS
IRC-LPSC-01.18	The maximum allowable dose rate for multiple packages will be assessed as part of the detailed shielding design.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-08	OPS
IRC-LPSC-01.19	The locations of the Control Room and Offices within the Amenities Building will be reviewed as part of the detailed design, with detailed shielding assessments conducted in the occupied areas to ensure dose rates remain consistent with the specific location zoning (Zone 1 or Zone 2) and are ALARA.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-08	D&C
IRC-LPSC-01.20	Specification of the shielding is part of the detailed design, and is not presently complete. The ALARA results will be provided with the Final ALARA Assessment report that will be prepared as part of the supporting documentation for the DGR Operating Licence application.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-08	D&C
IRC-LPSC-01.21	Dose limits will be further managed through operational procedures including task dose planning, monitoring of individual worker doses and assignment of tasks, and scheduling of package deliveries. As an example of the latter point (which would benefit both NEWs and non-NEWs), it is planned to initially transfer mostly LLW from WWMF into the DGR, which will allow additional time for in-situ decay of ILW at WWMF before it is transferred.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-08	OPS
IRC-LPSC-01.22	In addition to the permanent Refuge Station, there will be portable refuge stations positioned closer to the emplacement rooms as they are filled during operations.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-09	D&C
IRC-LPSC-01.23	The portable refuge stations will be supplied with breathing air from the surface-based compressors, as well as contained in compressed air bottles.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-09	D&C
IRC-LPSC-01.24	The induction motors will be designed and constructed as per NEMA Standard MG-1, Motors and Generators and CSA Standard C22.2, No. 100, Motors and Generators.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-10	D&C

Table B.2: Commitments in OPG Responses to JRP LPSC Information Requests				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-LPSC-01.25	Class IV Power Distribution System	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-10	D&C
IRC-LPSC-01.26	Class III Emergency Power Distribution System	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-10	D&C
IRC-LPSC-01.27	Class II Power Distribution System	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-10	D&C
IRC-LPSC-01.28	All electrical equipment including distribution panels, control panels and all electrical terminations will be located at the shaft collar elevations or above (determined from the elevation requirements determined from the Maximum Flood Hazard Assessment, AMEC 2011) to to limit the impact of postulated flooding events on the electrical systems.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-10	D&C
IRC-LPSC-01.29	If access to the main control is not possible during an emergency, secondary hoist control in the main and ventilation headframes will be available.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-10	D&C
IRC-LPSC-01.30	Where HF requirements cannot be incorporated into DGR-specific design activities (e.g., Human Machine Interface (HMI), vendor supplied equipment) the requirements will be incorporated into procurement specifications for verification and validation prior to selection.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-11	D&C
IRC-LPSC-01.31	The water will be pumped up the shaft from the main underground sump(s) and discharged into an oil/water separator at the surface for treatment of oils, grease and suspended solids, prior to discharge into the collection ditch system where it will flow to the stormwater management pond. A temporary water treatment plant will be available and used, as required, to remove excess amounts of oils, grease and/or suspended solids in the underground water.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-12	D&C
IRC-LPSC-01.32	All pond discharge water will flow into a set of culverts under the “interconnecting road” and then via an existing site ditch system to Lake Huron.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-12	D&C

Table B.2: Commitments in OPG Responses to JRP LPSC Information Requests				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-LPSC-01.33	The stormwater management pond will have a pond outlet structure that consists of a discharge pipe and an overflow weir. Water will normally leave the pond via the discharge pipe and in event of a major storm (say 100-year storm event) water would also discharge over the weir. All pond discharge water will flow into a set of culverts under the "interconnecting road" and then via an existing site ditch system to Lake Huron.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-12	D&C
IRC-LPSC-01.34	The pond will have a maximum storage volume of about 10,000 m^3 which is the air volume between the permanent pool of water at base of pond and the crest of the weir. During the 6-hour, 25-mm storm event, rainfall run-off and construction water will flow into the pond. The rate of water inflow due to these two sources of water will exceed the discharge capacity of the discharge pipe. Thus most of water inflow during the storm event will be contained in the storage volume until discharged through the discharge pipe.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-12	D&C
IRC-LPSC-01.35	The pond side walls will be lined, as required, to limit lateral seepage into any surrounding permeable overburden that overlies the till.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-13	D&C
IRC-LPSC-01.36	Dewatering flows and stormwater runoff from the project site will be collected in ditches around the perimeter of the site and surface facilities and discharged into the pond's sediment forebay. The forebay inlet will be appropriately graded and lined with riprap for erosion protection. The pond outlet structure will be built into an embankment at the discharge-end of the pond and will consist of an overflow weir and a discharge pipe. The overflow weir, together with the available active storage in the pond, will control pond discharges during rainfall events with return periods of 2 to 100 years. The discharge pipe will control low flow discharges from the pond and ensure a minimum retention time for the settling out of suspended solids. In the event that Certificate of Approval criteria are exceeded in the discharge (e.g. increased total suspended solids – TSS), the valve on the discharge pipe can be closed discontinuing discharge. The pond outlet structure will be appropriately graded and lined with riprap for erosion protection.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-13	D&C
IRC-LPSC-01.37	Depending on the concentration of tritium or any other radioactive contaminants in the condensate, this water will be periodically removed from the sump and taken to a facility that is licensed to handle this type of material, if required.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-14	OPS

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-LPSC-01.38	During day time normal operations, sufficient airflow will be delivered underground to ensure adequate ventilation in all areas occupied by workers and equipment. Ventilation air will be provided to all actively used rooms in the underground services area. Because it is currently envisaged that the DGR facility will only be active during weekdays during the operational phase, it is likely that the underground facility will be unoccupied during off-production hours.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-14	OPS
IRC-LPSC-01.39	In the event of an underground fire or waste package drop, the ventilation flows will not be changed until all underground personnel are accounted for in the refuge stations.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-15	OPS
IRC-LPSC-01.40	Emergency response procedures will define the required response by personnel to a fire underground.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-15	D&C OPS DEC
IRC-LPSC-01.41	In the event of an underground accident involving the release of volatile radionuclides or volatile hazardous substances personnel will follow the same general procedure as for a fire event.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-15	D&C OPS DEC
IRC-LPSC-01.42	Once underground personnel are accounted for in refuge stations, plans for addressing the fire will be implemented.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-15	D&C OPS DEC
IRC-LPSC-01.43	In addition to portable fire extinguishers underground as required by the Ontario mining regulations, a portable dry chemical fire suppression system will be available to the mine rescue team at a surface storage location and it could be taken underground by the team to suppress a fire.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-15	D&C OPS DEC
IRC-LPSC-01.44	The Fire Protection Program will be specific to the DGR, due to the unique fire protection requirements associated with the facility, and will include a requirement for a Fire Hazard Analysis (FHA) based on the guidance of NFPA 122 and 801. A consultant specializing in fire protection has been retained to assist in the development of the FHA, Code Compliance report and Fire Protection Program for the DGR. Also, as committed in Section 6.8.1 of the PSR, an independent third party review will be conducted from a fire protection perspective.	OPG Letter dated Jul.10, 2012, 00216-CORR-00531-00118 (CEAA Registry Doc# 606)	LPSC-01-15a	D&C

Table B.2: Commitments in OPG Responses to JRP LPSC Information Requests				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-LPSC-01.45	The fire protection goals were developed and embedded in the PSR section 6.8. These include minimizing ignition sources, maintaining multiple egress routes and safe areas of refuge, and using a defence-in-depth principle. Another goal identified was to minimize radiological releases through contaminated run-off by reducing the potential for water to be in contact with radioactive waste. These goals were used in developing fire protection design, configuration, systems, materials specified for use, storage areas and containers for the waste. These goals will also be used in developing the Fire Protection Program.	OPG Letter dated Jul.10, 2012, 00216-CORR-00531-00118 (CEAA Registry Doc# 606)	LPSC-01-15a	D&C
IRC-LPSC-01.46	A Fire Protection specific Design Requirements document will capture all the applicable codes and other requirements to be used in the fire protection system detailed design. Prior to the construction of each phase of the facility, a Code Compliance Report will be prepared on completion of detailed design of that phase, to confirm that the design meets applicable code requirements.	OPG Letter dated Jul.10, 2012, 00216-CORR-00531-00118 (CEAA Registry Doc# 606)	LPSC-01-15a	D&C
IRC-LPSC-01.47	Fire Protection Programs will be developed for the construction phase and for the operations phase of the facility prior to the start of each phase. They will include required elements such as roles and responsibilities, fire response, fire assessments, managing changes that affect fire protection, work practice and procedures, fire planning, inspection and maintenance of fire protection systems, quality assurance, housekeeping, storage and handling of hazardous goods, control of ignition sources, transient material, reporting and drills.	OPG Letter dated Jul.10, 2012, 00216-CORR-00531-00118 (CEAA Registry Doc# 606)	LPSC-01-15a	D&C
IRC-LPSC-01.48	A defence-in-depth principle is being used in the development of the Design Requirements and Fire Protection Program documents.	OPG Letter dated Jul.10, 2012, 00216-CORR-00531-00118 (CEAA Registry Doc# 606)	LPSC-01-15a	D&C
IRC-LPSC-01.49	Operating experience from the mining industry and other waste handling facilities is being collected to learn from their designs, their events and their fire protection programs.	OPG Letter dated Jul.10, 2012, 00216-CORR-00531-00118 (CEAA Registry Doc# 606)	LPSC-01-15a	D&C
IRC-LPSC-01.50	As discussed in LPSC-01-43 the FHA will be based on the guidance of NFPA 122 and 801.	OPG Letter dated Jul.10, 2012, 00216-CORR-00531-00118 (CEAA Registry Doc# 606)	LPSC-01-15a	D&C

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-LPSC-01.51	The FHA will be performed to assess the consequences of fires that pose a risk to: • Release of radioactive or otherwise hazardous material to the environment. • Increased radiation dose to site personnel including emergency responders. • · Non radiation-related injury to site personnel.	OPG Letter dated Jul.10, 2012, 00216-CORR-00531-00118 (CEAA Registry Doc# 606)	LPSC-01-15a	D&C
IRC-LPSC-01.52	The FHA will: • Consider both construction and operation phases of the facility. • Review performance criteria for detection and alarm systems. • Evaluate inspection, testing and maintenance of fire protection systems. • Identify where hazards exist which could potentially impact nuclear safety. • Identify the design basis fires and the fire growth scenarios based on credible operating conditions. • Analyze the consequences of the design basis fires with respect to nuclear safety, personnel safety, and environment protection. • Postulate fire protection system impairment scenarios so as to verify available defence-in-depth measures. • Identify the potential consequences to personnel safety (not related to nuclear safety) and determine if the consequences exceed criteria. • Evaluate the adequacy of the fire protection measures in mitigating the risk of hazards such that the consequences do not exceed criteria. • Identify cases where additional fire protection measures are required to ensure that the consequences of the design basis fires do not exceed criteria.	OPG Letter dated Jul.10, 2012, 00216-CORR-00531-00118 (CEAA Registry Doc# 606)	LPSC-01-15a	D&C
IRC-LPSC-01.53	There will be easily-accessible portable suppression equipment.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-16	D&C
IRC-LPSC-01.54	The liners will be constructed as a hydrostatic liner in the upper 200 m of the shafts where rock formations are relatively permeable.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-17	D&C

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-LPSC-01.55	Geomechanical modeling of the shaft excavations will be completed to estimate rock loading over the full depth of the shafts and to estimate how this loading will vary with time. The modeling will be iterative with liner detailed design and will be used to assess impact of dimensional requirements and construction assumptions for shaft development (e.g., excavated diameter, length of the development round, distance the shaft liner trails the shaft sinking face, etc.) on predicted rock loading.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-17	D&C
IRC-LPSC-01.56	For purposes of preliminary sizing of the operations' phase dewatering system, it was assumed that up to 15 L/s of additional groundwater inflow could occur in the failed liner scenario (see PSR, Section 6.3.10.4). This estimate is considered to be conservative and will be updated as new information becomes available about hydrogeologic conditions in upper bedrock formations (to depth of about 180 m), ground treatment to be used in the upper permeable bedrock formations (see response to IR-LPSC-01-31) and how the shaft liners might behave during a postulated seismic event.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-19	D&C
IRC-LPSC-01.57	The maximum pumping capacity of the dewatering system is currently set at 22 L/s (see PSR, Section 6.3.10.4). As new information about estimated rates of water flow to main sump become available under both normal and abnormal conditions, the design pumping capacity will be adjusted accordingly.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-19	D&C
IRC-LPSC-01.58	These sump locations will be available for use in the operations phase, if required.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-19	D&C
IRC-LPSC-01.59	Once the tie-in location(s) to the Bruce Power fire system are set, an assessment of supply disruption will be completed and actions taken to ensure a highly-reliable supply. The assessment will include the assessment of the supply, the DGR fire water system and any on-site and off-site support provided through Emergency Response.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-20	D&C

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-LPSC-01.60	The DGR fire water main(s) will be buried and the fire water main loops will distribute fire water around the DGR surface facilities site. The fire water main(s) will meet the requirements of the latest National Building Code of Canada (NBCC), National Fire Code of Canada (NFCC), National Fire Protection Association (NFPA), NFPA 24, the Ontario Provincial Standard Drawings (OPSD) and Specification (OPSS).	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-20	D&C
IRC-LPSC-01.61	Post indicator valves will be provided to allow isolation of the fire water main if required for maintenance purposes. Hydrants will be located throughout the DGR surface facilities site along roadways to provide access for emergency response crews. The fire main system will be installed below the frost line to prevent freezing. Metallic components of the fire main will be equipped with cathodic protection and freeze protection will be provided in specific locations where deemed necessary. The fire water main will be connected to the water-based fire suppression systems.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-20	D&C
IRC-LPSC-01.62	Fixed non-water fire suppression systems will be provided in areas of the DGR which contain storage of more than 500 L of oil, grease, or flammable liquids, service garages, and fueling stations in accordance with the OHSA Mines and Mining Plants Regulations (O.Reg. 854/90). This includes the Service Garage, Lube Bay, and Fuel Bay. One system will be provided for each area.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-22	D&C
IRC-LPSC-01.63	The main and ventilation shaft hoisting equipment will be equipped with fixed fire suppression systems. These systems will be local application, protecting equipment deemed to be a potential fire hazard.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-22	D&C
IRC-LPSC-01.64	The fire fighting team will have a portable dry chemical and foam system mounted on skids.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-22	D&C
IRC-LPSC-01.65	Both fixed and mobile equipment (i.e., forklifts) located in the DGR will be provided with fixed local application fire suppression systems.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-22	D&C

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-LPSC-01.66	Fire protection equipment stations will be located in all access and service drifts, as well as, specified locations as per the Ontario mining regulations (e.g., shaft stations, electrical rooms, etc.). These stations will be strategically located throughout the DGR. Each station will contain dry chemical fire extinguishers, self-contained breathing apparatus (SCBA), personal protective equipment, tools, etc. The equipment at each station will be determined based on the potential type and size fires in the vicinity of the station.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-22	D&C
IRC-LPSC-01.67	DGR personnel will be trained in the use of fire extinguishers for manual fire fighting.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-22	D&C
IRC-LPSC-01.68	A Mine Rescue Team will be trained in mine fire fighting activities. The firefighting equipment and locations for this response team will be determined as part of detailed Mine Fire Procedures to be developed for the DGR.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-22	D&C OPS DEC
IRC-LPSC-01.69	This program will be consistent with the OPG Radiation Protection Requirements - Nuclear Facilities and related procedures.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-23	OPS
IRC-LPSC-01.70	The underground facility radiation monitoring will include fixed monitors, portable monitors, and sampling locations. A fixed whole body monitor will be placed at the entrance to the refuge station, which also doubles as a lunch room. Portable monitors will be used to maintain appropriate controls around active areas, and for surveying (to ensure the Zone 2 underground facility remains free of loose contamination). The specific locations would depend on the work flow, and would be consistent with current WWMF practice.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-23	OPS
IRC-LPSC-01.71	There will be fixed continuous air sampling devices located at the surface exhaust from the ventilation shaft (stack monitor), which will collect air samples from a side stream. The air samples will be collected for the purpose of analyzing for tritium, C-14 and particulate (gross beta/gamma). (As with the WWMF incinerator, a separate stack monitor may be needed for C-14 from the other radionuclides.)	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-23	OPS
IRC-LPSC-01.72	The stack monitor (i.e., surface exhaust air sampling device) will have an alarm which sends a signal back to Control Room if the sampling device has failed (i.e., low air flow).	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-23	OPS

<table>
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<tr><th rowspan="2">Commitment No.</th><th rowspan="2">Commitment Description</th><th colspan="2">Reference</th><th rowspan="2">DGR Phase</th></tr>
<tr><th>OPG Letter</th><th>IR No.</th></tr>
<tr><td>IRC-LPSC-01.73</td><td>The monitoring equipment will be similar to that used in WWMF, but the specific technology would be selected during the construction phase based on the best available technology at that time. Further information will be described as part of the Operating Licence application.</td><td>OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)</td><td>LPSC-01-23</td><td>D&C</td></tr>
<tr><td>IRC-LPSC-01.74</td><td>Table 1: Underground Air and Water Radiation Monitoring - Site Preparation and Construction
(see [EA Follow-up Monitoring Program], Table 5a)
<table>
<tr><th>Reference</th><th>Nuclides</th><th>Type/Monitoring</th><th>Location</th></tr>
<tr><td>C-LIC-RAD1
Air</td><td>Radon</td><td>• 1 measurement /month/location. Radon is not expected to be an issue. It will be monitored for trends and the rate adjusted if appropriate.
• Portable monitor, with local readout or off-site analysis</td><td>• Near working faces during excavation
• Exhaust air flow near ventilation shaft</td></tr>
<tr><td>C-LIC-RAD5
Water</td><td>H-3
Gross beta /gamma</td><td>• 1 sample/week, averaged monthly, beginning 1 yr prior to operations.
• Off-site analysis.</td><td>Sampled from surface stormceptor at underground sump discharge (for establishing baseline)</td></tr>
<tr><td>C-LIC-RAD5
Water</td><td>C-14</td><td>• 1 sample/quarter beginning 1 yr prior to operations.
• Off-site analysis.</td><td>Sampled from surface stormceptor at underground sump discharge (for establishing baseline)</td></tr>
</table></td><td>OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)</td><td>LPSC-01-23</td><td>D&C
OPS</td></tr>
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<tr><th>OPG Letter</th><th>IR No.</th></tr>
<tr><td>IRC-LPSC-01.75</td><td>Table 2: Underground Air and Water Radiation Monitoring - Operations (see [EA Follow-up Monitoring Program], Table 5b)
<table>
<tr><th>Reference</th><th>Nuclides</th><th>Type/Monitoring</th><th>Location</th></tr>
<tr><td>O-LIC-RAD1
Air</td><td>Radon</td><td>Portable monitor with local readout, as per C-LIC-RAD1.</td><td>Radon is not expected to be an issue. Location and frequency to be specified as part of the Operating Licence application based on results of C-LIC-RAD1.</td></tr>
<tr><td>O-LIC-RAD1
Air</td><td>H-3
C-14
Particulate (gross beta/ gamma)</td><td>Continuous airflow through sampling device, with samples analyzed weekly off-site.
Equipment similar to WWMF incinerator stack sampler/monitor.
Alarm on system failure (i.e., low air flow) to DGR control room, as with WWMF incinerator monitor.
Class IV power, as with WWMF incinerator monitor.</td><td>Ventilation shaft exhaust</td></tr>
<tr><td>O-LIC-RAD5
Water</td><td>H-3
Gross beta/ gamma</td><td>1 sample/week, averaged monthly.
Off-site analysis.</td><td>Sampled from surface stormceptor at underground sump discharge</td></tr>
<tr><td>O-LIC-RAD5
Water</td><td>C-14</td><td>1 sample/yr.
Off-site analysis.</td><td>Sampled from surface stormceptor at underground sump discharge</td></tr>
</table></td><td>OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)</td><td>LPSC-01-23</td><td>OPS</td></tr>
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Table B.2: Commitments in OPG Responses to JRP LPSC Information Requests

