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**Written Submission from  
Ontario Ministry of Labour**

In the Matter of

**Ontario Power Generation Inc.**

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Proposed Environmental Impact Statement  
for OPG's Deep Geological Repository  
(DGR) Project for Low and Intermediate  
Level Waste

Joint Review Panel

**September 16 to October 12, 2013**

**Mémoire de  
Ministère du travail de l'Ontario**

À l'égard de

**Ontario Power Generation Inc.**

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Étude proposée pour l'énoncé des incidences  
environnementales pour l'Installation de  
stockage de déchets radioactifs à faible et  
moyenne activité dans des couches géologiques  
profondes

Commission d'examen conjoint

**16 septembre au 12 octobre 2013**

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## **Deep Geological Repository for storage of low & medium level radioactive waste – Ministry of Labour Role and Responsibilities**

Ontario Ministry of Labour  
Occupational Health and Safety Branch

## **Purpose**

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- To provide the Deep Geologic Repository Joint Review Panel, relevant stakeholders and the general public, an overview of the Ministry of Labour's role and responsibilities with respect to the proposed deep geological repository (DGR).

## Outline

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- Ministry of Labour (MOL) Vision, Mission and Implementation
- MOL mandate
- MOL jurisdiction at nuclear facilities
- MOL responsibilities under the Provincial Nuclear Emergency Response Plan
- The Radiation Protection Monitoring Service (RPMS)
- The Radiation Protection Field Service (RPFS)
- Summary

3

## MOL's Vision, Mission and Implementation

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- Vision: "Ontario's workplaces are safe, healthy, fair and harmonious and balanced with the need to support a competitive and sustainable economy."
- Mission: "To advance safe, healthy, fair and harmonious workplace practices that are essential to the social and economic well-being of the people of Ontario."
- Implementation: Set, Communicate, Enforce legislation to achieve our vision and mission

4

## Ministry of Labour mandate

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- The MOL fulfills its mandate of keeping workplaces safe and healthy through the administration of the Occupational Health and Safety Act (OHSA), which includes setting, communicating and enforcing occupational health and safety standards and the prevention of work-related injuries and illnesses.

5

## Ministry of Labour mandate

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- Employment standards are enforced under the Employment Standards Act, 2000 (ESA), which sets out the minimum standards that employers and employees must follow. The Ministry of Labour, through its Employment Standards Program:
  - enforces the ESA and its regulations
  - provides information and education to employers and employees, making it easier for people to understand and comply voluntarily
  - investigates possible violations
  - resolves complaints

6

## Ministry of Labour mandate – contd.

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- The Ministry of Labour promotes a stable and constructive labour relations climate and fosters productive workplace relationships in Ontario. The Ministry's labour relations activities focus on settling workplace disputes under various employment-related statutes, assisting in the settlement of collective agreements and producing collective bargaining information.

7

## Ministry of Labour mandate – contd.

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- The Ontario Labour Relations Board (OLRB) is an independent, quasi-judicial tribunal mandated to mediate and adjudicate a variety of employment (including occupational health and safety) and labour relations-related matters under a number of Ontario statutes. The most common applications to the OLRB are under the Labour Relations Act, 1995 (LRA).

8

## Ministry of Labour mandate – contd.

- The mandate and legislative responsibilities of the MOL as outlined above would only apply to workers who fall under provincial jurisdiction involved with the proposed DGR for low & medium level radioactive waste during its entire life cycle (site preparation, construction, operation, decommissioning).

## Ministry of Labour mandate – contd.

- In terms of workplace safety, the Occupational Health and Safety Act (OHSA) applies to workers subject to provincial jurisdiction and, in addition, the following regulations made under OHSA may apply:
  - O. Reg. 213 CONSTRUCTION PROJECTS
  - R.R.O. 1990, Reg. 854 MINES AND MINING PLANTS
  - R.R.O. 1990, Reg. 833 CONTROL OF EXPOSURE TO BIOLOGICAL OR CHEMICAL AGENTS
  - O. Reg. 490/09 DESIGNATED SUBSTANCES
  - O. Reg. 632/05 CONFINED SPACES
  - R.R.O. 1990, Reg. 851 INDUSTRIAL ESTABLISHMENTS
  - R.R.O. 1990, Reg. 860 WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS)

