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Supplementary Information

Presentation from
Ontario Power Generation Inc.

On
Human Health

In the Matter of

Ontario Power Generation Inc.

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

Renseignements supplémentaires

Présentation d'
Ontario Power Generation Inc.

Sur
La santé humaine

À l'égard de

Ontario Power Generation Inc.

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

Du 16 septembre au 12 octobre 2013

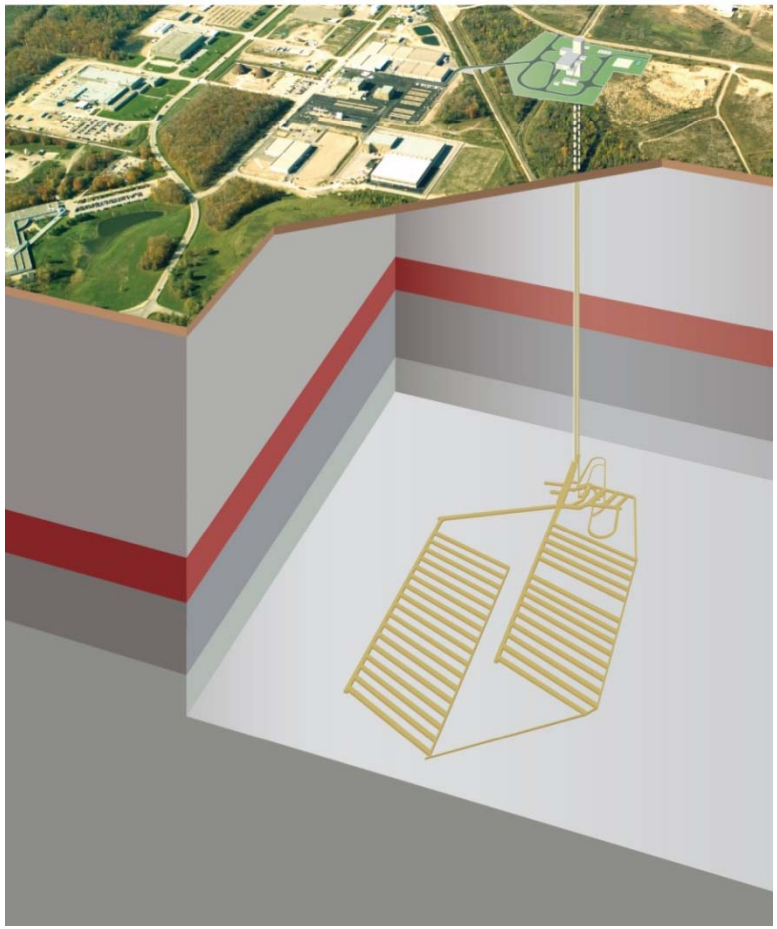
Canada

OPG's DEEP GEOLOGIC REPOSITORY PROJECT
For Low & Intermediate Level Waste