Commitment No.	Commitment Description	Reference		DGR Phase
		OPG Letter	IR No.	
	O-LIC-RAD5 Water: H-3, Gross beta/ gamma, C-14 — 1 sample/discharge (frequency may be reviewed based on trending analysis). Off-site analysis. — Sampled from exhaust plenum condensate sump O-LIC-RAD6: H-3, Dose rate, Others as required — Routine survey program Similar equipment to WWMF. Hand-carried battery powered monitors, or cart-based monitors connected to local 120 V Class IV power. — Frequency and location to be specified in the Operating Licence application. Will be consistent with OPG Radiation Protection Requirements and with existing WWMF program. O-LIC-RAD7: Whole body dose and skin beta dose — Worker dose monitors, similar to existing WWMF monitors. — Frequency and location to be specified in the Operating Licence application. Will be consistent with OPG Radiation Protection Requirements and with existing WWMF program.			
IRC-LPSC-01.76	The detailed design of air quality monitoring system and monitoring device specifications will be described as part of the Operating Licence application	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-24	D&C
IRC-LPSC-01.77	Air quality parameters will be monitored at various locations in the underground ventilation system with signals from fixed monitoring devices reporting to surface-based Control Room.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-24	OPS

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-LPSC-01.78	The data from the fixed air quality monitoring system will be displayed in the Control Room and the flow of ventilation air will be adjusted, as required, to ensure safe working conditions for underground personnel. Air quality readings that are approaching predefined limits in the air stream will trigger alarms. Any high levels of air contaminates can be reduced by increasing the air volumes in that area. Air volumes in various parts of the underground facility will be controlled by adjusting the louvers at end of emplacement rooms and by adjusting the main underground fan.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-24	D&C
IRC-LPSC-01.79	The permanent refuge station will have a clean breathing air supply from the surface compressors that is connected to the emergency electrical power.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-24	D&C
IRC-LPSC-01.80	Panels projected for closure will be ventilated and the air quality monitored as described above, until the time of closure. At closure, as stated in PSR 6.13, the underground space behind the closure walls will not be ventilated and all services will be terminated. Once closure walls are erected there would be no need to monitor air quality in the sealed underground space, as no re-entry is intended.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-24	D&C
IRC-LPSC-01.81	Vendor information and contractor contributions to final design and construction scheduling will be incorporated following the receipt of the licence.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-25	D&C
IRC-LPSC-01.82	The schedule for activities referenced above (excavation plans and techniques, ground support, construction ventilation and dewatering) will be developed in conjunction with the approach selected by the successful contractor.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-25	D&C
IRC-LPSC-01.83	Detailed design development will align with construction scheduling.	OPG Letter dated Jul.10, 2012, 00216-CORR-00531-00118 (CEAA Registry Doc# 606)	LPSC-01-25a	D&C
IRC-LPSC-01.84	The concrete batch plant will be installed in the general area identified as “concrete batch plant area” on Figure 9-2 of the Preliminary Safety Report and will be installed as part of the site preparation activities. The batch plant and supply of concrete will be a contracted service to the project.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-26	D&C

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-LPSC-01.85	The approved supplier will be required to demonstrate that the plant is capable of producing the required concrete volumes to the project specifications. They will also have to demonstrate how they will manage quality control of the product. Sufficient space has been allocated in the construction site plan for the batch plant, aggregate stockpiles, staging areas and wash-out facilities.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-26	D&C
IRC-LPSC-01.86	The electrical substation will be located in the general vicinity of area marked as “Construction Power Distribution Compound” on Figure 9-2. The substation will be supplied by a 13.8kV voltage transmission line from an existing transformer located at the Bruce nuclear site west of Interconnecting Road (existing road shown on Figure 9-2 that is located on west side of DGR project site) that serviced the former Heavy Water Plant facility.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-26	D&C
IRC-LPSC-01.87	Service water and fire water will be supplied through tie-ins to existing service water and fire water lines on the Bruce nuclear site. There are existing service water and fire water lines located immediately to the south and west of the DGR project site. Exact tie-in or connection locations are being discussed with Bruce Power who will be the provider of the service.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-26	D&C
IRC-LPSC-01.88	DGR project site communication system will likely connect to a fibre optics cable that is currently being installed in the abandoned railway bed located between DGR project site and Western Waste Management Facility.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-26	D&C
IRC-LPSC-01.89	Preliminary assessment of the expected waste rock management pile effluent characteristics indicates that there will not be elevated concentrations of nitrogen, ammonia or saline groundwater. Further confirmation of these findings will require the incorporation of the contractor’s approach (e.g., type of explosives used) for the shaft sinking and lateral development activities.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-27	D&C
IRC-LPSC-01.90	Discharges from the stormwater management pond will meet the Certificate of Approval discharge criteria.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-27	D&C OPS

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-LPSC-01.91	The waste rock management area (WRMA) will be cleared, grubbed and stripped of topsoil which will be temporary stockpiled and re-used elsewhere on site. The site will be graded to ensure drainage to the perimeter storm water collection ditches. The ditches will be constructed as part of the site preparation activities prior to the deposition of waste rock.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-28	D&C
IRC-LPSC-01.92	The development schedule and annual production of waste rock will be further developed with the selected development contractor.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-29	D&C
IRC-LPSC-01.93	In 2011, an initial trial was conducted at the proposed location of ventilation shaft to determine the feasibility of a surface-based grouting to a depth of 200 m. The results of this trial were encouraging and demonstrated that surface-based grouting is likely feasible to depths of 200 m. The trial will be continued in 2012 for the purpose of confirming feasibility of surface-based grouting at the DGR project site.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-31	Complete
IRC-LPSC-01.94	The contractor will be responsible, in consultation with the NWMO, for selecting the drill and blast method that will best minimize damage.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-32	D&C
IRC-LPSC-01.95	The contractor will explore various approaches to controlled drill and blast in the upper 200 m of the shafts and then select the preferred method before reaching the Ordovician shales.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-32	D&C
IRC-LPSC-01.96	There will be a series of ground control measures applied over the length of the shaft.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-32	D&C
IRC-LPSC-01.97	A detailed Fire Protection Program for site preparation and construction will be prepared in accordance with the National Building Code of Canada-Part 8, the National Fire Code of Canada, the Ontario Health and Safety Act, and guidance from National Fire Protection Association (NFPA) standards 122 and 801, and Ontario Regulation 213/81, which have all been reviewed for their relevance to this project	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-36	D&C
IRC-LPSC-01.98	A fire protection plan will be prepared which will be based on a fire hazard analysis based on guidance from NFPA 122 and 801.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-36	D&C

Table B.2: Commitments in OPG Responses to JRP LPSC Information Requests				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-LPSC-01.99	The site preparation and construction activities will be carried out in compliance with Ontario's Occupational Health and Safety Act and its associated regulations. In its capacity as Constructor, the NWMO will ensure that: the measures and procedures prescribed by the Act and the associated Regulations are implemented on the project, every employer and every worker performing work on the project complies with the Act and Regulations and the health and safety of workers on the project are protected.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-37	D&C
IRC-LPSC-01.100	The procedures will be reviewed and updated, as required, to reflect the specific work being performed. This includes incorporating best work practices and task-specific procedures provided by the various contractors.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-37	D&C
IRC-LPSC-01.101	The project organization will include a health, safety and environment manager who is responsible for facilitating safe work planning as well as performing field monitoring and coaching on safe work practices.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-37	D&C
IRC-LPSC-01.102	If the nature of the work changes, or new workers are introduced, the safe work plan will be reviewed, and any and all new risks associated with the revised work will be mitigated.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-37	D&C
IRC-LPSC-01.103	The current HSEMP and procedures adequately address all items with respect to the site preparation and construction activities that are to be undertaken at surface. Nevertheless, these will be reviewed prior to the commencement of work as part of the job safety analysis that must be carried out to develop the required safe work plan for each phase of that work.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-37	D&C
IRC-LPSC-01.104	Further development of procedures is required for the shaft sinking and lateral development activities. These procedures are planned to be developed in conjunction with the contractor(s) that will be retained for this work and these procedures will be in place prior to the start of that work.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-37	D&C

<table>
<tr><th colspan="5">Table B.2: Commitments in OPG Responses to JRP LPSC Information Requests</th></tr>
<tr><th rowspan="2">Commitment No.</th><th rowspan="2">Commitment Description</th><th colspan="2">Reference</th><th rowspan="2">DGR Phase</th></tr>
<tr><th>OPG Letter</th><th>IR No.</th></tr>
<tr><td>IRC-LPSC-01.105</td><td>In addition, the project plans and procedures are reviewed annually and are updated at any time that there is a revision to the governing Acts or Regulations.</td><td>OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)</td><td>LPSC-01-37</td><td>D&C</td></tr>
<tr><td>IRC-LPSC-01.106</td><td>The HSMP will comply with the requirements of CSA Z1000:2009 and the EMP with the requirements of ISO 14001.</td><td>OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)</td><td>LPSC-01-37</td><td>D&C</td></tr>
<tr><td>IRC-LPSC-01.107</td><td>The commissioning plan as referenced in the Design and Construction Phase Management System document will be inclusive for temporary equipment required for construction, as well as the end-use commissioning requirements to meet Ontario Power Generation’s operational acceptance requirements.</td><td>OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)</td><td>LPSC-01-38</td><td>D&C</td></tr>
<tr><td>IRC-LPSC-01.108</td><td>Detailed specifications for the mobile equipment have not yet been prepared as they are not intended for use until 2019. The Final ALARA assessment will lead to additional dose reduction measures as required.</td><td>OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)</td><td>LPSC-01-39</td><td>OPS</td></tr>
<tr><td>IRC-LPSC-01.109</td><td>The amount of shielding required is currently being assessed as part of the detailed design.</td><td>OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)</td><td>LPSC-01-39</td><td>OPS</td></tr>
<tr><td>IRC-LPSC-01.110</td><td>Administrative procedures will be developed for the operations phase, and will take into account the necessary placement of waste to ensure ALARA dose to workers.</td><td>OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)</td><td>LPSC-01-39</td><td>OPS</td></tr>
<tr><td>IRC-LPSC-01.111</td><td><table><tr><th>Recommendation</th><th>Status</th></tr><tr><td>Optimize the design of the ILW Shield waste containers</td><td>The detailed design of these waste packages is not currently available, as they are not intended for use until 2019. For the Preliminary ALARA assessment, the package dose rates were therefore assumed conservatively high. The design will be prepared incorporating the ALARA principle, before such packages are put into service.</td></tr></table></td><td>OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)</td><td>LPSC-01-39</td><td>OPS</td></tr>
</table>

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-LPSC-01.112	OPG will develop and propose DGR-specific DRLs for CNSC approval prior to submitting its application for an Operating Licence for the DGR. These DRLs will be calculated as per applicable CSA and CNSC guidance in effect at that time.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-40	OPS
IRC-LPSC-01.113	The actual dilution will be assessed explicitly as part of preparing the DGR-specific DRLs.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-40	OPS
IRC-LPSC-01.114	There will be detailed procedures and training developed for operations staff which will include standard human performance error prevention tools and standards. In addition there will be emergency procedures developed for accidents. These procedures and training will be developed as part of hand-over preparation and more detail will be provided as part of the Operating Licence application.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-42	D&C OPS
IRC-LPSC-01.115	The Fire Protection (FP) Program for the operational phase of the DGR will be developed similarly to the FP Program for the site preparation and construction, as described in the response to IR-LPSC-01-36. To reiterate, the operational FP Program will be specific to the DGR, due to the unique fire protection requirements associated with the facility, and will include a Fire Hazard Analysis based on the guidance of NFPA 122 and 801.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-43	D&C
IRC-LPSC-01.116	During DGR operations, OPG's ALARA practice at the Western Waste Management Facility (WWMF) will be followed.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-44	OPS
IRC-LPSC-01.117	Workers will have personal alarming dosimeters as well as thermoluminescent dosimeter (TLD) badges when performing radioactive work. Further information will be provided in the Final ALARA Assessment that will be prepared as part of the DGR Operating Licence application.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-44	OPS
IRC-LPSC-01.118	The project will have trained first aid responders, both staff and contractors, for front-line medical incidents. Depending on the severity of the incident, Bruce Power's emergency response team (ERT) will be contacted to respond.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-45	D&C OPS DEC

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-LPSC-01.119	The project health and safety organization will be responsible to maintain the emergency response and communication equipment specified for the site, including contractor supplied equipment. This will include routine inspections and testing of equipment and maintaining records of such inspection.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-45	D&C OPS DEC
IRC-LPSC-01.120	The site emergency response requirements will be modified through the project phases to reflect the nature of the work being performed and the parties involved. The emergency response system will be tested annually.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-45	D&C OPS DEC
IRC-LPSC-01.121	Ontario Mine Rescue response practices will be used for the underground emergency response at the DGR project. The configuration of the mine rescue teams will be further defined for the project as the contractors are engaged to provide services. As is the practice in Ontario, mutual aid agreements with local mining operations supporting Ontario Mine Rescue will be established closer to the start of construction.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-45	D&C OPS DEC
IRC-LPSC-01.122	Contingency plans have yet to be developed for the project to reflect the potential for simultaneous emergencies and expected response. Selected contractor capabilities could have an effect on the requirements of external support. This area will require future consideration and will be reflected in the DGR Response Plan as appropriate.	OPG Letter dated Mar.9, 2012, 00216-CORR-00531-00108 (CEAA Registry Doc# 363)	LPSC-01-45	D&C OPS DEC
IRC-LPSC-02.01	OPG will specifically focus on NWMO making use of the following human performance elements: • Implementation of assessment and corrective action programs, • Development of governance and procedural compliance, • Implementation of training program - training and qualification requirements, • Promotion, assessment and maintenance of a strong nuclear safety culture and safe working practices, • Control of design and design changes, • Use of OPEX, • Performance expectations and management, • Verification of work.	OPG Letter dated Jun.1, 2012, 00216-CORR-00531-00115 (CEAA Registry Doc# 523)	LPSC-02-48	D&C

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-LPSC-02.02	Changes to the NWMO management system will be reviewed to ensure that this initial determination remains unchanged, consistent with the contracted services management processes referenced in the OPG management system.	OPG Letter dated Jun.1, 2012, 00216-CORR-00531-00115 (CEAA Registry Doc# 523)	LPSC-02-49	D&C
IRC-LPSC-02.03	OPG will be focusing on the following elements that demonstrate a strong safety culture at the NWMO: 1. Personal responsibility for safety 2. Leaders demonstrate commitment to safety 3. Trust permeates the organization 4. Decision making reflects safety first 5. Technology is recognized as unique 6. A questioning attitude is cultivated 7. Organizational Learning is embraced 8. Safety undergoes constant examination	OPG Letter dated Jun.1, 2012, 00216-CORR-00531-00115 (CEAA Registry Doc# 523)	LPSC-02-50	D&C
IRC-LPSC-02.04	OPG, through its Contractor Management Process Manual (FIN-MAN-CM-001), will request and review the Health and Safety Management System of contractors including the requirements for incident investigation, analysis and reporting.	OPG Letter dated Jun.1, 2012, 00216-CORR-00531-00115 (CEAA Registry Doc# 523)	LPSC-02-51	D&C
IRC-LPSC-02.05	OPG will maintain all project records created within OPG and all NWMO submittals to OPG in accordance with the Records and Document Control (N-PROG-AS-0006) for both the Regulatory Approvals and the Design and Construction phases	OPG Letter dated Jun.1, 2012, 00216-CORR-00531-00115 (CEAA Registry Doc# 523)	LPSC-02-52	D&C
IRC-LPSC-02.06	Procurement and Contracts Management Plan, DGR-PLAN-00800-1001: This DGR Project specific document will include requirements currently included in NWMO's procurement procedure and also include new requirements for inspection of purchased items and materials, receiving, and storage and handling.	OPG Letter dated Jun.1, 2012, 00216-CORR-00531-00115 (CEAA Registry Doc# 523)	LPSC-02-53	D&C

