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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 Additional Information on Information Request EIS-12-511

References:
1. Geoscientific Verification Plan. Nuclear Waste Management Organization document NWMO DGR-TR-2011-38 R001, January 2014.
2. OPG letter from Laurie Swami to Dr. Stella Swanson, "Deep Geologic Repository Project for Low and Intermediate Level Waste – Submission of Response to Information Request EIS-12-511", January 30, 2014, CD# 00216-CORR-00531-00220.

The purpose of this letter is to submit additional information related to Revision 1 of the Geoscientific Verification Plan (GVP) (Reference 1), originally provided to the Joint Review Panel with Reference 2.

This additional information was provided to the CNSC staff during a teleconference on April 24, 2014, where the staff requested clarifications on the plan, as part of their sufficiency review of OPG's response to Information Request (IR) EIS-12-511 (Reference 2). The requested clarifications have been provided by the CNSC to the JRP (CEAA Registry #1867).

OPG reiterates that, while the revised GVP (Reference 1) provides greater detail on the proposed sub-surface activities, further details will be included in individual test plans to be associated with each activity. A number of these details were provided to the CNSC staff during the teleconference, as follows:

1. 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.
2. 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.
3. 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.
4. 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.
5. 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.

In addition to the above, 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.

If you have questions on the above, please contact 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

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)