## MOL Jurisdiction over nuclear facilities' workers

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- Federal undertakings, such as nuclear facilities, are subject to the Canada Labour Code (CLC)
- However, the federal government has made Exclusion Regulations under the CLC which exclude certain workers at prescribed nuclear facilities and generally replaces the CLC with the application of Ontario's OHSA, ESA and LRA
- The MOL and Human Resources and Skills Development Canada are in discussions regarding the application of the Exclusion Regulations to the proposed DGR

11

## MOL Jurisdiction over nuclear facilities' workers -- contd.

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- The Canadian Nuclear Safety Commission (CNSC) also has jurisdiction with regard to the health and safety of workers involved in the handling of and exposure to nuclear energy and nuclear/hazardous substances under the Nuclear Safety and Control Act.
- An information/data/technical expertise sharing Memorandum of Understanding (MOU) with the CNSC was signed in 2011 to promote partnership in worker radiation protection at nuclear facilities. The MOU can be viewed/downloaded from:  
[http://www.labour.gov.on.ca/english/hs/pdf/mou\\_nuclearfacilities.pdf](http://www.labour.gov.on.ca/english/hs/pdf/mou_nuclearfacilities.pdf)

12

## MOL Responsibilities under the Provincial Nuclear Emergency Response Plan (PNERP)

- The MOL has 20 order-in-council responsibilities assigned to it under Emergency Management Ontario's Provincial Nuclear Emergency Response Plan (PNERP). Aside from the general mandate of ensuring that employers meet their obligations under the OHSA during a nuclear emergency, most of the other responsibilities are covered by the MOL's Radiation Protection Services (RPS).
- The RPS is comprised of two units; a radio analytical laboratory and a radiation protection enforcement field service.

13

## The Radiation Protection Monitoring Service (RPMS)

- It is the only provincial radio analytical laboratory in Ontario.
- Comprised of a laboratory coordinator, a quality assurance officer and four radio-chemical technologists.
- The RPMS serves as the radiation protection “watch-dog” of Ontario as it continually monitors the environment around the province's nuclear installations to ensure that exposure to radiation received by workers and the general population be kept as low as reasonably achievable.
- The RPMS is part of the Radiation Protection Services, Operations Division.

14



## RPMS Mandate

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To ensure that the health, safety, welfare and property of workers and the general public are not adversely affected by radioactive emissions stemming from Ontario's nuclear reactors by providing the infrastructure to support a radiation monitoring program.

15

## Key Responsibilities – Emergency Management Ontario

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- The RPMS is tasked with 15 of the 20 assigned MOL responsibilities outlined in the PNERP.
- Three of the primary tasks are to:
  - Monitor radioactivity in the environment around all nuclear installations in Ontario and notify the Provincial Emergency Operations Centre (PEOC) of any abnormal (i.e. above ambient background) results.
  - Provide or arrange laboratory facilities for radio analysis of samples of air, water, soil, herbage, milk, foodstuffs, etc.
  - Equip, maintain and operate an adequate network of fixed radiological monitoring sites in the Ontario portions of Secondary Zones.

16

## Key Responsibilities – Emergency Management Ontario contd.

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In the event of a nuclear or radiological emergency the RPMS ensures public safety by monitoring radioactivity in the environment. If protective measures are required, recommendations are made to Emergency Management Ontario (EMO).

17

## Key Responsibilities – Ontario Reactor Surveillance Program

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The Ontario Reactor Surveillance Program (ORSP) uses:

- Surveillance programs to monitor air particulates, tritium-in-air and drinking water.
- Special studies programs to monitor milk, vegetation, precipitation and recreational surface waters.

The ORSP is the combination of:

- external monitoring sites,
- sample collection
- analysis by the laboratory
- reporting of results to the relevant authority.