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-LPSC-02.07	Changes to the NWMO management system will be reviewed to ensure that this initial determination remains unchanged, consistent with our contracted services management processes referenced in the OPG project charter.	OPG Letter dated Jun.1, 2012, 00216-CORR-00531-00115 (CEAA Registry Doc# 523)	LPSC-02-54	D&C
IRC-LPSC-02.08	Changes to the safety analysis will be accepted on the same basis.	OPG Letter dated Jun.1, 2012, 00216-CORR-00531-00115 (CEAA Registry Doc# 523)	LPSC-02-54	D&C
IRC-LPSC-02.09	During the construction phase, there will be many interfaces and processes in place to communicate project requirements with the contractors and to ensure that the requirements are met.	OPG Letter dated Jun.1, 2012, 00216-CORR-00531-00115 (CEAA Registry Doc# 523)	LPSC-02-55	D&C
IRC-LPSC-02.10	Scopes of work with supporting project information, applicable requirements and constraints will be provided to the prospective contractors initially through the contracting stage. Expected conditions, design, rock support, end-use requirements and quality assurance/control expectations will be provided as part of Request For Proposals. Contractor proposals will be evaluated on their approach to meet the requirements specified.	OPG Letter dated Jun.1, 2012, 00216-CORR-00531-00115 (CEAA Registry Doc# 523)	LPSC-02-55	D&C
IRC-LPSC-02.11	These plans will be reviewed by the project team and further reviewed with the independent technical review group as required. Plans will be further assessed against the requirements of the project quality plan, quality inspection and testing plans and the geoscientific verification plan requirements.	OPG Letter dated Jun.1, 2012, 00216-CORR-00531-00115 (CEAA Registry Doc# 523)	LPSC-02-55	D&C
IRC-LPSC-02.12	During development, the geoscientific verification plan will be executed and the performance of the contractor monitored. The requirements of the verification plan will be integrated into the contractor's schedule as routine mapping and periodic monitoring equipment installations are required.	OPG Letter dated Jun.1, 2012, 00216-CORR-00531-00115 (CEAA Registry Doc# 523)	LPSC-02-55	D&C

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-LPSC-02.13	The project will establish specific quality, field inspection and verification, change control and communication processes to manage construction activities.	OPG Letter dated Jun.1, 2012, 00216-CORR-00531-00115 (CEAA Registry Doc# 523)	LPSC-02-55	D&C
IRC-LPSC-02.14	The application and monitoring of approved controlled drill and blast performance will be most important to support post-closure function of the shafts and underground openings. The design of these features will be verified in the field with in-situ performance.	OPG Letter dated Jun.1, 2012, 00216-CORR-00531-00115 (CEAA Registry Doc# 523)	LPSC-02-55	D&C
IRC-LPSC-03.01	Particular care will be exercised in the development through the shales to minimize overbreak and EDZ development within the shaft walls. The upper portions of the shaft, which do not have the same long-term closure impacts or requirements, will provide the opportunity to modify designs to optimize performance.	OPG Letter dated Jul.9, 2012, 00216-CORR-00531-00117 (CEAA Registry Doc# 608)	LPSC-03-57	D&C
IRC-LPSC-03.02	Additional supporting information from the shaft pilot hole program, shaft liner design, geomechanical modeling and ground support design will be required. Further development and finalization of the controlled drill and blast design and implementation will be conducted with the shaft sinking contractor after the shaft sinking contract has been awarded.	OPG Letter dated Jul.9, 2012, 00216-CORR-00531-00117 (CEAA Registry Doc# 608)	LPSC-03-57	D&C
IRC-LPSC-03.03	Excavation performance will be monitored through the Geoscientific Verification Plan, as well as, the geotechnical and rock monitoring plan that is under development. Data received from these programs, as well as observational monitoring, will be used to further optimize excavation performance during development.	OPG Letter dated Jul.9, 2012, 00216-CORR-00531-00117 (CEAA Registry Doc# 608)	LPSC-03-57	D&C
IRC-LPSC-03.04	Prior to start of decommissioning, analysis will be performed to determine whether or not these rock bolts are required for supporting the “hanging” concrete liner. There is no additional concrete liner installed as part of the decommissioning activities.	OPG Letter dated Jul.9, 2012, 00216-CORR-00531-00117 (CEAA Registry Doc# 608)	LPSC-03-58	DEC

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-LPSC-03.05	Hard-wired emergency phones will be installed at each refuge station as a back-up system to ensure communications with surface, as required by the Ontario Occupational Health and Safety Act and Regulations for Mines and Mining Plants 854/90, Section 26. This includes portable refuge stations located in the panel access tunnels (refer to response to IR-EIS-03-60).	OPG Letter dated Jul.9, 2012, 00216-CORR-00531-00117 (CEAA Registry Doc# 608)	LPSC-03-59	D&C
IRC-LPSC-03.06	Personnel access doors will be placed in each of the emplacement room end-walls for egress purposes.	OPG Letter dated Jul.9, 2012, 00216-CORR-00531-00117 (CEAA Registry Doc# 608)	LPSC-03-60	D&C
IRC-LPSC-03.07	Egress routes will be marked by appropriate signage, documented through emergency response procedures and personnel will be trained on egress through use of emergency drills.	OPG Letter dated Jul.9, 2012, 00216-CORR-00531-00117 (CEAA Registry Doc# 608)	LPSC-03-60	D&C
IRC-LPSC-03.08	During the construction phase, mine rescue capabilities will be a combination of DGR project staff, contractor personnel and Bruce Power Emergency Response (ERT) staff. It is not expected that the project will carry an on-site complement of 2 responding units, but rather will be supported through on-call response.	OPG Letter dated Jul.9, 2012, 00216-CORR-00531-00117 (CEAA Registry Doc# 608)	LPSC-03-61	D&C
IRC-LPSC-03.09	Additional mine rescue support will be established from neighbouring mines through the establishment of mutual aid agreements. Although not yet established, discussions with neighbouring mines have confirmed an interest to support the project as there is reciprocal benefit to their operations.	OPG Letter dated Jul.9, 2012, 00216-CORR-00531-00117 (CEAA Registry Doc# 608)	LPSC-03-61	D&C
IRC-LPSC-03.10	As part of the Operational Readiness Plan for the DGR, OPG will review options for mine rescue capability during the operating phase.	OPG Letter dated Jul.9, 2012, 00216-CORR-00531-00117 (CEAA Registry Doc# 608)	LPSC-03-61	OPS

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-LPSC-03.11	In particular, the shafts will be excavated using a controlled drill and blast process that will be designed to minimize the formation of the EDZ (PSR, Section 9.4.5.1).	OPG Letter dated Jul.9, 2012, 00216-CORR-00531-00117 (CEAA Registry Doc# 608)	LPSC-03-62	D&C
IRC-LPSC-03.12	Decommissioning will also be planned so as to minimize the EDZ.	OPG Letter dated Jul.9, 2012, 00216-CORR-00531-00117 (CEAA Registry Doc# 608)	LPSC-03-62	DEC
IRC-LPSC-04.01	There will be a sump at the bottom of the ramp near the ventilation shaft.	OPG Letter dated Mar.28, 2013, 00216-CORR-00531-00178 (CEAA Registry Doc# 949)	LPSC-04-63	D&C
IRC-LPSC-04.02	During both construction and operation phases, water will be pumped from the underground main sump to surface into an oil/water separator where it will be treated to remove any oils, grease and suspended solids (see Figure 2 & 3). The oil/water separator will be located in the vicinity of the shafts, upstream of the dewatering ditch system (see Figure 3). The treated water will be discharged into the ditch system where it will flow to the stormwater management pond.	OPG Letter dated Mar.28, 2013, 00216-CORR-00531-00178 (CEAA Registry Doc# 949)	LPSC-04-63	D&C OPS
IRC-LPSC-04.03	Field verification of in-situ stress conditions will be conducted shortly after the shafts have been excavated to the repository horizon, and before extensive lateral development begins [Geoscientific Verification Plan], Section 2.1.6).	OPG Letter dated Mar.28, 2013, 00216-CORR-00531-00178 (CEAA Registry Doc# 949)	LPSC-04-65	D&C OPS
IRC-LPSC-04.04	Before construction starts there will be a set of engineering documents stamped ‘Available for Construction’ (AFC), which have been accepted and authorized for use. Change processes for design are detailed in the NWMO Design Management procedureand will be further reinforced in several governance documents in development including procurement management, construction management, commission management, and configuration management. In the event future geotechnical testing or other data during construction yields results that are outside the authorized AFC documents it will trigger a review to determine the significance of the difference. There will be a field change process for changes within acceptable parameters, which is overseen by NWMO’s DGR project engineering group. If field results are outside design requirement acceptance criteria it will trigger a managed design change process.	OPG Letter dated Mar.28, 2013, 00216-CORR-00531-00178 (CEAA Registry Doc# 949)	LPSC-04-65	D&C

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-LPSC-04.05	If a requirement(s) cannot be met, then alternatives will be planned and approved prior to the construction for that area of the repository.	OPG Letter dated Mar.28, 2013, 00216-CORR-00531-00178 (CEAA Registry Doc# 949)	LPSC-04-65	D&C
IRC-LPSC-04.06	Approval to implement change will be sought from "designer-of-record" before construction begins.	OPG Letter dated Mar.28, 2013, 00216-CORR-00531-00178 (CEAA Registry Doc# 949)	LPSC-04-65	D&C
IRC-LPSC-04.07	To provide confidence that the environment and the public and occupational health and safety will be protected during site preparation and construction activities conducted under the DGR project, the following components need to be in place: 1. Objectives and criteria 2. Identification of risks and hazards 3. Assessment of risks and hazards 4. Mitigation measures where required 5. Management of health and safety of the public and the workers 6. Environmental management 7. Emergency response	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00179 (CEAA Registry Doc# 989)	LPSC-04-66	D&C
IRC-LPSC-04.08	Detailed plans and instructions for managing risks specific to site preparation and construction hazards will be developed in accordance with the project management system.	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00179 (CEAA Registry Doc# 989)	LPSC-04-66	D&C
IRC-LPSC-04.09	The DGR project will also comply with the National Building Code and the National Fire Code.	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00179 (CEAA Registry Doc# 989)	LPSC-04-66	D&C OPS DEC
IRC-LPSC-04.10	Under the terms of the EPCM agreement with OPG, NWMO will conduct the site preparation and construction activities using its management system, DGR-PD-EN-0001.	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00179 (CEAA Registry Doc# 989)	LPSC-04-66	D&C
IRC-LPSC-04.11	In accordance with NWMO's Risk Management Procedure, a DGR Design and Construction Phase Risk Management Plan is prepared. This plan will be regularly updated by the DGR D&C project team throughout the project.	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00179 (CEAA Registry Doc# 989)	LPSC-04-66	D&C

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-LPSC-04.12	There is also the following project-specific documentation which will implement the requirements for health and safety of the workers and the public, and for environmental protection, during the site preparation and construction phase.	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00179 (CEAA Registry Doc# 989)	LPSC-04-66	D&C
IRC-LPSC-04.13	Various other programs, such as the mine and waste-rock related water management program and the hazardous waste management program, will be part of the environmental mitigation plans and safe work plans which are required by the Construction Management Plan (DGR-PLAN-00180-1001).	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00179 (CEAA Registry Doc# 989)	LPSC-04-66	D&C
IRC-LPSC-04.14	Overall effectiveness of the NWMO DGR Design and Construction Phase Management System will be internally reviewed and assessed annually at the NWMO senior management level.	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00179 (CEAA Registry Doc# 989)	LPSC-04-66	D&C
IRC-LPSC-04.15	Personnel working at the Bruce nuclear site will be further restricted from access to the DGR Project through the project's restricted access. Visitors to the project site will be escorted in accordance with procedure.	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00179 (CEAA Registry Doc# 989)	LPSC-04-66	D&C
IRC-LPSC-04.16	During the site preparation and construction phase of the DGR project, management systems will be in place to manage environmental releases within regulatory requirements and minimize effects on public health and safety.	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00179 (CEAA Registry Doc# 989)	LPSC-04-66	D&C
IRC-LPSC-04.17	The NWMO will be OPG's EPCM contractor for the site preparation and construction phase of the DGR project and will act as 'constructor' under the Ontario Health and Safety Act (OSHA). As such, the NWMO's DGR Project Health and Safety Management (HSM) Plan (DGR-PLAN-08962-1001, enclosed with this response) identifies a number of health and safety drivers, such as legal requirements, corporate policies, codes and standards, work activities and associated risk, etc; and defines a number of project commitments and goals to be used as criteria against which the abovementioned project objective will be measured. This plan will be reviewed and modified as necessary, prior to start of the site preparation and construction activities.	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00179 (CEAA Registry Doc# 989)	LPSC-04-66	D&C

Table B.2: Commitments in OPG Responses to JRP LPSC Information Requests				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-LPSC-04.18	The target values for the performance indicators indicated in Table 1 will be reviewed and modified, as necessary, prior to the start of site preparation and construction activities.	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00179 (CEAA Registry Doc# 989)	LPSC-04-66	D&C
IRC-LPSC-04.19	Additional and on-going risk/hazard assessments will be conducted prior to the commencement of work on the DGR Project site and includes all stakeholders who can be affected by the activities being conducted (i.e. client, constructor, contractors, etc.).	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00179 (CEAA Registry Doc# 989)	LPSC-04-66	D&C
IRC-LPSC-04.20	During the site preparation and construction phase of the DGR project, organizational structures and procedures will be in place to achieve a high level of worker health and safety.	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00179 (CEAA Registry Doc# 989)	LPSC-04-66	D&C
IRC-LPSC-04.21	Environmental management of the DGR Project will be done in accordance with NWMO's DGR Project Environmental Management Plan (EMP) (DGR-PLAN-07002-1001, enclosed with this response) which is part of the NWMO's ISO 14001 (Environmental Management System Requirements) registered environmental management system. This plan will be reviewed and modified as necessary, prior to start of the site preparation and construction activities.	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00179 (CEAA Registry Doc# 989)	LPSC-04-66	D&C
IRC-LPSC-04.22	As with the HSM Plan, the EMP identifies a number of environmental drivers, including commitments made in the regulatory submission, and defines a number of project commitments and goals to be used. Commitments will be expanded to include any future commitments made during the DGR's regulatory approval process.	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00179 (CEAA Registry Doc# 989)	LPSC-04-66	D&C
IRC-LPSC-04.23	The target values for the performance indicators indicated in Table 2 will be reviewed and modified, as necessary, prior to the start of site preparation and construction activities, based on industry benchmarks for similar activities.	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00179 (CEAA Registry Doc# 989)	LPSC-04-66	D&C

Table B.2: Commitments in OPG Responses to JRP LPSC Information Requests				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-LPSC-04.24	During the site preparation and construction phase of the DGR project, organizational structures and procedures will be in place to achieve a high level of environmental protection.	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00179 (CEAA Registry Doc# 989)	LPSC-04-66	D&C
IRC-LPSC-04.25	It should be noted that the enclosed ERP was developed to support the 2011 and 2012 field investigation programs and will need to be revised in advance of site preparation and construction to reflect the expanded scope of activities and the associated emergency situations.	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00179 (CEAA Registry Doc# 989)	LPSC-04-66	D&C
IRC-LPSC-04.26	In advance of excavation activities, mine rescue capabilities will be established and the ERP will be updated accordingly. The DGR is not considered to be a mine under the OHSA; however, trained and qualified mine rescue teams will be provided as required by the Mines and Mining Plants Regulations (Reg 854). As required by the Mine Rescue program, a second team is required at site before the first team can go underground and a third team must be on-route. Back-up will be provided by nearby mine rescue teams through mutual assistance agreements.	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00179 (CEAA Registry Doc# 989)	LPSC-04-66	D&C
IRC-LPSC-04.27	The project will implement a number of risk assessment and risk management activities prior to work being initiated in the field. These will include: • hazard identification workshops (HAZIDs), • quantitative risk analysis (QRAs), • HAZOPs, • design and engineering reviews, • constructability reviews, and • maintainability and operability reviews. The DGR Project management team will regularly review existing health, safety and environmental protection procedures.	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00179 (CEAA Registry Doc# 989)	LPSC-04-66	D&C
IRC-LPSC-04.28	All changes to design, construction method or field procedure will be made in conjunction with risk analysis of the planned change.	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00179 (CEAA Registry Doc# 989)	LPSC-04-66	D&C

Table B.2: Commitments in OPG Responses to JRP LPSC Information Requests				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**IR No.**	
IRC-LPSC-04.29	Risk analysis may deem that a change in the design or work procedure is required: • If a design change is to be affected the formal change management process will be followed. • If a procedural change is required the procedure will be revised and circulated for review. Once reviewed and accepted the new procedure will be communicated to those that use it and the required instruction on the new procedure will be provided.	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00179 (CEAA Registry Doc# 989)	LPSC-04-66	D&C
IRC-LPSC-04.30	There will also be the environmental compliance approvals required to be obtained from the Ministry of Environment for releases due to the conduct of site preparation and construction activities, prior to commencement of these activities.	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00179 (CEAA Registry Doc# 989)	LPSC-04-66	D&C
IRC-LPSC-04.31	Detailed plans and other documents will be submitted to the CNSC by the licensee (OPG) as required by the Licence Conditions Handbook to ensure compliance with the licence.	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00179 (CEAA Registry Doc# 989)	LPSC-04-66	All
IRC-LPSC-04.32	During the site preparation and construction phase of the DGR project, the environment, and the health and safety of the public and the workers will be protected through identification and assessment of all project risks and hazards, detailed evaluation of adverse effects, provision of mitigation measures for malfunctions and accidents and a robust management system to govern and direct all project work to be conducted in compliance with established quality standards and regulatory requirements.	OPG Letter dated Apr.30, 2013, 00216-CORR-00531-00179 (CEAA Registry Doc# 989)	LPSC-04-66	D&C

Table B.3: Commitments in OPG Statements Made during the JRP Technical Information Sessions

Table B.3: Commitments in OPG Statements Made during the JRP Technical Information Sessions (TIS)				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		JRP TIS Transcript #	**TIS Date**	
TIS-01-01	*OPG presentation and responses pertaining to design details of DGR are essentially commitments.*	CEAA Registry Doc# 702	July 18, 2012	D&C
TIS-02-01	They *[workers]* will be having dosimeters with them. So they would -- they would be adequately protected by the use of the fact that they had appropriate equipment with them.	CEAA Registry Doc# 770 p.217	October 11, 2012	OPS DEC
TIS-03-01	This *[newletters]* went out to every resident within Bruce County, also those that are on the designated mailing list and we keep a couple thousand to distribute at our community outreach events. We also will continue to work in this area as we go forward.	CEAA Registry Doc# 921 p.38	March 20, 2013	All
TIS-03-02	With respect to engagement strategies going forward, we will continue at a very intense level to provide two-way opportunities for dialogue with our local communities and stakeholders and interested parties both within and without Bruce County. We will continue to use a multitude of communication tools and we will also continue to offer tours and briefings of this Western Waste Management Facility and the DGR site. With respect to engagement strategies going forward with the site preparation and construction and operation phases, we'll continue to provide those very important opportunities for discussion with the public where they have opportunities to ask questions, provide comments. Some of those opportunities will focus on follow-up monitoring program and any undertakings from the regulatory approvals process. We will also engage those living within close proximity of the Bruce Nuclear site regarding any anticipated effects on the environment and health and safety of persons and advise them of upcoming events such as the beginning of blasting during construction or if there was going to be any large equipment on the roads during harvesting.	CEAA Registry Doc# 921 p.38	March 20, 2013	D&C OPS
TIS-03-03	The EA follow-up monitoring program makes provision for annual reporting of the results of the EA follow-up monitoring program, and for revisions to that plan on an annual basis, addressing results of the monitoring plan, addressing feedback from the communities or members of the communities and groups. There is also provision for public attitude research, which will be done during the site preparation and construction phase of the project.	CEAA Registry Doc# 921 p.46	March 20, 2013	D&C

Table B.3: Commitments in OPG Statements Made during the JRP Technical Information Sessions (TIS)				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		JRP TIS Transcript #	**TIS Date**	
TIS-03-04	I would like to move over to social issues. In terms of making sure that that information is available, OPG will continue to work with local municipalities, health and safety providers, local police, emergency medical services and other officials to mitigate any effects related to the DGR workforce.	CEAA Registry Doc# 921 p.167	March 20, 2013	All
TIS-03-05	That the measures that were outlined for the stigma on page 37 have been and will continue to be -- sorry, on Slide 74 *[of OPG's presentation to JRP, Socio-economic Technical Information Session]* -- have been and will continue to be provided or addressed on an ongoing basis. If I can go through, a publication disclosure of facility performance and monitoring results are occurring currently and will continue to occur.	CEAA Registry Doc# 921 p.176	March 20, 2013	All
TIS-03-06	OPG, over the past -- OPG, and the -- through the NWMO, for the past ten years or so, has been involved in quite a few community engagements as previous slides have shown. This is just the beginning of our public affairs outreach and two-way communication with the community at large. As we continue along on this process, we will be continuing our engagement processes, be they informing the public and listening to the public, and using the information taken from the public to help us better inform and -- better inform the project as we move ahead.	CEAA Registry Doc# 921 p.182	March 20, 2013	All
TIS-03-07	OPG is governed by its procedures and procurement plans and processes. We also are governed by the Ontario Government's procurement directives that we need to follow. So as long as we keep within that and as long as we make sure that our contracting process is open and transparent -- and we will keep in mind that there are local opportunities and that people can provide to that site; we will do that within those bounds.	CEAA Registry Doc# 921 p.203	March 20, 2013	All
TIS-03-08	OPG does plan to implement mitigation for the view of the waste rock pile, including berms and tree planting. Those measures could start prior to the completion of site preparation and construction, and are planned to start early so that they have the opportunity to provide that mitigation.	CEAA Registry Doc# 921 p.216	March 20, 2013	D&C
TIS-03-09	For noise mitigation, all equipment operating during the construction phase and site preparation and construction will be equipped with silencers or mufflers. Additional noise mitigation that is available, natural vegetation on the berms, which will provide noise screening. There are alternative to back-up alarms if they are deemed acceptable to the Ministry of Labour, and alteration of waste rock pile configuration. Blasting is not expected to be a noise concern. Blasting occurs only three	CEAA Registry Doc# 921 p.224	March 20, 2013	D&C

Table B.3: Commitments in OPG Statements Made during the JRP Technical Information Sessions (TIS)				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		JRP TIS Transcript #	**TIS Date**	
	times a day for a short duration. Near surface blasting will only occur during daylight hours and blasting would not measurably affect the overall L_{eq}.			
TIS-03-10	MS BARKER: […] OPG does propose traffic-mitigation measures. The specific details of the traffic-management plan have not been worked out at this point. MEMBER ARCHIBALD: I assume that these will be in consultation with the municipal and/or provincial officials then when they come forward? MS BARKER: […] They will certainly be in consultation with municipal authorities. The EIS does not really anticipate any effects on provincial roads.	CEAA Registry Doc# 921 p.247	March 20, 2013	D&C

Table B.4: Commitments in OPG Responses to Undertakings from JRP Technical Information Sessions

Table B.4: Commitments in OPG Responses to Undertakings from JRP Technical Information Sessions				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		OPG Letter	**Undertaking No.**	
UT-01-01	Data from the shallow groundwater wells currently being installed will serve as an additional verification of the piezometric surface and will be used to refine the understanding of groundwater flow as required once installation is complete and surveyed elevations are available.	OPG Letter dated Aug.15, 2012, 00216-CORR-00531-00132 (CEAA Registry Doc# 692)	TIS 6	D&C
UT-01-02	Drill and blast patterns will be adjusted, as required, so as to minimize the extent of rock damage due to blasting.	OPG Letter dated Aug.31, 2012, 00216-CORR-00531-00136 (CEAA Registry Doc# 715)	TIS 8	D&C OPS
UT-01-03	... the use of a roadheader in the DGR has not been discounted for lateral development, and if successful roadheader application for DGR conditions is demonstrated, it will be reconsidered as part of the construction contractor procurement process.	OPG Letter dated Aug.31, 2012, 00216-CORR-00531-00136 (CEAA Registry Doc# 715)	TIS 8	D&C
UT-02-04	During the site preparation and construction phase, there will be no activity that would disturb Stream C sediments and few activities that would disturb sediments in the existing ditches.	OPG Letter dated Dec.20, 2012, 00216-CORR-00531-00154 (CEAA Registry Doc# 842)	MTIS 1	D&C
UT-02-05	Dust will be minimized by dust suppression measures as described in the Atmospheric Environment TSD as well as OPG's response to Information Request (IR) EIS-04-137.	OPG Letter dated Dec.20, 2012, 00216-CORR-00531-00154 (CEAA Registry Doc# 842)	MTIS 1	D&C
UT-02-06	During operation of the DGR Project, waste packages will be transferred from the Western Waste Management Facility (WWMF) to the DGR via a crossing of the railway ditches.	OPG Letter dated Dec.20, 2012, 00216-CORR-00531-00154 (CEAA Registry Doc# 842)	MTIS 2	OPS
UT-02-07	However, vegetation within the DGR Project site will be cleared during the site preparation and construction phase.	OPG Letter dated Dec.20, 2012, 00216-CORR-00531-00154 (CEAA Registry Doc# 842)	MTIS 2	D&C

Table B.5: Commitments in OPG Statements Made during the Public Hearing from September 16 – October 11, 2013 and October 28-30, 2013

Table B.5: Commitments in OPG Statements Made during the DGR Public Hearing				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		DGR Hearing Transcript #	**Hearing Date**	
H-01-01	The third category of waste is used nuclear fuel. It will not be put in the *[L&ILW]* DGR. *(repeated a few times during the hearing)*	Volume 1 (CEAA Registry Doc# 1567) p.41	September 16, 2013	OPS
H-01-02	To optimize the available capacity, OPG plans to implement waste processing initiatives for - to further reduce waste volumes that would be placed in the DGR.	Volume 1 (CEAA Registry Doc# 1567) p.45	September 16, 2013	OPS
H-01-03	If a need to expand the DGR is identified to accommodate additional low and intermediate level waste, the required regulatory processes at the time will be followed *(repeated a few times during the hearing)*	Volume 1 (CEAA Registry Doc# 1567) p.45	September 16, 2013	OPS
H-01-04	Nuclear waste materials will not be handled under this *[SP/C]* licence.	Volume 1 (CEAA Registry Doc# 1567) p.48	September 16, 2013	D&C
H-01-05	The licence requested from the CNSC is just one of many regulatory authorizations that OPG will seek. For example, authorizations will also be needed from provincial Ministries such as the Ontario Minister of Environment. *(repeated a few times during the hearing)*	Volume 1 (CEAA Registry Doc# 1567) p.48	September 16, 2013	D&C
H-01-06	OPG will ensure the provision for the safety of persons, the environment and security *(repeated a few times during the hearing)*	Volume 1 (CEAA Registry Doc# 1567) p.48	September 16, 2013	D&C OPS DEC
H-01-07	Extensive public communication and engagement has been a cornerstone of the DGR project. Many forms of communication and two-way public dialogue have taken place over the course of the project. These were largely held within the regional study area, as no effects were predicted beyond that place. Input from the public was considered in evaluating alternative locations for the DGR within the Bruce nuclear site to keep it as far as possible from the lake. Public concerns have also influenced the noise and dust mitigation strategies. Recently, interest in the project has been voiced in the State of Michigan. Accordingly, OPG has met with government officials and NGOs to explain the nature of the project and address concerns. OPG has been and is committed to ongoing, fulsome and meaningful engagement in all future DGR-related activities.	Volume 1 (CEAA Registry Doc# 1567) p.51	September 16, 2013	D&C OPS DEC

Table B.5: Commitments in OPG Statements Made during the DGR Public Hearing				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		DGR Hearing Transcript #	**Hearing Date**	
H-01-08	As a stated policy, OPG is committed to building long-term, mutually beneficial working relations with First Nation and Métis communities proximate to our present and future operations. Our efforts on the DGR project have and continue to reflect our policy. *(repeated a few times during the hearing)*	Volume 1 (CEAA Registry Doc# 1567) p.51	September 16, 2013	D&C OPS DEC
H-01-09	The monitoring program will include four groups of monitoring activities as listed here (EA Follow-up; Environmental management plan; Radiological regulatory; Conventional regulatory). The objective is to ensure that the predictions made in the EA are confirmed.	Volume 1 (CEAA Registry Doc# 1567) p.55	September 16, 2013	D&C OPS
H-01-10	And so we fully anticipate now that we would be placing decommissioning waste……Should that decision finally take place once we have decommissioning waste being generated or waste arising from decommissioning, we will go through the regulatory approval to allow placement in the DGR if there is capacity. *(repeated a few times during the hearing)*	Volume 1 (CEAA Registry Doc# 1567) p.76	September 16, 2013	OPS
H-01-11	…we do commit that we want to continue dialogue with the Saugeen Ojibway Nation and ensure that they understand the impacts of our operations as well as any future projects that we may have.	Volume 1 (CEAA Registry Doc# 1567) p.84	September 16, 2013	OPS
H-01-12	….at this time we believe that we will be placing the decommissioning waste in our repository should it meet the waste acceptance criteria. If we need to, we will follow the regulatory process that's applicable if expansion is required for that facility.	Volume 1 (CEAA Registry Doc# 1567) p.144	September 16, 2013	OPS
H-02-01	The detailed design will consider the evolution of certain technologies with respect to excavation, one being, as we've stated, that we have evaluated road header mechanical excavation techniques as well as drill and blast. There have been continuing advancements in both of those areas and we'll consider those as we go forward.	Volume 2 (CEAA Registry Doc# 1571) p.33	September 17, 2013	D&C
H-03-01	…a geoscientific verification plan has been developed for implementation should future subsurface DGR development be approved The purpose of the plan is to confirm or verify subsurface conditions as described in the DGR geosynthesis and supporting documents and to support future DGR engineering design decisions.	Volume 3 (CEAA Registry Doc# 1575) p.28	September 18, 2013	D&C

Table B.5: Commitments in OPG Statements Made during the DGR Public Hearing				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		DGR Hearing Transcript #	**Hearing Date**	
H-03-02	MEMBER MUECKE: Well I guess -- this is my concern about timelines. By the time you get to that material and start excavating it, it is a bit late to start thinking about testing it because it's already -- the pile will be at the surface within a very short period of time. And so time becomes essential and that's why I was asking about the timelines. Does it take months or years before you get a generation of acid runoff? DR. PAKTUNC: Well, I mean we don't have the information at the moment but what I guess sort of -- the information that was available indicates that the potential for the waste rock to produce acidity is variable available and then there is no information with respect to the timing of rock drainage. MEMBER MUECKE: Thank you. THE CHAIRPERSON: OPG, did you have something to add? MS. SWAMI: Laurie Swami, for the record. I wonder, if it would be helpful we could describe a little bit of our program and I would ask Derek Wilson to come to the table to provide a bit more information. MEMBER MUECKE: That would be great. MR. WILSON: Derek Wilson, for the record. As Dr. Muecke has said, the current plans, specifically for the shales, is to isolate the shale pile and have it located in such a way where we have ditching around the pile to collect the runoff from that pile in its direction at our storm water management system and into the pond.	Volume 3 (CEAA Registry Doc# 1575) p.110	September 18, 2013	D&C
H-03-03	NRCan has made recommendations for geomechanical modelling and additional testing, which we plan to implement as part of our construction phase. If there is found that the leachate does exist and is of a concentration that we have to address, we can isolate the shale pile and implement mitigation, as required.	Volume 3 (CEAA Registry Doc# 1575) p.110	September 18, 2013	D&C
H-03-04	Our expectation is that the shale will be moved into position for use in berms and site grading. So we don't anticipate that the pile will be in existence for a long period of time, which is why, again, in the event that we have the pile in place for in excess of a year we will then cap the pile.	Volume 3 (CEAA Registry Doc# 1575) p.111	September 18, 2013	D&C
H-03-05	Most of the leachate that will be generated at the base of the waste rockpile in fact will be collected in the drains around that engineered environment.	Volume 3 (CEAA Registry Doc# 1575) p.112	September 18, 2013	D&C

Table B.5: Commitments in OPG Statements Made during the DGR Public Hearing				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		DGR Hearing Transcript #	**Hearing Date**	
H-04-01	The shafts will be carefully excavated to minimize damage to the surrounding rock. It'll also be carefully closed to ensure a good seal which will include removal of the shaft concrete liner and the adjacent layer of damaged rock at closure.	Volume 4 (CEAA Registry Doc# 1581) p.30	September 19, 2013	D&C DEC
H-04-02	The shafts will be sealed at closure with about 500 metres of durable, low-permeable materials. A bentonite clay-rich mixture will be the primary seal. It will be supported by a layer of asphalt to provide an independent seal barrier and by concrete plugs at specific locations.	Volume 4 (CEAA Registry Doc# 1581) p.30	September 19, 2013	DEC
H-04-03	The top 180 metres of shaft will be closed with engineered fill and concrete. The properties of this fill will be selected to be consistent with the surrounding permeable rock. The base area around the shafts will be backfilled with an extensive concrete monolith for long-term support.	Volume 4 (CEAA Registry Doc# 1581) p.31	September 19, 2013	DEC
H-04-04	The properties of the shaft damage rock zone and of the shaft seal materials will be measured during construction, as identified in our geo-scientific verification plan. This will verify parameters used in the present Design and Safety Assessment. Further studies would support optimization of the shaft seal when we actually close the repository several decades from now.	Volume 4 (CEAA Registry Doc# 1581) p.34	September 19, 2013	D&C DEC
H-04-05	….we will have funding available to manage all of our waste.	Volume 4 (CEAA Registry Doc# 1581) p.102	September 19, 2013	D&C OPS DEC
H-04-06	The intent is, yes, to test in other lithologies, the geoscientific verification plan […] the intent is -- there already is some experimental lab-based program which is including groundwater representative of the shales and the limestones, for example. And then the intent is as we get underground to include shale testing.	Volume 4 (CEAA Registry Doc# 1581) p.280	September 19, 2013	D&C
H-04-07	The geoscientific verification plan is intended to look at eight different horizons as the shaft goes down. As the data becomes available we'll make a decision so that we can reliably predict the EDZ and if that requires us to do it longer, that will happen.	Volume 4 (CEAA Registry Doc# 1581) p.284	September 19, 2013	D&C
H-05-01	MEMBER ARCHIBALD: […] Can OPG confirm that the concrete material that are planned for the use in the proposed DGR, will these incorporate superplasticizers? DR. GIERSZEWSKI: […] So our current plan is to use a low heat, high performance concrete which does use superplasticisers, yes.	Volume 5 (CEAA Registry Doc# 1588) p.148	September 20, 2013	D&C OPS

Table B.5: Commitments in OPG Statements Made during the DGR Public Hearing				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		DGR Hearing Transcript #	**Hearing Date**	
H-05-02	MEMBER ARCHIBALD: And those materials would be those on the floor of the emplacement rooms, the transfer tunnels and the barrier units? DR. GIERSZEWSKI: The plan, I believe, is for the regular floor and construction to be of regular concrete.	Volume 5 (CEAA Registry Doc# 1588) p.148	September 20, 2013	D&C
H-05-03	However, we continue to do waste minimization and we will continue to do that on a regular basis.	Volume 5 (CEAA Registry Doc# 1588) p.231	September 20, 2013	D&C OPS
H-06-01	However, the monitoring program clearly indicates that we'll monitor for radon immediately when we get down in the construction. That will verify that the rock is not a big source of radon. And then, secondly, during operation, we would periodically again, just make sure that we're well within the radon criteria.	Volume 6 (CEAA Registry Doc# 1593) p.31	September 21, 2013	D&C OPS
H-06-02	… the emplacement rooms will not be backfilled. Most of the access tunnels will not be backfilled. There will be access tunnel closure walls where a certain portion will be isolated with concrete which could be considered in that one selected area, backfill, and of course the shafts will be fully backfilled.	Volume 6 (CEAA Registry Doc# 1593) p.34	September 21, 2013	D&C OPS
H-06-03	… we will always be following exposure levels. OPG has a very long standard practice for worker safety and we will be following all international and CSA standards for exposures to workers and the public.	Volume 6 (CEAA Registry Doc# 1593) p.39	September 21, 2013	D&C OPS DEC
H-07-01	First, the waste package arrives at the DGR at the waste package receiving building, by either flatbed truck or forklift. The waste packages will already have been checked on retrieval from storage at Western Waste Management Facility; however, a further check is provided at the DGR. In particular, the completeness of the documents is verified on arrival, the waste package dose rate is confirmed, and the package condition is visually assessed.	Volume 7 (CEAA Registry Doc# 1599) p.21	September 23, 2013	OPS
H-07-02	Most of the records that, in safety assessment and design, are maintained in the NWMO right now because we're leading that effort, but […] all of those records will be transferred at the appropriate time to OPG.	Volume 7 (CEAA Registry Doc# 1599) p.31	September 23, 2013	D&C
H-07-03	We do have an ongoing waste characterization program, and we will update the reference inventory in advance of any future major safety assessment.	Volume 7 (CEAA Registry Doc# 1599) p.65	September 23, 2013	D&C OPS