The monitoring of the low & medium level radioactive waste DGR will be covered by the existing sites and services

18

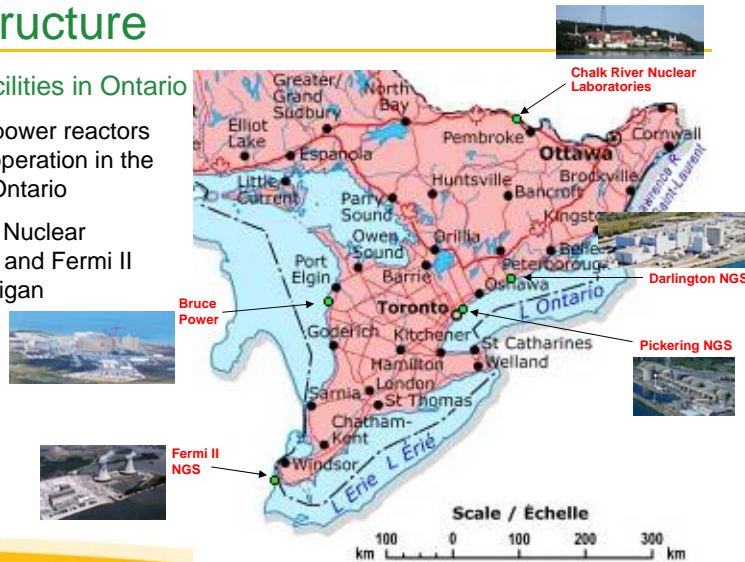
## Key Responsibilities – Ontario Reactor Surveillance Program - Reporting

- Any analytical results that exceed Ontario’s drinking water limits are immediately reported to the MOE and any results that expose the general populace to more than the equivalent of 0.1 mSv of radiation are immediately reported to Emergency Management Ontario.
- The annual report which is a summary of the preceding year’s analytical results can be found at: <http://www.labour.gov.on.ca/english/hs/pubs/rpms/index.php>

## Infrastructure

### Nuclear Facilities in Ontario

- 18 nuclear power reactors currently in operation in the province of Ontario
- Chalk River Nuclear Laboratories and Fermi II NGS in Michigan



## Infrastructure – Radiation Monitoring Network



21

## Infrastructure – Radiation Monitoring Network

### Air-Particulate Monitoring



### Tritium-in-Air Monitoring



Air monitoring stations are in operation 24/7 and are maintained throughout the year

RPMS technologists collect environmental samples every month and return them to the laboratory for analysis



Regular servicing is required to replace pump motors and other components that make up the monitoring network

22

## Infrastructure – Quality Assurance and Accreditation

- RPMS is accredited by the Canadian Association of Laboratory Accreditation (CALA) as meeting the requirements of ISO 17025 General Requirements for the Competence of Calibration and Testing Laboratories.
- Accreditation provides formal recognition of the competence of a laboratory to carry out specific tests.
- Provides an increased level of confidence in the data and information produced in the laboratory.

23

## Infrastructure - Instrumentation



The RPMS laboratories are equipped with the apparatus necessary for use in analytical chemistry to separate and prepare the samples for radiation counting.



Radiation counters are required to determine the amount of radioactive material in a sample

Liquid scintillation counters are used for tritium analysis in water, tritium-in-air and milk



24

## 2011 Surveillance Results

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- Measured results are far below concentrations that would result in a committed effective dose of 0.1 mSv to the public from either inhalation or ingestion.

25

## The Radiation Protection Field Service

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Monitors occupational radiation safety hazards including:

- X-ray: Regulation respecting X-ray Safety under OHSA
- Nuclear energy/substances in nuclear generating facilities in partnership with the Canadian Nuclear Safety Commission
- Non-Ionizing Radiation such as lasers, radio-frequency/microwave (Wi-Fi), ultra-violet
- Naturally Occurring radioactive material such as radon
- Responsibilities under the PNERP to audit emergency worker centres, radiation safety training programs and designated nuclear response hospitals
- Partnership with Radiation Safety Institute of Canada to act as a consultant and training delivery provider

26

## Summary

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The MOL would enforce the OHSA and other MOL statutes for provincially regulated workers involved with the proposed DGR.

The MOL also acts as the provincial radiation monitoring watchdog.

The MOL will continue to provide monitoring and enforcement as described in this presentation.