Table B.5: Commitments in OPG Statements Made during the DGR Public Hearing				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		DGR Hearing Transcript #	**Hearing Date**	
H-07-04	Now, there are some needs for monitoring or some plans for monitoring of the atmosphere behind the wall. […] … for the first panel, as we close it, […] there's an opportunity there to observe it over several decades before we get to the point of closure. And that's a long time to begin -- to see what the degradation is going on there. If there's any release of radionuclides. If there's any changes in the gas composition in the repository. If there's accumulation of water. And so we envisage that through the closure plugs. There could be essentially sampling ports that would allow you to periodically take out gas samples or water samples and then do an analysis of that to then get a measure as to what is going on in the panels behind that. And again because the panels are not backfilled, they are well connected. Also, there's a slight slope to the repository. So again, water would tend to go down towards where the closure plugs are. So again, that would be an indication of -- if there is water coming into the repository through the panel, through the closed panel.	Volume 7 (CEAA Registry Doc# 1599) p.217-218	September 23, 2013	OPS
H-08-01	There will be worker health and safety management plan in place. We'll follow best practices from the construction and mining industry, including following the applicable codes and standards. We will use experienced contractors.	Volume 8 (CEAA Registry Doc# 1606) p.12	September 24, 2013	D&C OPS
H-08-02	The impact of accidents during the site preparation and construction phase vary. The potential impact on workers depends on the accident and how close the worker is to the accident. Conventional construction accident impacts on workers could be minor or severe. No impact on the public is expected from accidents during this phase. This reflects that these are conventional, industrial activities and the nearest public location is the Bruce nuclear site boundary about 1 kilometre distant from the DGR. The nearest normally- occupied public locations are further distant. Contingency plans will be in place for accidents during this phase. This includes emergency response plans, in particular, for fires and spills. Another example is the placement of portable refuge stations underground near the working face which will provide protection for the workers in case there is an underground accident and they cannot immediately travel to surface.	Volume 8 (CEAA Registry Doc# 1606) p.12-13	September 24, 2013	D&C

Table B.5: Commitments in OPG Statements Made during the DGR Public Hearing				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		DGR Hearing Transcript #	**Hearing Date**	
H-08-03	There will be management systems in place to respond to accidents. Examples of contingency plans for operations phase accidents are listed here. These include emergency response teams, including training and mine rescue; onsite emergency response equipment; underground refuge stations; emergency response plans such as for fires, and spill management plans.	Volume 8 (CEAA Registry Doc# 1606) p.18	September 24, 2013	D&C OPS
H-08-04	… the shaft collar will be placed higher than the flood level calculated for an extreme storm event, referred to as a probable maximum precipitation.	Volume 8 (CEAA Registry Doc# 1606) p.20	September 24, 2013	D&C
H-08-05	Finally, there will be a contingency plan for a massive earthquake that results in damage to the pumps and shaft liners. In this case a pump-in piping will be installed down a shaft from surface to provide emergency pumping.	Volume 8 (CEAA Registry Doc# 1606) p.21	September 24, 2013	D&C
H-08-06	The third phase of the DGR is decommissioning. This activity would occur many decades from now and would be subject to a new licensing process. However, it has been qualitatively estimated, or assessed. During this phase, the hazards are primarily conventional mining and construction hazards. The wastes will have been isolated in their rooms behind access tunnel closure walls. Radioactivity will be monitored and will be present to some extent as residual contamination on some structures, but is not expected to be significant. Contingency plans during this phase are similar to those during construction […].	Volume 8 (CEAA Registry Doc# 1606) p.22	September 24, 2013	DEC
H-08-07	The potential impacts of accidents during decommissioning are also similar to those during construction. In particular, there is a conventional safety hazard to workers that will be managed through following best practices and proper equipment.	Volume 8 (CEAA Registry Doc# 1606) p.22	September 24, 2013	DEC
H-08-08	Workers will be protected through a management system which includes design procedures, equipment, and training.	Volume 8 (CEAA Registry Doc# 1606) p.23	September 24, 2013	D&C OPS DEC

Table B.5: Commitments in OPG Statements Made during the DGR Public Hearing				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		DGR Hearing Transcript #	**Hearing Date**	
H-08-09	The construction phase and the risk associated with the construction phase are conventional in nature, specifically for the surface activities. For the underground activities we've already discussed the -- previously, I believe, Dr. Archibald mentioned of mine rescue and we'll have mine rescue capabilities within the construction, the operating or the implementation team.	Volume 8 (CEAA Registry Doc# 1606) p.31	September 24, 2013	D&C OPS
H-08-10	NWMO will have an environmental management system in place. That management system will include a spills response capability. There will be spills response kits placed in appropriate locations on the site where there's high potential for spills to occur.	Volume 8 (CEAA Registry Doc# 1606) p.38	September 24, 2013	D&C
H-08-11	THE CHAIRPERSON: May I have an answer to the second question though which is actually quite common in the mining industry which is an unintended, unexpected large volume release of highly saline mine water? DR. GIERSZEWSKI: […] So I'll just make a quick comment and then perhaps Derek Wilson may have some additional comments. So the -- I presume the mine water would be from the sumps in the mine. We do collect water there. We're not expecting this to be a very wet facility, so there is a pump system. But perhaps Derek can -- can give more information about the nature of that system and then speak in that context to the possibility of a -- of a spill. MR. WILSON: […] We will be monitoring the inflows of water, specifically into the shaft bottom sumps which would be the -- the primary source of any saline water. We don't anticipate that there's going to be any significant inflows into the repository for the reasons mentioned over the last several days around the -- the low permeability of the rock. The sumps will be monitored. The shaft bottom sumps then are discharged into a main sump at the main repository level which is also sampled and then that water is discharged up to surface into the storm water system which is monitored again and then into the storm water management pond.	Volume 8 (CEAA Registry Doc# 1606) p.39	September 24, 2013	D&C OPS
H-09-01	… the non-road equipment used during the site preparation and construction phase will meet Tier 2 emissions standards at a minimum and will be maintained in good working order.	Volume 9 (CEAA Registry Doc# 1611) p.119	September 25, 2013	D&C

Table B.5: Commitments in OPG Statements Made during the DGR Public Hearing				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		DGR Hearing Transcript #	**Hearing Date**	
H-09-02	OPG would need to apply to the Ontario Minister of Environment for an environmental compliance approval or ECA. The MOE has specific defined guidelines for making such an application. OPG will follow these guidelines. In addition, the specific sources and activities for which the ECA will be required will be agreed with with the MOE prior to filing any applications. *(repeated a few times during the hearing)*	Volume 9 (CEAA Registry Doc# 1611) p.120	September 25, 2013	D&C
H-09-03	The assessment of noise incorporated in design mitigation measures, including on-site equipment, will include appropriate noise control measures and be maintained in good working order, and location of construction areas near to the project footprint to minimize vehicle travel distance. *(repeated a few times during the hearing)*	Volume 9 (CEAA Registry Doc# 1611) p.161	September 25, 2013	D&C OPS
H-09-04	In addition, near surface blasting will be conducted only during daytime hours and will not be conducted on Sundays. *(repeated a few times during the hearing)*	Volume 9 (CEAA Registry Doc# 1611) p.161	September 25, 2013	D&C
H-09-05	Noise monitoring will be carried out at two of the closest dwellings and at the closest campsite within Inverhuron Provincial Park.	Volume 9 (CEAA Registry Doc# 1611) p.162	September 25, 2013	D&C
H-09-06	Site preparation, construction, and operation of the DGR facility will be compliant with the Municipality of Kincardine noise bylaw. *(repeated a few times during the hearing)*	Volume 9 (CEAA Registry Doc# 1611) p.163	September 25, 2013	D&C OPS
H-09-07	As we would move into a contractual arrangement with the supplier, there would be restrictions placed in that contract that the contractor would be required to meet. We would expect an environmental plan which would address any of the limits that are identified through this process so that we would ensure that those would be met.	Volume 9 (CEAA Registry Doc# 1611) p.174	September 25, 2013	D&C
H-09-08	Implementation of a silencer is very effective at attenuating noise from fans. It's been done countless times and will be done if needed.	Volume 9 (CEAA Registry Doc# 1611) p.178	September 25, 2013	D&C OPS

Table B.5: Commitments in OPG Statements Made during the DGR Public Hearing				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		DGR Hearing Transcript #	**Hearing Date**	
H-09-09	THE CHAIRPERSON: [...] how about the people at R2? Would they be disturbed at night? MR. da SILVA: [...] I do not believe they will be disturbed. This happens during the quietest hours at night, typically 4 o'clock in the morning when people are indoors. The level still ensures that World Health Organization limits at -- outside of the bedroom window are met. The indoor noise level will not exceed 30 dBA.	Volume 9 (CEAA Registry Doc# 1611) p.184	September 25, 2013	D&C OPS
H-10-01	OPG will maintain an awareness of newly listed at-risk species that may potentially use the site, and include them in management programs.	Volume 10 (CEAA Registry Doc# 1618) p.16	September 26, 2013	D&C OPS DEC
H-10-02	The DGR Project has been designed to avoid effects where possible. These are considered in design mitigation measures. The Terrestrial Specific Mitigation Program also includes construction of perimeter fencing around the edges of the cleared areas to prevent further loss of species in the adjacent habitat during construction activities; inclusion of an amphibian and reptile exclusionary fence prior to construction in areas of the DGR Project adjacent to wetland habitat; implementation of an employee awareness program; identification undertaken by a qualified biologist of amphibian and reptile species of concern that may be present in Wetted Area 3 prior to construction. If specimens are found, a program will be designed and implemented to relocate them to suitable habitat outside the site.	Volume 10 (CEAA Registry Doc# 1618) p.16-17	September 26, 2013	D&C
H-10-03	Follow-up monitoring is focused on plant species communities and wildlife habitat use adjacent to areas which have been cleared. It will be conducted following the site preparation and construction phase.	Volume 10 (CEAA Registry Doc# 1618) p.17	September 26, 2013	OPS
H-10-04	The DGR project has been designed such that it will avoid Wetland #4. So there will be a buffer area of at least 30 metres between any of the project facilities activities and the wetland.	Volume 10 (CEAA Registry Doc# 1618) p.26	September 26, 2013	D&C
H-10-05	There will be also a fence. There will be a perimeter fence around the project site, which again protects – separates the wetland. And that is one of the areas where the exclusionary fencing will be provided.	Volume 10 (CEAA Registry Doc# 1618) p.26	September 26, 2013	D&C

Table B.5: Commitments in OPG Statements Made during the DGR Public Hearing				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		DGR Hearing Transcript #	**Hearing Date**	
H-12-01	MS. SWAMI: Laurie Swami, for the record. We've talked earlier in this hearing and in other hearings that OPG is looking at a better way of providing information for public use. We recognize that people and interested stakeholders are wanting to see data, so we've already initiated that project and we'll be working with the CNSC to understand the best way to do that in the best format.	Volume 12 (CEAA Registry Doc# 1631) p.273	September 30, 2013	D&C
H-13-01	During construction the competency of the subsurface conditions will be confirmed using standard construction verification methods.	Volume 13 (CEAA Registry Doc# 1646) p.13	October 1, 2013	D&C
H-13-02	In the event that the shale pile is not consumed as part of construction, the stock pile will be capped if not used within one year of placement. The design includes for onsite storage of all limestone excavated during the repository development.	Volume 13 (CEAA Registry Doc# 1646) p.14	October 1, 2013	D&C
H-13-03	The ultimate height of the *[waste rock]* pile will be 15 metres and occupy approximately nine hectares in the DGR project site.	Volume 13 (CEAA Registry Doc# 1646) p.17	October 1, 2013	D&C
H-13-04	Verification of subsurface permeability and continuity will be performed during the preparation of the waste rock management area. Should areas of discontinuity in the till be encountered, natural or synthetic liners will be introduced to protect the groundwater system.	Volume 13 (CEAA Registry Doc# 1646) p.18	October 1, 2013	D&C
H-13-05	Total suspended solids will be managed in the underground sumps prior to discharge to surface. If required, additional treatment for total suspended solids will be implemented at surface prior to discharge into the oil/water separator and then the stormwater system.	Volume 13 (CEAA Registry Doc# 1646) p.19	October 1, 2013	D&C OPS DEC
H-13-06	… water quality will meet criteria established to ensure protection of the environment. *(repeated a few times during the hearing)*	Volume 13 (CEAA Registry Doc# 1646) p.33	October 1, 2013	D&C OPS DEC
H-13-07	This *[pre-treatment of total suspended solids during construction, if needed]* is one of the items that we will have as part of our contracting strategy going into the selection of the shaft sinking contractor and the lateral development contractor to have these contingency options identified.	Volume 13 (CEAA Registry Doc# 1646) p.42	October 1, 2013	D&C

Table B.5: Commitments in OPG Statements Made during the DGR Public Hearing				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		DGR Hearing Transcript #	**Hearing Date**	
H-13-08	And in the event that they do not have one *[readily available system to pre-treat the total suspended solids]*, then the accommodations will be for a contingency option to have one sourced and available.	Volume 13 (CEAA Registry Doc# 1646) p.43	October 1, 2013	D&C
H-13-09	Should there be a need to upgrade the ditch system and the MacPherson Bay channel, that would be the responsibility of OPG to undertake that work working with Bruce Power and their engineering change control processes.	Volume 13 (CEAA Registry Doc# 1646) p.44	October 1, 2013	D&C
H-13-10	In terms of the other – the runoffs and the leachate, that will be done through our monitoring program or our waste rock – of our waste rock itself in terms of characterization of the waste rock so we would have a good indication of what's going into the ditch system.	Volume 13 (CEAA Registry Doc# 1646) p.59	October 1, 2013	D&C
H-13-11	With respect to […] the Guelph and the Salina A1 formations, those, although they may be stockpiled for a very short period of time, our expectation is – and to try and minimize on the handling of waste rock specifically in the shaft excavations, we expect that those rocks will be coming from the underground and deposited directly into their final resting place as part of the overall site grading plan.	Volume 13 (CEAA Registry Doc# 1646) p.69	October 1, 2013	D&C
H-13-12	As we discussed earlier, we're going to be bringing the shaft collars up to about 188 metres above mean sea level, and there's about 40,000 cubic metres of material that's required to just elevate that main shaft complex to allow for proper grading and proper drainage throughout the system. So our expectation is, is that as the rock is being excavated, we're not going to be putting it on trucks for the most part. It will be almost a load and carry to its final position in and around the shaft station. So in that case, then, we'll be covering it with either cover for parking areas, road structures or we'll be putting overburden over top of it. So it won't be exposed in that sense.	Volume 13 (CEAA Registry Doc# 1646) p.69	October 1, 2013	D&C
H-13-13	So the provision for capping of the shales has been made such that if we cannot consume – and the shales being the last lens, being the barrier lens between the repository and the upper stratigraphic members –- that's why we expect if there is anything remaining it would be shales, and that's why we've planned to cap it accordingly.	Volume 13 (CEAA Registry Doc# 1646) p.77	October 1, 2013	D&C
H-13-14	If we have total suspended solids that we want to treat prior to introduction into that oil water separator, then we will do so.	Volume 13 (CEAA Registry Doc# 1646) p.78	October 1, 2013	D&C OPS

Table B.5: Commitments in OPG Statements Made during the DGR Public Hearing				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		DGR Hearing Transcript #	**Hearing Date**	
H-13-15	THE CHAIRPERSON: [...] But I will ask OPG to reiterate what they've said in terms of characterization of the rock from the culvert. MR. WILSON: [...] As has been presented and discussed in some detail today, there has been characterization of the expected waste rock piles on the DGR Project site through the phases of construction and through the development of the repository. As there has been also discussion, there is – there will be ongoing monitoring of the waste rock and characterization of the waste rock as we progress forward through the various phases of the project in consultation with CNSC and Environment Canada as appropriate.	Volume 13 (CEAA Registry Doc# 1646) p.216	October 1, 2013	D&C
H-14-01	… it [*DGR Project*] will take process water and drinking water from the Bruce site distribution system.	Volume 14 (CEAA Registry Doc# 1653) p.9	October 2, 2013	D&C OPS DEC
H-14-02	OPG will be reviewing the design basis of the stormwater management pond, recognizing the likelihood of large storm events and potential consequences and will submit the results of this review to the CNSC and will increase the size of the stormwater management pond, if appropriate, as part of finalizing the DGR design.	Volume 14 (CEAA Registry Doc# 1653) p.10	October 2, 2013	D&C
H-14-03	The rock mass in which the repository will be constructed is geomechanically stable, and shallow groundwater resources will be protected.	Volume 14 (CEAA Registry Doc# 1653) p.15	October 2, 2013	D&C
H-14-04	… OPG will provide an opportunity for government officials and the public to go underground to see firsthand the integrity of the DGR host rock prior to the DGR going operational.	Volume 14 (CEAA Registry Doc# 1653) p.15	October 2, 2013	D&C
H-14-05	… the DGR will not impact the health of anyone using Lake Huron for drinking water either in the short term or the long term. *(repeated a few times during the hearing)*	Volume 14 (CEAA Registry Doc# 1653) p.17	October 2, 2013	All
H-15-01	… the greenhouse gas emissions from the DGR project will not measurably affect climate.	Volume 15 (CEAA Registry Doc# 1658) p.19	October 3, 2013	D&C OPS
H-15-02	…there's a commitment now that the PMP event would be remodelled after the design was near completion to confirm that the collar heights are at the appropriate level and so on.	Volume 15 (CEAA Registry Doc# 1658) p.118	October 3, 2013	D&C

Table B.5: Commitments in OPG Statements Made during the DGR Public Hearing				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		DGR Hearing Transcript #	**Hearing Date**	
H-16-01	…as part of the decommissioning licence application, the Proponent will have to put forward a plan to decommission the facility, close the shafts, and then what would happen post-closure. So the details would come out at that time.	Volume 16 (CEAA Registry Doc# 1664) p.106	October 4, 2013	OPS
H-16-02	We have specific procedures and policies so that all of our workers understand our focus on safe operation. That's something that we do train our staff to be able to do. And we will continue to do that as part of this DGR project. Once the construction phase is finished, it will move into operations by nuclear operators within OPG. So that will continue as part of this ongoing project.	Volume 16 (CEAA Registry Doc# 1664) p.195	October 4, 2013	D&C OPS
H-17-01	Monitoring of some aspects such as groundwater will be carried throughout the project as required.	Volume 17 (CEAA Registry Doc# 1671) p.10	October 5, 2013	D&C OPS
H-17-02	EA follow-up monitoring will be incorporated into the overall DGR project environmental management plan under the environmental management system.	Volume 17 (CEAA Registry Doc# 1671) p.10	October 5, 2013	D&C OPS
H-17-03	OPG plans to report the results of EA follow-up monitoring annually to the Canadian Nuclear Safety Commission. OPG will ensure that the annual report is also made publicly available. *(repeated a few times during the hearing)* A review of the results of the monitoring program will be completed in conjunction with preparation of the annual report. An evaluation of the core components of the program will be conducted as necessary. This will provide an additional opportunity for adaptive management of the program.	Volume 17 (CEAA Registry Doc# 1671) p.10	October 5, 2013	D&C OPS
H-17-04	The DGR EA follow-up monitoring program also includes a description of various contingency plans which would be implemented to address unforeseen events if mitigation measures were not effective or to correct exceedances.	Volume 17 (CEAA Registry Doc# 1671) p.11	October 5, 2013	D&C OPS
H-17-05	The EA follow-up monitoring activities proposed are comprehensive and will verify both predictions of effect and effectiveness of mitigation. *(repeated a few times during the hearing)*	Volume 17 (CEAA Registry Doc# 1671) p.11	October 5, 2013	D&C OPS
H-17-06	Based on this conceptual plan, detailed monitoring plans will be developed for monitoring activities should OPG receive a site preparation and construction license.	Volume 17 (CEAA Registry Doc# 1671) p.12	October 5, 2013	D&C

Table B.5: Commitments in OPG Statements Made during the DGR Public Hearing				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		DGR Hearing Transcript #	**Hearing Date**	
H-17-07	OPG is proposing to monitor air quality indicators, including NOx and particulate matter at a point near the Bruce nuclear site fence line. In addition, OPG will enter into discussions with regulators to identify the potential for monitoring acrolein at this location.	Volume 17 (CEAA Registry Doc# 1671) p.12	October 5, 2013	D&C OPS
H-17-08	Noise levels will be monitored at the three receptor locations used in the assessment: one Inverhuron Provincial Park, one on Albert Road in Inverhuron and one at Baie du Doré.	Volume 17 (CEAA Registry Doc# 1671) p.13	October 5, 2013	D&C OPS
H-17-09	… blast vibration will also be monitored to confirm that DFO guideline levels are met.	Volume 17 (CEAA Registry Doc# 1671) p.13	October 5, 2013	D&C
H-17-10	Should the project proceed, the final monitoring plan will be submitted to the CNSC […]	Volume 17 (CEAA Registry Doc# 1671) p.13	October 5, 2013	D&C
H-17-11	Although no effects on the northeast marsh were predicted, water levels in the march will be monitored prior to site preparation and construction to establish baseline, and after the shaft liner has been installed monitoring will continue to verify that there are no effects. If an impact is observed, mitigation will be considered and monitoring will continue until the marsh has been deemed to have satisfactorily recovered.	Volume 17 (CEAA Registry Doc# 1671) p.14	October 5, 2013	D&C
H-17-12	Underground water will be monitored prior to being released into the surface drainage system. A second monitoring location, at a location to be determined based on final design of the stormwater system, will also be in place. Waste water characteristics will be monitored to provide an indication of the quality of runoff from the pile. Three monitoring points will be sufficient to provide an early indication of elevated contaminants of concern that would warrant implementation of contingency measures.	Volume 17 (CEAA Registry Doc# 1671) p.15	October 5, 2013	D&C OPS
H-17-13	OPG plans to monitor groundwater quality and flow to verify the prediction that there are no adverse effects on groundwater as a result of the waste rock management area, the stormwater management pond or the shaft excavation and dewatering.	Volume 17 (CEAA Registry Doc# 1671) p.16	October 5, 2013	D&C OPS

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		DGR Hearing Transcript #	**Hearing Date**	
H-17-14	OPG plans to monitor plant species communities and habitat use in areas adjacent to the cleared areas to verify that the effects are not significant.	Volume 17 (CEAA Registry Doc# 1671) p.17	October 5, 2013	D&C OPS
H-17-15	Aquatic habitat monitoring will include visual inspections conducted to verify regrowth of riparian vegetation in disturbed areas, to verify bank stability and to verify the presence of crayfish chimneys in the project area.	Volume 17 (CEAA Registry Doc# 1671) p.17	October 5, 2013	D&C OPS
H-17-16	Exclusionary fencing designed and installed in areas near aquatic habitat to prevent reptiles and amphibians from entering the DGR project site will also be inspected to confirm effectiveness.	Volume 17 (CEAA Registry Doc# 1671) p.17	October 5, 2013	D&C OPS
H-17-17	Vehicle wildlife strikes on the site will be monitored to verify no effect on wildlife populations.	Volume 17 (CEAA Registry Doc# 1671) p.17	October 5, 2013	D&C OPS
H-17-18	Air quality and noise monitoring described earlier will be used to verify predicted effects levels.	Volume 17 (CEAA Registry Doc# 1671) p.18	October 5, 2013	D&C OPS
H-17-19	OPG will also continue to engage with members of the public and monitor feedback and complaints to maintain an awareness of the nature and extent of concerns from the public.	Volume 17 (CEAA Registry Doc# 1671) p.18	October 5, 2013	D&C OPS
H-17-20	The results of public attitude research conducted during construction will be compared with the results of previous public attitude research. During the operations phase, public attitude research will be integrated with that for OPG's operations at the site.	Volume 17 (CEAA Registry Doc# 1671) p.18	October 5, 2013	D&C OPS
H-17-21	The DGR project is not predicted to result in residual adverse effects to non-human biota valued ecosystem components from radioactive releases. This prediction is based on assumptions which the monitoring will verify.	Volume 17 (CEAA Registry Doc# 1671) p.18	October 5, 2013	D&C OPS
H-17-22	…monitoring of groundwater quality will verify that construction has not affected the tritium plume from OPG's Western Waste Management Facility.	Volume 17 (CEAA Registry Doc# 1671) p.18	October 5, 2013	D&C OPS
H-17-23	…underground air quality monitoring will confirm that radon levels in the underground are low.	Volume 17 (CEAA Registry Doc# 1671) p.19	October 5, 2013	D&C OPS

Table B.5: Commitments in OPG Statements Made during the DGR Public Hearing				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		DGR Hearing Transcript #	**Hearing Date**	
H-17-24	A radionuclide monitoring program is also proposed during the operations phase of the DGR project. The comprehensive radiological monitoring program will be implemented as described in the preliminary safety report.	Volume 17 (CEAA Registry Doc# 1671) p.19	October 5, 2013	D&C OPS
H-17-25	In conjunction with preparing the *[EA follow-up monitoring]* annual report, a review of the program will be completed. Results of this review and any audits that may have been completed will be used to identify the need for improvements or changes to the program. Where necessary, changes will be made to optimize the effectiveness of the program, enhance mitigation measures or discontinuing monitoring where appropriate.	Volume 17 (CEAA Registry Doc# 1671) p.21	October 5, 2013	D&C OPS
H-17-26	OPG is committed to continue its engagement with members of the public, elected representatives, members of First Nations and Métis communities, and interested stakeholders during the site preparation, construction and operations phases of the DGR project, including discussing the results of follow-up monitoring.	Volume 17 (CEAA Registry Doc# 1671) p.22	October 5, 2013	D&C OPS
H-17-27	OPG is committed to sharing information on performance and nuclear operations through open and transparent communication, as guided by the nuclear public information disclosure and transparency protocol which sets forth OPG's commitment to high standards of information, disclosure, and reporting.	Volume 17 (CEAA Registry Doc# 1671) p.23	October 5, 2013	D&C OPS
H-17-28	The sampling program will be developed based on a data quality objectives process, which is a planning tool for data collection activities.	Volume 17 (CEAA Registry Doc# 1671) p.24	October 5, 2013	D&C OPS DEC
H-17-29	The planned duration of the monitoring activities will be specified in the detailed monitoring plans.	Volume 17 (CEAA Registry Doc# 1671) p.25	October 5, 2013	D&C OPS DEC
H-17-30	OPG's current plan is to establish, for example, noise monitoring – noise monitors at the locations that were used in preparing the Environmental Impact Statement. Those monitoring locations are located between the DGR project and the nearest receptor in three different areas.	Volume 17 (CEAA Registry Doc# 1671) p.45	October 5, 2013	D&C
H-17-31	OPG has committed to engaging members of the community in discussing monitoring results and certainly engaging nearby residents in understanding the locations, the monitoring requirements and how it's done could be a part of that program.	Volume 17 (CEAA Registry Doc# 1671) p.45	October 5, 2013	D&C

Table B.5: Commitments in OPG Statements Made during the DGR Public Hearing				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		DGR Hearing Transcript #	**Hearing Date**	
H-17-32	The air and noise monitoring programs will be part of the program that's used in monitoring those *[socio-economic]* effects on members of the public.	Volume 17 (CEAA Registry Doc# 1671) p.46	October 5, 2013	D&C
H-17-33	Public attitude research will also be used. The socio-economic impact assessment didn't predict any other adverse socio-economic effects. However, the public attitude research will be conducted in the same area as it was conducted previously in 2003 and 2009. That would be within the regional study area.	Volume 17 (CEAA Registry Doc# 1671) p.46	October 5, 2013	D&C
H-17-34	We are maintaining that *[ISO 14001]* registration and the environmental management plan is a continuation – it's an evolving document and is currently in its current form as a registered plan and will be further developed as construction – site preparation and construction would be implemented.	Volume 17 (CEAA Registry Doc# 1671) p.48	October 5, 2013	D&C
H-17-35	With respect to the repository of information, […] OPG are currently looking at ways to make that data available and accessible but the data for the project itself will be maintained at the project [*site*] and with the project.	Volume 17 (CEAA Registry Doc# 1671) p.52	October 5, 2013	D&C OPS DEC
H-17-36	Those records will be maintained with the project. We identify certain records as life of project records and they will be transferred from NWMO to OPG […] to their system at the end of the construction period.	Volume 17 (CEAA Registry Doc# 1671) p.53	October 5, 2013	D&C
H-17-37	…[*At*] the decommissioning phase, the records will – the records that are important, to be kept after decommissioning will be identified and they will be transferred to a long—term medium, most likely ISO standard permanent paper.	Volume 17 (CEAA Registry Doc# 1671) p.54	October 5, 2013	DEC
H-17-38	…the Proponent will propose, as part of the decommissioning licence, a range of *[postclosure]* monitoring activities that are appropriate for that stage of the DGR project.	Volume 17 (CEAA Registry Doc# 1671) p.86	October 5, 2013	DEC
H-17-39	…we're looking at *[air and noise]* source reduction through the detailed design…	Volume 17 (CEAA Registry Doc# 1671) p.91	October 5, 2013	D&C
H-17-40	… we will have the ongoing processes to ensure that the emission standards are being met on the equipment, the equipment is well maintained.	Volume 17 (CEAA Registry Doc# 1671) p.91	October 5, 2013	D&C

Table B.5: Commitments in OPG Statements Made during the DGR Public Hearing				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		DGR Hearing Transcript #	**Hearing Date**	
H-17-41	During this project, there will be staff available 24/7 on the facility site, whether they are working on the 12-hour day shift or whether they're in the control room monitoring conditions.	Volume 17 (CEAA Registry Doc# 1671) p.109	October 5, 2013	D&C OPS
H-17-42	…the contract will be very clear, that they *[NWMO]* will meet OPG's policies and expectations with respect to this project as it is an OPG project; it's not an NWMO project.	Volume 17 (CEAA Registry Doc# 1671) p.120	October 5, 2013	D&C
H-17-43	THE CHAIRPERSON: We just want to know whether going forward there is an explicit intent to make every effort to include citizens that may not have been included in the past. MR. KEVIN POWERS: [..] Yes, we will do that.	Volume 17 (CEAA Registry Doc# 1671) p.123	October 5, 2013	D&C OPS
H-17-44	The final design will be submitted as part of a license condition for this license that we have in front of you [*JRP*].	Volume 17 (CEAA Registry Doc# 1671) p.131	October 5, 2013	D&C
H-17-45	We have provided a broad range of engagement and consultation opportunities to residents and organizations in affected communities, other interested organizations and relevant government agencies. We have responded to concerns raised about aspects of the project in a timely manner. These objectives collectively allowed us to help work at sustaining a willing host community and we will continue to do so throughout the life of the project.	Volume 17 (CEAA Registry Doc# 1671) p.214	October 5, 2013	D&C OPS DEC
H-17-46	We remain committed to talking to that next person and gathering that input and working to ensure that we maintain the community support that we have achieved over the last decade. We are committed to ongoing meaningful engagement and dialogue with the public during the site preparation and construction and operation phases.	Volume 17 (CEAA Registry Doc# 1671) p.231	October 5, 2013	D&C OPS
H-17-47	We plan to continue using the communications tools we have been and using any tools that may be available in the future. We will go back and work on some of the ideas we've heard […], including a community advisory committee, established based on work with the community to keep representatives of the community engaged in the ongoing operations and decisions around the project. *(repeated a few times during the hearing)*	Volume 17 (CEAA Registry Doc# 1671) p.231	October 5, 2013	D&C OPS

Table B.5: Commitments in OPG Statements Made during the DGR Public Hearing				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		DGR Hearing Transcript #	**Hearing Date**	
H-17-48	…we have seen an uptake in interest in this project and we have been and will continue to develop products to help them *[Michigan stakeholders]* better understand the project because we can't be on the ground everywhere where there is interest in the project.	Volume 17 (CEAA Registry Doc# 1671) p.241	October 5, 2013	D&C OPS
H-17-49	Through the EIS, we have committed to ongoing public attitude research.	Volume 17 (CEAA Registry Doc# 1671) p.251	October 5, 2013	D&C OPS
H-18-01	… OPG […] has and will continue to engage with other First Nations and Métis communities who have expressed an interest in the project. OPG meets with these communities to offer briefings on the DGR Project, to provide results of the EA and to offer tours of our waste facility.	Volume 18 (CEAA Registry Doc# 1675) p.18	October 7, 2013	D&C OPS
H-18-02	Concerns regarding a used fuel DGR within their traditional territory and how SON's views regarding the *[L&ILW]* DGR project would be respected by OPG in its decision making. OPG is committed to an ongoing discussion and dialogue with SON for this last list of concerns.	Volume 18 (CEAA Registry Doc# 1675) p.19	October 7, 2013	All
H-18-03	We do however note that a potential positive effect from the project is that of employment and contracting opportunities. In this area OPG will continue to work with SON, HSM and then MNO to identify how we may best maximize these opportunities. *(repeated a few times during the hearing)*	Volume 18 (CEAA Registry Doc# 1675) p.23	October 7, 2013	D&C OPS DEC
H-18-04	OPG is committed also to building long-term mutually beneficial working relationships with First Nations and Métis communities.	Volume 18 (CEAA Registry Doc# 1675) p.27	October 7, 2013	All
H-18-05	MR. HEIL: […] So I mean the visits have been somewhat infrequent. In the two -- you know, maybe once or twice a year. So definitely we know well ahead of time before the SON proposed the visit, so we can make arrangements if necessary to mitigate. Thank you. MEMBER MUECKE: May this include stopping dumping for a period of time on the waste rock pile and measures like that? MR. HEIL: Joe Heil, for the record. We'll adjust as necessary.	Volume 18 (CEAA Registry Doc# 1675) p.52	October 7, 2013	D&C

Table B.5: Commitments in OPG Statements Made during the DGR Public Hearing				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		DGR Hearing Transcript #	**Hearing Date**	
H-18-06	We are doing two things with the HSM. One is really talking about the DGR project going forward. And the second piece is really doing or putting down in writing and words our commitments, again, on our policy with HSM. So […] it does include those same commitments in there. It's not as explicit as those words but our goal is the long-term relationship with the Historical Saugeen Métis.	Volume 18 (CEAA Registry Doc# 1675) p.118	October 7, 2013	D&C OPS
H-18-07	… we are now in a process of establishing with the MNO a process to have a dialogue. And as part of that dialogue, the intangible issues definitely will be discussed as part of that.	Volume 18 (CEAA Registry Doc# 1675) p.137	October 7, 2013	D&C OPS
H-18-08	… we're establishing processes now for the ongoing discussion on these things [*baseline and monitoring*], and if baseline is part of that, certainly we're committed to having that dialogue.	Volume 18 (CEAA Registry Doc# 1675) p.151	October 7, 2013	D&C OPS
H-18-09	THE CHAIRPERSON: […] would OPG include consideration of the Grey-Bruce Medical Officer of Health's report on community health status to supplement the baseline information? MS. REPASO-SUBANG: […] Yes, we will.	Volume 18 (CEAA Registry Doc# 1675) p.171	October 7, 2013	D&C
H-18-10	The project will run under the established health and safety management program. We're not going to have individual programs for various contractors. They fit into that program and they'll augment it with their own procedures and their own work-specific activities, but it falls under that program.	Volume 18 (CEAA Registry Doc# 1675) p.213	October 7, 2013	D&C
H-18-11	… the way that we *[OPG]* would approach this again is to have open and transparent dialogue. That would include seasonal residents. I think we've heard very clearly through the course of this hearing that they perhaps didn't receive information as much as they would have liked to and in the form that they would have liked to have received it. And of course, that's something that we have to take into consideration in our plans going forward on how we establish any type of ongoing dialogue that meets their needs and we will look forward to doing that over the next phase of this project.	Volume 18 (CEAA Registry Doc# 1675) p.220	October 7, 2013	All

Table B.5: Commitments in OPG Statements Made during the DGR Public Hearing				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		DGR Hearing Transcript #	**Hearing Date**	
H-19-01	We talked this morning and in previous days about establishing a Community Advisory Committee where issues and concerns could be raised so that they could be discussed and resolved to the extent possible. I guess I would also add I'm not sure I was complete this morning, you asked me what we would also do going forward, and I'd give an example of one particular element of our communication and consultation program that we haven't discussed before. But in fact when Mr. Bourgeois raised concerns about the geoscience for this project, Mr. Jensen actually attended at his home to provide him a briefing so that he could be apprised of what the project was all about. That's the kind of thing that we'd be doing in future.	Volume 19 (CEAA Registry Doc# 1685) p.178	October 8, 2013	D&C OPS
H-20-01	…further public attitude research will be conducted to inform the proposed Community Advisory Committee on public attitudes at the time. We will seek the CAC's advice regarding survey design and implementation issues such as timing.	Volume 20 (CEAA Registry Doc# 1695) p.11	October 9, 2013	D&C
H-20-02	OPG will review available information respecting rental housing, lodging and tourist accommodations during the construction period in collaboration with planning and economic development officials.	Volume 20 (CEAA Registry Doc# 1695) p.24	October 9, 2013	D&C
H-20-03	This plan [*property protection plan in the DGR Hosting Agreement*] will be operationalized prior to the licence to operate.	Volume 20 (CEAA Registry Doc# 1695) p.24	October 9, 2013	D&C
H-20-04	…the proposed Community Advisory Committee will also provide a forum by which issues can be discussed collaboratively and resolved.	Volume 20 (CEAA Registry Doc# 1695) p.47	October 9, 2013	D&C OPS
H-20-05	THE CHAIRPERSON: [...] would you require additional public attitude baseline prior to the initiation of the actual formal follow-up monitoring program? MR. WLODARCZYK: [...] As indicated in our presentation, we feel that it would be appropriate for OPG to provide information to inform the CAC of current conditions as they begin their work with OPG going forward. THE CHAIRPERSON: So if the CAC advised OPG that they thought an update would be required prior to site preparation and construction activities, you would take that under advisement I assume? MR. WLODARCZYK: [...] Yes, actually the commitment is to do that work to inform the CAC and ask the CAC to advise on the design and, for example, the timing.	Volume 20 (CEAA Registry Doc# 1695) p.48	October 9, 2013	D&C

Table B.5: Commitments in OPG Statements Made during the DGR Public Hearing				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		DGR Hearing Transcript #	**Hearing Date**	
H-20-06	OPG has committed to - for example, for reviewing available information and collaboration with planners and account, development officials regarding the housing and temporary accommodation issues. That's one example of another method of looking at statistical data from - and building that - getting the available data on those issues and reviewing it.	Volume 20 (CEAA Registry Doc# 1695) p.49	October 9, 2013	D&C
H-20-07	… we're also working with Kincardine on the Lake Huron Learning Centre. We provide funding to the centre and have been working with the municipality on helping them develop learning programs that are in line with the - not only the needs of the community - but needs of the industry moving forward. And so we're currently working with them on and RFP to develop - to develop those programs moving forward.	Volume 20 (CEAA Registry Doc# 1695) p.57	October 9, 2013	D&C OPS
H-20-08	… it will be part of the program to make sure those Chambers of Commerce *[Kincardine and other Chambers of Commerce in the local area]*, which are the local businesses, are aware of the opportunities, not just the year ahead, but multiple years ahead on what's coming up.	Volume 20 (CEAA Registry Doc# 1695) p.62	October 9, 2013	D&C
H-20-09	In addition to our efforts with the public through newsletters and briefings, et cetera, we have met with the media, worked with the media to describe to them the difference between our project and the NWMO's APM project. That is, include briefings with the media as well as in our ongoing interviews with the media we try and distinguish it. So we've made our best efforts and we will continue to make our best efforts on this.	Volume 20 (CEAA Registry Doc# 1695) p.224	October 9, 2013	All
H-23-01	OPG will meet all regulatory requirements associated with being a licensee, including the following: One, ensure that the presence of a sufficient number of qualified workers to carry on the licence activity safely. Two, train the workers to carry out the licensed activity in accordance with the Act, the Regulations and the licence. Three, take all reasonable precautions to protect the environment and the health and safety of persons. And four, take all reasonable precautions to control the release of hazardous substances within the site and into the environment as a result of the licensed activity.	Volume 23 (CEAA Registry Doc# 1736) p.160	October 28, 2013	D&C OPS DEC

Table B.5: Commitments in OPG Statements Made during the DGR Public Hearing				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		DGR Hearing Transcript #	**Hearing Date**	
H-23-02	In addition, OPG will meet the specific conditions in the licence, both general and safety and control area conditions, as outlined in more detail in the Licence Conditions Handbook.	Volume 23 (CEAA Registry Doc# 1736) p.161	October 28, 2013	D&C
H-23-03	If the requested licence for the DGR Project is granted, OPG as the licence holder will: One, ensure that qualified and experienced contractors are retained to prepare the site and construct the DGR. Two, perform inspections and audits to ensure that contractors are following the project management system and that construction is being done compliant with the design specifications and safety assessment assumptions. Three, implement corrective actions whenever results are below specifications and continuously adapt and improve; and four, report any events to the CNSC, as required by licence conditions.	Volume 23 (CEAA Registry Doc# 1736) p.161	October 28, 2013	D&C
H-23-04	Of significance to the DGR Project, OPG will also continue with waste characterization activities for waste stored at the WWMF.	Volume 23 (CEAA Registry Doc# 1736) p.163	October 28, 2013	D&C OPS
H-23-05	… we will continually evaluate the results from the geoscientific verification program during the construction phase for implications to the safety case and specifically incorporate new information in the operating licence application.	Volume 23 (CEAA Registry Doc# 1736) p.166	October 28, 2013	D&C
H-23-06	If a licence to prepare the site and construct the DGR is granted, OPG will conduct a number of activities prior to the commencement of associated field work. Among these activities, OPG will develop issued for construction design prior to the commencement of corresponding field activities.	Volume 23 (CEAA Registry Doc# 1736) p.168	October 28, 2013	D&C
H-23-07	OPG will revise and obtain CNSC approval of the EA follow-up monitoring program and initiate additional baseline monitoring. *(repeated a few times during the hearing)* OPG will develop additional governance as identified in the Licence Conditions Handbook. OPG will train project personnel to ensure they are knowledgeable on safety and environmental protection measures and other applicable elements of the management system.	Volume 23 (CEAA Registry Doc# 1736) p.168	October 28, 2013	D&C

Table B.5: Commitments in OPG Statements Made during the DGR Public Hearing				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		DGR Hearing Transcript #	**Hearing Date**	
H-23-08	…activity-specific requirements such as common core training will be required for those performing work underground.	Volume 23 (CEAA Registry Doc# 1736) p.169	October 28, 2013	D&C
H-23-09	OPG will also provide the required financial guarantee.	Volume 23 (CEAA Registry Doc# 1736) p.169	October 28, 2013	All
H-23-10	During the construction phase of the DGR Project, the following field activities will occur. Shaft collars will be constructed; headframes and other surface buildings will be constructed; systems required to support construction will be commissioned; sinking of the main shaft and ventilation shaft will occur. The geoscientific verification plan and other geotechnical investigations will be performed, and lateral development at the repository horizon will be completed, which includes the development of 31 emplacement rooms and associated access tunnels, ventilation tunnels and other underground openings sufficient for 200,000 cubic metres of low and intermediate level waste. Also during the construction phase, OPG will be conducting activities and developing materials to support its future application for a licence to operate the DGR.	Volume 23 (CEAA Registry Doc# 1736) p.170	October 28, 2013	D&C
H-23-11	…OPG will prepare a final safety report reflecting the as constructed DGR design, updated geotechnical and geoscientific information and updated waste inventory and waste characterization information, develop operating procedures for the DGR, document system commissioning, document the results of the training program for operations, conduct and submit final ALARA and conventional safety assessments, and provide a revised financial guarantee for the operations phase.	Volume 23 (CEAA Registry Doc# 1736) p.170	October 28, 2013	OPS
H-23-12	OPG will ensure that all of the applicable requirements of these Acts *[Occupational Health and Safety, Environmental Protection and the Ontario Water Resources Act]* will be met. There are other requirements that OPG will implement for the project, as they are applicable to project activities, such as the mining regulations.	Volume 23 (CEAA Registry Doc# 1736) p.171	October 28, 2013	All

Table B.5: Commitments in OPG Statements Made during the DGR Public Hearing				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		DGR Hearing Transcript #	**Hearing Date**	
H-23-13	In addition to a CNSC licence for site preparation and construction, OPG will require a number of federal, provincial, and municipal permits and authorizations for the site preparation and construction phase of the DGR Project. Among these permits and authorizations are the following; environmental compliance approvals from the Ontario Ministry of the Environment for air emissions and noise emissions and for industrial sewage works prior to constructing the stormwater management system; the submission of a notice of project to the Ontario Ministry of Labour prior to the start of construction activities; a licence from NRCan for transportation and storage of explosives during construction; a permit from Bruce County for tree cutting and, as committed, a permit from the Saugeen Valley Conservation Authority prior to the construction of the crossing over the south railway ditch which will allow for future transfer of wastes from the Western Waste Management Facility to the DGR.	Volume 23 (CEAA Registry Doc# 1736) p.172	October 28, 2013	D&C
H-23-14	OPG will maintain a comprehensive public and First Nations and Métis information and engagement program throughout future phases of the DGR Project. This program will be consistent with the CNSC Regulatory Document 99.3, Public Information and Disclosure. As per the regulations, this will include keeping the public informed about the status of the project, the results of follow-up monitoring activities as well as seeking input on DGR's project-related activities going forward. Public engagement activities will include stakeholder briefings, maintaining DGR Web sites, issuing newsletters, maintaining contact telephone numbers and email address, and holding open houses at key milestones. However, OPG plans to go above and beyond the guidelines set out in 99.3. It sets out the minimum requirements for public disclosure.	Volume 23 (CEAA Registry Doc# 1736) p.172-173	October 28, 2013	D&C OPS DEC
H-23-15	To that end, we plan to build on our existing communications and consultation program to increase the opportunities for two-way dialogue.	Volume 23 (CEAA Registry Doc# 1736) p.173	October 28, 2013	D&C OPS
H-23-16	[…] OPG will comply with all applicable federal, provincial and municipal regulatory requirements for licensing, permits and authorizations for the DGR facility. *(repeated a few times during the hearing)*	Volume 23 (CEAA Registry Doc# 1736) p.174	October 28, 2013	All

Table B.5: Commitments in OPG Statements Made during the DGR Public Hearing				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		DGR Hearing Transcript #	**Hearing Date**	
H-23-17	We are committed to ensure that all work and contractors working on site preparation and construction of the DGR facility will be in full compliance with the licence requirements of the Nuclear Safety and Control Act, other applicable Acts and all associated regulations.	Volume 23 (CEAA Registry Doc# 1736) p.174	October 28, 2013	D&C
H-23-18	OPG will ensure that all safety and control measures identified in the licence are implemented.	Volume 23 (CEAA Registry Doc# 1736) p.175	October 28, 2013	D&C
H-23-19	With respect to the sufficient numbers of qualified workers, it is our intention that we will solicit contractor support that have the trained and qualified personnel to undertake the work that is being performed. It is not the expectation that the project will train on common core, that individuals will come properly certified, trained and training records will be maintained as part of that.	Volume 23 (CEAA Registry Doc# 1736) p.176	October 28, 2013	D&C
H-23-20	Mine rescue capabilities is going to be through the construction phase in integrated approach between OPG, NWMO, contractors.	Volume 23 (CEAA Registry Doc# 1736) p.177	October 28, 2013	D&C
H-23-21	[…] it will be a combination through the construction phase of project staff, as well as contractors, as well as the potential for Bruce Power ERT support as well.	Volume 23 (CEAA Registry Doc# 1736) p.177	October 28, 2013	D&C
H-23-22	So the issue for construction phasing is that those design elements will be completed in advance of the physical activity being undertaken on the site.	Volume 23 (CEAA Registry Doc# 1736) p.187	October 28, 2013	D&C
H-23-23	… the waste rock management area will be prepared in such a way that provides for a foundation in the in situ tills, to ensure that we don't have connectivity into the groundwater system. And as we've stated previously, if there is areas within that area that do not have the sufficient till lens that we anticipate there, that we would put in a synthetic or a secondary liner system in for the pile. It's graded such that the water coming from the storm -- the waste rock management area is directed into the stormwater ditch system and then directed into the stormwater management pond.	Volume 23 (CEAA Registry Doc# 1736) p.207	October 28, 2013	D&C
H-24-01	…we will adapt the noise monitoring to the activities such that we'd be able to understand the impacts of changes in that construction.	Volume 24 (CEAA Registry Doc# 1738) p.155	October 29, 2013	D&C

Table B.5: Commitments in OPG Statements Made during the DGR Public Hearing				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		DGR Hearing Transcript #	**Hearing Date**	
H-24-02	OPG's environmental monitoring for the DGR Project will include three types of monitoring as addressed in this presentation; environmental baseline monitoring where identified as needed to support EA follow-up monitoring, EA follow-up monitoring for verifying effects predictions and effectiveness of mitigation measures, and environmental compliance monitoring which is sometimes referred to as environmental protection monitoring. […] Environmental monitoring programs will be in place for the DGR Project for each of the three identified purposes described in the previous slide.	Volume 24 (CEAA Registry Doc# 1738) p.231	October 29, 2013	D&C
H-24-03	Environmental compliance monitoring shown on the right side of the figure *[on slide 3 of OPG's presentation]* will be developed through regulatory processes if the project receives a site preparation and construction licence.	Volume 24 (CEAA Registry Doc# 1738) p.233	October 29, 2013	D&C
H-24-04	… all the monitoring activities for the DGR Project will be integrated with, and implemented through an environmental management system which conforms to the ISO 14001 environmental management system standard.	Volume 24 (CEAA Registry Doc# 1738) p.233	October 29, 2013	D&C OPS DEC
H-24-05	EA follow-up monitoring will be conducted during both site preparation and construction activities, site preparation and construction and operations phases, with monitoring activities starting and ending appropriate to the distinct objectives.	Volume 24 (CEAA Registry Doc# 1738) p.234	October 29, 2013	D&C OPS
H-24-06	Environmental compliance monitoring will be undertaken in the site preparation and construction, and the operations phases.	Volume 24 (CEAA Registry Doc# 1738) p.235	October 29, 2013	D&C OPS
H-24-07	The environmental management plan, and more specifically the environmental management programs within the plan, will be used to track and report on commitments made in the EIS, baseline monitoring, and the EA follow-up monitoring program, as well as environmental compliance requirements.	Volume 24 (CEAA Registry Doc# 1738) p.235	October 29, 2013	D&C OPS
H-24-08	For each identified environmental aspect, the management program includes establishing monitoring objectives, which will include not only regulatory requirements, but thresholds which will provide early warning of the potential for environmental effects and may trigger adaptive management.	Volume 24 (CEAA Registry Doc# 1738) p.236	October 29, 2013	D&C OPS

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		DGR Hearing Transcript #	**Hearing Date**	
H-24-09	A need for additional baseline data was identified in the following areas; first, surface water quality. […] Second, surface and shallow groundwater flow.	Volume 24 (CEAA Registry Doc# 1738) p.238	October 29, 2013	D&C OPS
H-24-10	Additional flow volume information will be used in conjunction with monitoring during site preparation and construction to verify the effects predictions relating changes and flow volumes in these ditches.	Volume 24 (CEAA Registry Doc# 1738) p.238	October 29, 2013	D&C
H-24-11	[…] water levels in the northeast marsh will also be monitored to verify that shaft construction does not result in dewatering of the marsh. This monitoring activity began during the grouting feasibility studies completed in 2012. This information will contribute to baseline information for water levels in the northeast marsh.	Volume 24 (CEAA Registry Doc# 1738) p.239	October 29, 2013	D&C
H-24-12	Shallow groundwater quality monitoring began in 2011. This information will be used in the future to determine whether there's migration of contamination into or away from the DGR site.	Volume 24 (CEAA Registry Doc# 1738) p.240	October 29, 2013	D&C
H-24-13	The waste rock monitoring program committed to in OPG's response to Information Request EIS-04-116, will provide information to confirm mineralogy as well as contaminant levels in rock for each horizon.	Volume 24 (CEAA Registry Doc# 1738) p.244	October 29, 2013	D&C
H-24-14	Other regulatory requirements, such as those identified in the Species at Risk Act, require monitoring of the changes to the status of species which may use habitat in the local study area. These regulatory requirements will be incorporated within the environmental management programs and tracked accordingly.	Volume 24 (CEAA Registry Doc# 1738) p.245	October 29, 2013	D&C OPS
H-24-15	Environmental compliance monitoring requirements identified through these approvals processes, some of which may overlap with the EA follow-up monitoring, will be tracked and reported through the environmental management system.	Volume 24 (CEAA Registry Doc# 1738) p.246	October 29, 2013	D&C
H-24-16	OPG has committed to meeting water quality criteria that are protective of the human and aquatic environment at the point of discharge from the stormwater management pond. *(repeated a few times during the hearing)*	Volume 24 (CEAA Registry Doc# 1738) p.247	October 29, 2013	D&C OPS
H-24-17	OPG will monitor several inputs to the stormwater management pond separately, for example, waste rock runoff, to provide early warning or potential increase to contaminant levels in the pond and provide the opportunity to implement adaptive management measures to avoid adverse effects.	Volume 24 (CEAA Registry Doc# 1738) p.248	October 29, 2013	D&C OPS

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Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		DGR Hearing Transcript #	**Hearing Date**	
H-24-18	OPG will engage the planned community advisory council as it develops the final EA follow-up monitoring program.	Volume 24 (CEAA Registry Doc# 1738) p.252	October 29, 2013	D&C
H-24-19	… sampling plans will be incorporated into the individual programs within the environmental management plan.	Volume 24 (CEAA Registry Doc# 1738) p.252	October 29, 2013	D&C
H-24-20	The revised follow-up monitoring program will be developed based on data quality objectives process.	Volume 24 (CEAA Registry Doc# 1738) p.252	October 29, 2013	D&C
H-24-21	Once the final EA follow-up monitoring program has been accepted by the CNSC, OPG will develop detailed sampling procedures.	Volume 24 (CEAA Registry Doc# 1738) p.252	October 29, 2013	D&C
H-24-22	This information *[distinguish between indicators for which hypothesis testing would be possible versus indicators for which OPG would rely on estimation]* will be provided in the detailed sampling plans after the revised follow-up monitoring program has been accepted by the CNSC.	Volume 24 (CEAA Registry Doc# 1738) p.253	October 29, 2013	D&C
H-24-23	The annual reporting will include a review of the results of the monitoring program and performance of the monitoring program relative to the objectives. It will include, if required, recommendations for actions to change the program to improve effectiveness of the program and may include recommendations to discontinue some monitoring activities if the EA predictions or effectiveness of mitigation measures have been verified.	Volume 24 (CEAA Registry Doc# 1738) p.253	October 29, 2013	D&C
H-24-24	OPG will make the annual report available to the public, including providing opportunities to discuss the results with interested members of the public and First Nation and Métis communities and will present the results to the community advisory council.	Volume 24 (CEAA Registry Doc# 1738) p.254	October 29, 2013	D&C
H-24-25	The environmental management plan will include provision for annual reviews, including audits of the program, results and implementation providing an opportunity to address adaptive management if needed.	Volume 24 (CEAA Registry Doc# 1738) p.254	October 29, 2013	D&C OPS
H-24-26	Several of these experiments will be conducted within a geosciences niche situated within the Cobourg formation at the repository horizon. It is expected that several demonstration experiments would extend into the DGR operating phase.	Volume 24 (CEAA Registry Doc# 1738) p.257	October 29, 2013	D&C OPS

Table B.5: Commitments in OPG Statements Made during the DGR Public Hearing				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		DGR Hearing Transcript #	**Hearing Date**	
H-24-27	A detailed geoscientific verification plan would be developed well in advance of initiating DGR shaft construction. The plan would be provided to the CNSC.	Volume 24 (CEAA Registry Doc# 1738) p.257	October 29, 2013	D&C
H-24-28	… all proposed verification activities would be performed within the main shaft. Proposed investigative methods are described in the geoscientific verification plan framework, although specific details regarding instrumentation, sequencing and means of taking advantage of international experience, particularly that from underground research laboratories, will be developed under a project quality plan […] to assure best scientific practice is followed.	Volume 24 (CEAA Registry Doc# 1738) p.258	October 29, 2013	D&C
H-24-29	If we get results that are better or worse than what was expected, we would test those because an individual data point may, by itself, not be significant. You need to test that in the context of the overall analysis. We'd review the results within the project based on their confidence in that particular data point, the nature of the conclusions, and we would have a regular contact with the CNSC so we'd be sharing the results with them at that point.	Volume 24 (CEAA Registry Doc# 1738) p.261	October 29, 2013	D&C
H-24-30	All - during all this period, we'll be discussing with the CNSC. They will be aware of what's been found. I think results, technical reports would be made […] available as they come out.	Volume 24 (CEAA Registry Doc# 1738) p.263	October 29, 2013	D&C
H-24-31	And as a minimum, as a very minimum, a new safety case would be prepared taking into account all new information as part of - if we think that we still have a basis to proceed for an operating licence.	Volume 24 (CEAA Registry Doc# 1738) p.263	October 29, 2013	D&C
H-24-32	MEMBER MUECKE: […] Every time there's a face exposed, a geologist will actually inspect it, look at their various features and note them and then document it using LiDAR and photography? MR. JENSEN: That would be the intent, yes.	Volume 24 (CEAA Registry Doc# 1738) p.271	October 29, 2013	D&C
H-24-33	OPG does plan to monitor for the effectiveness of the exclusion fencing for turtles and snakes. We would do that through an inspection process, so there would be regular inspections that were included in our environmental management plan program for that particular component of the monitoring program. So it would be documented, the frequency of inspection would be identified and a procedure.	Volume 24 (CEAA Registry Doc# 1738) p.286	October 29, 2013	D&C

Table B.5: Commitments in OPG Statements Made during the DGR Public Hearing				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		DGR Hearing Transcript #	**Hearing Date**	
H-24-34	We will have planned inspections, we will have a protocol and a process from which we would do frequent -- on a frequency basis, go in and look for that. However, we will also have a training program. Because as you say, it's the workers that are out and about that will come across, so we have done training already with respect to species at risk, and species that they may encounter on the job site. And this would be very similar to that. So we would allow them to be able to recognize what they're looking at as well as who to inform and how to go about either the identification, removal and/or protection of those species as they encounter them. So that is part of the environment management program.	Volume 24 (CEAA Registry Doc# 1738) p.287	October 29, 2013	D&C
H-24-35	…with respect to OPG and traditional ecological knowledge, certainly as we receive that knowledge and when the - whether it's the SON or the HSM or MNO, provide that, certainly we'll incorporate it into our operations procedures as they come available.	Volume 24 (CEAA Registry Doc# 1738) p.289	October 29, 2013	OPS
H-24-36	We do plan to monitor TSS. The reason that it's not in this table is our expectation is that TSS is likely to be a regulatory compliance or environmental compliance monitoring parameter and this particular table is focused on EA follow-up monitoring. So it is proposed in the submission document.	Volume 24 (CEAA Registry Doc# 1738) p.291	October 29, 2013	D&C
H-24-37	There is follow-up monitoring proposed to confirm the change in the volume of flow to Stream C […].	Volume 24 (CEAA Registry Doc# 1738) p.295	October 29, 2013	D&C
H-24-38	… prior to operations, we are planning to do some radionuclide water quality monitoring in the […] marsh. But in the short term, we did not include water quality monitoring because there were no effects predicted.	Volume 24 (CEAA Registry Doc# 1738) p.299	October 29, 2013	D&C
H-24-39	There will be some horizons […] in the Guelph formations and so on that have a high saline content. However, those waste rocks are planned to be stored away from the marsh area, more towards the northwest of the project site. And as well, we intend to, for the most part, use those materials into the final grading plan almost immediately from extraction from the underground.	Volume 24 (CEAA Registry Doc# 1738) p.300	October 29, 2013	D&C

Table B.5: Commitments in OPG Statements Made during the DGR Public Hearing				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		DGR Hearing Transcript #	**Hearing Date**	
H-24-40	… we're going to monitor the effectiveness of the exclusion fence around the project site for turtles, and that project staff will be aware of any at risk species turtles.	Volume 24 (CEAA Registry Doc# 1738) p.302	October 29, 2013	D&C
H-25-01	…management plans and processes developed for the project in the areas of quality, environment and health and safety will be adopted by all contractors and sub-contractors performing work on the project site.	Volume 25 (CEAA Registry Doc# 1741) p.29	October 30, 2013	D&C
H-25-02	NWMO has and will further develop project-specific governance for their responsibilities on this project. NWMO will, in turn, extend those requirements to all contractors involved in the site preparation and construction activities.	Volume 25 (CEAA Registry Doc# 1741) p.32	October 30, 2013	D&C
H-25-03	As an additional quality control, OPG will approve all contracts for DGR services or equipment before they are awarded.	Volume 25 (CEAA Registry Doc# 1741) p.35	October 30, 2013	D&C
H-25-04	OPG will continue to confirm that NWMO is implementing the accepted processes that govern these activities. Our requirement for the project management system will flow down to the other contractors hired to undertake the project.	Volume 25 (CEAA Registry Doc# 1741) p.36	October 30, 2013	D&C
H-25-05	Before construction begins OPG will confirm the DGR is being designed in strict accordance with the approved safety case.	Volume 25 (CEAA Registry Doc# 1741) p.36	October 30, 2013	D&C
H-25-06	OPG will also be actively involved during the construction program. The majority of the field inspection and monitoring will be performed by NWMO on our behalf in their role of construction management.	Volume 25 (CEAA Registry Doc# 1741) p.36	October 30, 2013	D&C
H-25-07	OPG will check our checkers. We will confirm the NWMO is properly inspecting the performance of the construction efforts and that both NWMO and the contractors are identifying and correcting any quality or safety concerns that arise during the project. We will confirm that plan, do, check, act is being implemented. We will confirm that our requirements, including legal requirements arising from the licence and applicable statutes and regulations are being met, as well as all performance objectives. We will meet our commitments as we perform the related work activities.	Volume 25 (CEAA Registry Doc# 1741) p.36	October 30, 2013	D&C

Table B.5: Commitments in OPG Statements Made during the DGR Public Hearing				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		DGR Hearing Transcript #	**Hearing Date**	
H-25-08	OPG submitted, prior to the hearings, a listing of all of the commitments we had made to that point. We have made additional commitments since that document was provided, and as discussed earlier, we will update our list to include all of the commitments we have made following completion of the hearings.	Volume 25 (CEAA Registry Doc# 1741) p.37	October 30, 2013	This Report
H-25-09	Occasionally, we have to modify a commitment due to new knowledge or identification of a better approach. When we do so, we advise the CNSC staff before we make the change and receive their concurrence. If the commitment involves another regulatory agency or another stakeholder, we will also obtain their concurrence. As we progress on the project we will also publicly report on the achievement of our commitments.	Volume 25 (CEAA Registry Doc# 1741) p.38	October 30, 2013	D&C OPS DEC
H-25-10	As required by ISO 14001, OPG's environmental management system has an established environmental policy and has processes that deal with planning, implementation, and checking. OPG will also conduct an annual management review of the system to confirm its effectiveness.	Volume 25 (CEAA Registry Doc# 1741) p.38	October 30, 2013	D&C OPS
H-25-11	Protecting the environment through properly implemented mitigation will also be a requirement of this project. […] The mitigation we will implement will ensure the environmental effects are consistent with, or less than, our predictions.	Volume 25 (CEAA Registry Doc# 1741) p.38	October 30, 2013	D&C OPS DEC
H-25-12	[…] we will establish early warning indicators that will alert us to performance issues well in advance of an actual event, which will allow us to implement actions to prevent the event.	Volume 25 (CEAA Registry Doc# 1741) p.39	October 30, 2013	D&C OPS
H-25-13	As we learn from our ongoing monitoring and studies, we will also adapt and make changes to meet new requirements or to implement emerging best practices.	Volume 25 (CEAA Registry Doc# 1741) p.39	October 30, 2013	D&C OPS
H-25-14	[…] there are approximately 90 activity-specific procedures supporting the health, safety, and environment plans that were developed for the 2011-2012 DGR field activities. These supporting documents will be further developed prior to initiation of site preparation and construction activities.	Volume 25 (CEAA Registry Doc# 1741) p.40	October 30, 2013	D&C

Table B.5: Commitments in OPG Statements Made during the DGR Public Hearing				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		DGR Hearing Transcript #	**Hearing Date**	
H-25-15	Upon the development of issued for construction drawings, the project configuration management and field quality and inspection processes will monitor the implementation of design, implement processes for field change, and track the physical design from issued for construction to as built condition.	Volume 25 (CEAA Registry Doc# 1741) p.42	October 30, 2013	D&C
H-25-16	Commitments that are required prior to construction include but are not limited to baseline monitoring, completion of project governance related to construction, for example, the construction management plan, finalizing and approval of the EA follow-up monitoring program and receiving required permits and approvals.	Volume 25 (CEAA Registry Doc# 1741) p.48	October 30, 2013	D&C
H-25-17	Many of the existing commitments include design elements that have or will be incorporated into the final issued for construction design.	Volume 25 (CEAA Registry Doc# 1741) p.49	October 30, 2013	D&C
H-25-18	Commitments that arise from the EA follow-up monitoring program will be incorporated into the environmental management plan and associated work plans and procedures. These may also include requirements as specified by project permits and approvals.	Volume 25 (CEAA Registry Doc# 1741) p.49	October 30, 2013	D&C
H-25-19	OPG plans to establish a community advisory council related to OPG nuclear waste management facilities at the Bruce nuclear site. This community advisory council will be modelled on the community advisory council's currently established for the Pickering and Darlington sites. The purpose of the community advisory council will be to identify community issues and concerns related to OPG nuclear waste facilities, provide advice in identifying and implementing community outreach activities and in conducting future public attitude research and provide advice on communication activities and performance reports to the community on the environmental, economic and social effects of the operation of OPG nuclear waste facilities at the Bruce nuclear site on the community. The community advisory council initiatives will be in addition to public information programs discussed in our presentation on Monday this week.	Volume 25 (CEAA Registry Doc# 1741) p.51	October 30, 2013	D&C
H-25-20	In conclusion, should the Panel accept OPG's conclusion that the project will not have a significant adverse environmental effect and that OPG should be granted the requested licence, we will ensure that the DGR is implemented in a manner that protects the environment, protects the people working on the project and protects the public.	Volume 25 (CEAA Registry Doc# 1741) p.53	October 30, 2013	D&C

Table B.5: Commitments in OPG Statements Made during the DGR Public Hearing				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		DGR Hearing Transcript #	**Hearing Date**	
H-25-21	MEMBER MUECKE: […] is OPG planning to have a protocol for determining the composition of community advisory council in order to have transparency that - how that process evolve - takes place? MS. SWAMI: […] I think the simple answer is yes.	Volume 25 (CEAA Registry Doc# 1741) p.66	October 30, 2013	D&C
H-25-22	MEMBER MUECKE: You mentioned polls as an example. This community, larger community around Kincardine now, after the process we've gone through, if they would like to express their opinion on OPG and its plans, would you be open to polling, a renewed poll, in view of all the new information that has come out? MR. POWERS: [...] We have committed to the follow-up to polling as part of our follow-up monitoring. Public attitude research through our follow-up monitoring. MEMBER MUECKE: Could you be specific at the timelines for that, more specific? MR. POWERS: [...] We have said that we would do some in order to inform our community advisory council as well as some during site preparation and construction.	Volume 25 (CEAA Registry Doc# 1741) p.68	October 30, 2013	D&C
H-25-23	There are several requirements that will impose on contractors through our procurement process. And the first stage of our procurement process is a pre-qualification.	Volume 25 (CEAA Registry Doc# 1741) p.74	October 30, 2013	D&C
H-25-24	…only those companies that meet the criteria around solid management systems, solid health and safety performance, solid environmental performance will make the cut to be eligible to give proposals for the actual work.	Volume 25 (CEAA Registry Doc# 1741) p.75	October 30, 2013	D&C
H-25-25	… we have an ongoing review of the risk management processes - right now it's on a quarterly basis - based on the design activities and the activities that we have underway. When we move into the field, that will be done on a weekly basis and it will be part of every morning meeting. Risk assessment will be there.	Volume 25 (CEAA Registry Doc# 1741) p.84	October 30, 2013	D&C
H-25-26	There will be daily meetings at the beginning of every shift. The key elements get together and they discuss -- they have the running punch list and the running risk list. Risk identification and risk concerns are addressed on a weekly basis formally.	Volume 25 (CEAA Registry Doc# 1741) p.88	October 30, 2013	D&C

Table B.5: Commitments in OPG Statements Made during the DGR Public Hearing				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		DGR Hearing Transcript #	**Hearing Date**	
H-25-27	There will be a communications plan developed for the construction phase.	Volume 25 (CEAA Registry Doc# 1741) p.90	October 30, 2013	D&C
H-25-28	…as part of the project governance that is sitting on the list of documents to be reviewed by the CNSC, prior to starting of site preparation and construction activities, the communications plan is one of those documents and has the clear lines of roles, responsibilities, accountabilities, as well, the interfaces between those related to construction, those related to OPG/NWMO relationships, those related to regulatory interfaces and so on. And it is that plan in conjunction with the construction - the construction management plan that will provide the full detail of communication channels, mechanism and reporting requirements.	Volume 25 (CEAA Registry Doc# 1741) p.91	October 30, 2013	D&C
H-25-29	Something that didn't come out of the geoscientific verification program was the additional geotechnical and geomechanical testing that will be done in both of the shafts to ensure that we have the control and we're understanding the performance of the excavations as we progress through both of the shafts, whereas the geoscientific verification program is really dedicated to the main shaft.	Volume 25 (CEAA Registry Doc# 1741) p.101	October 30, 2013	D&C
H-25-30	We have committed in previous sessions that any […] session *[of community consultation advisory committee]* would have comprehensive minutes for that. *(repeated a few times during the hearing)*	Volume 25 (CEAA Registry Doc# 1741) p.113	October 30, 2013	D&C OPS
H-25-31	… the facilitator actually will help OPG with how to set this up to make sure that it is done in a very transparent way. So that […] is a key position for this particular work area.	Volume 25 (CEAA Registry Doc# 1741) p.116	October 30, 2013	D&C
H-25-32	… that the CAC *[Community Advisory Council]* will provide advice in identifying and implementing community outreach activities and in conducting future public attitude research.	Volume 25 (CEAA Registry Doc# 1741) p.122	October 30, 2013	D&C
H-25-33	And we've talked at great length of the 10-plus years of community consultation. And while there are people here that don't agree, there are many people in the community that do agree with the work that OPG and NWMO has done. That's not to say we're not listening. Of course we're listening. And in my closing statement -- my presentation this morning, I talked about we heard the views here and we'll use that information, if this project is approved, to inform us on what we need to do to address those concerns.	Volume 25 (CEAA Registry Doc# 1741) p.142	October 30, 2013	All

Table B.6: Commitments in OPG Responses to Undertakings during the Public Hearing from September 16 – October 11, 2013 and October 28-30, 2013

Table B.6 Commitments in OPG Responses to Undertakings during the DGR Public Hearing				
Commitment No.	**Commitment Description**	**Reference**		**DGR Phase**
		CEAA Registry Doc.#	**Undertaking No.**	
UT-H2-01	The surface facilities are surrounded by a stormwater ditch, so in the event of a discharge pipe failure, the discharge will be collected in the ditch system and gravity drained to the stormwater management pond. Over-topping of the stormwater ditches will not occur as the ditches are sized to accommodate significantly larger flows associated with storm events than will be pumped from the repository.	OPG Response dated Sep.25, 2013 (CEAA Registry Doc# 1615)	26	D&C
UT-H3-01	The preliminary grading represented in the TIS #1 undertaking response was completed to incorporate information collected as part of the 2011 geotechnical investigations, assess impacts of collar height on the stormwater ditch grades and cut-and-fill balances, prepare preliminary site services layouts (e.g. storm and sanitary sewer, fire and service water, electrical) in the shaft and facilities area, and assess perimeter ditch and stormwater management pond inlet elevations to verify gravity flow conditions. Preliminary cut-and-fill estimates were developed to better understand the phasing of site grading, estimate engineered fill requirements, and included the incorporation of material excavated as part of the shaft excavations. This information will need to be further refined as key features, such as the stormwater management pond (SWMP) and waste rock management areas (WRMA) are finalized through detailed design.	OPG Response dated Sep.26, 2013 (CEAA Registry Doc# 1624)	35	D&C
UT-H5-01	To better understand the behaviour of hydrocarbons that could be present in the permanent limestone waste rock, a characterization program will be performed as the waste rock is excavated from repository. This will be incorporated into the waste rock management monitoring already described in IR# EIS-04-160 (OPG 2012) and complemented by the surface water and sediment monitoring program.	OPG Response dated Oct.10, 2013 (CEAA Registry Doc# 1701)	49	D&C