OPG's L&ILW DGR Joint Review Panel Hearing

Human Health

September 27, 2013

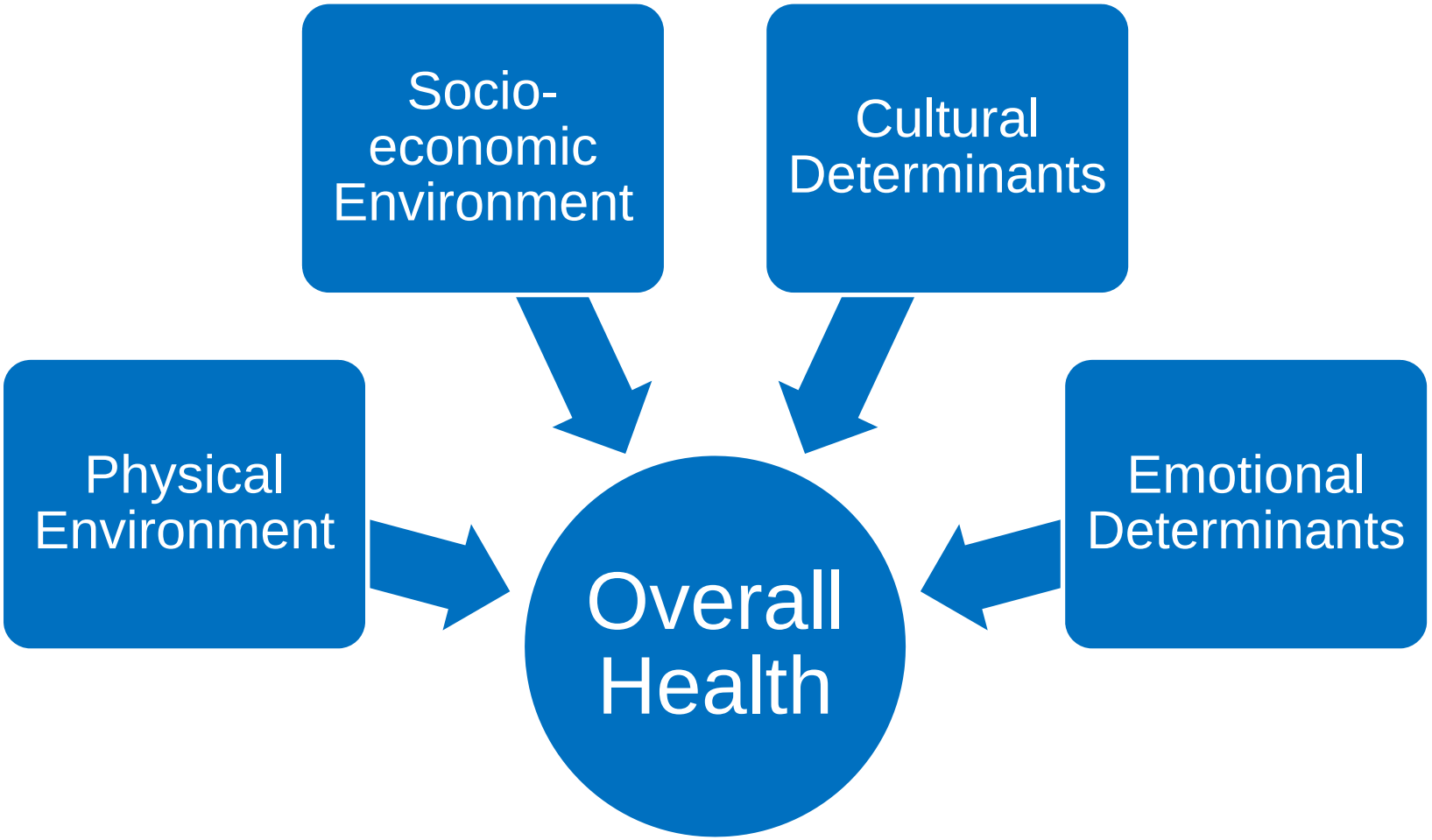


ONTARIO POWER GENERATION

Presentation Outline

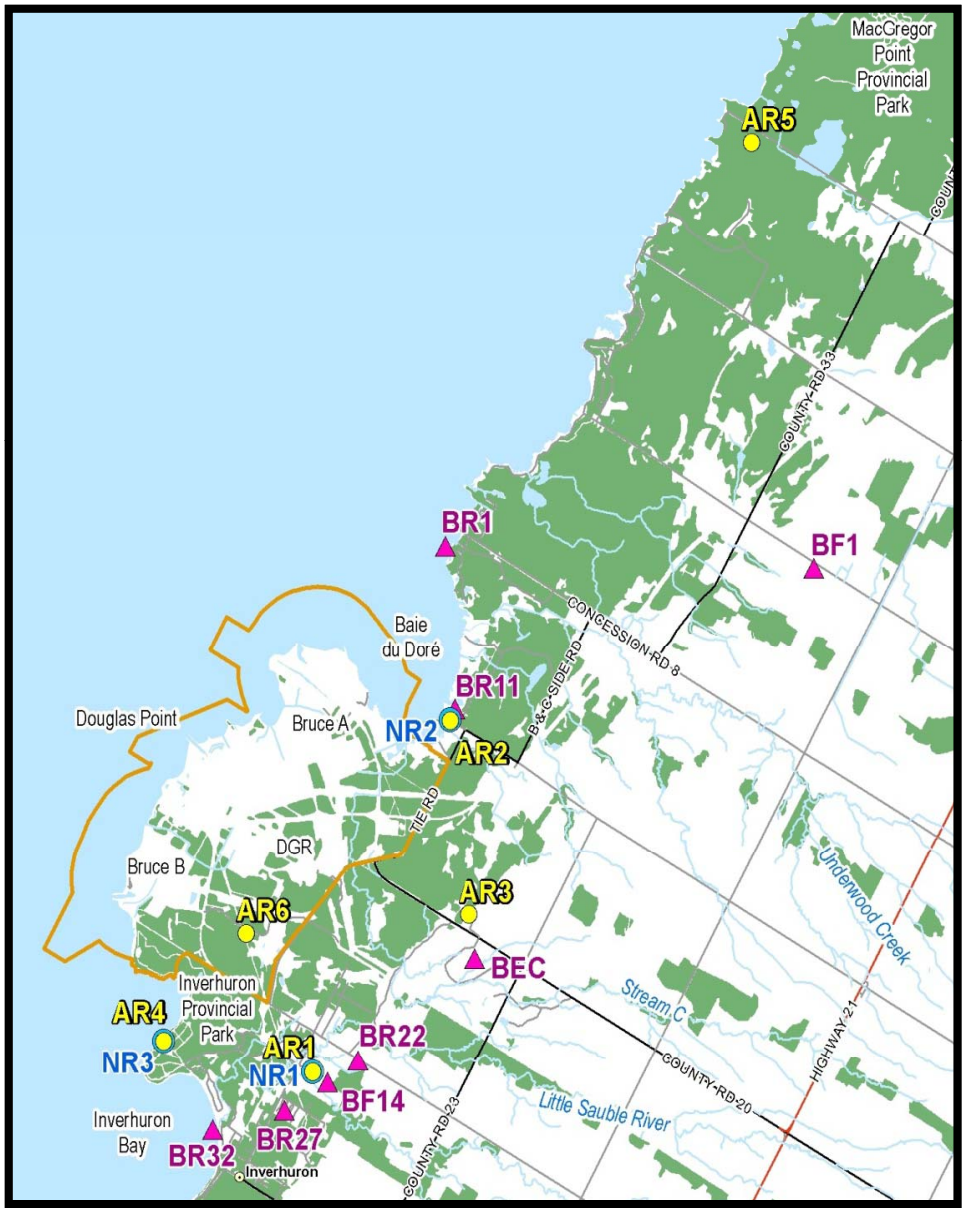
- Approach to assessment of effects on human health
- Describe existing conditions
- Describe assessment of effects on health of local population and members of Aboriginal communities
- Results of the human health assessment
- Radiological doses to members of the public and workers
- Conclusions

Determinants of Human Health Defined by the World Health Organization Used in Assessment



Assessed Four Valued Ecosystem Components

- Local Residents
- Members of Aboriginal Communities
- Seasonal Users
- Workers



Comprehensive Assessment of Human Health Undertaken

- Used accepted practices for risk assessments
- For public, potential health effects are indirect
- Worker health is a combination of direct and indirect effects

Assessment Considered Existing Conditions

- Established the existing conditions
  - Physical environment
  - Socio-economic
  - Cultural
  - Emotional
- 1986 and 2004 - No significant difference in overall cancer incidence between Grey Bruce and Ontario

Human Health Effects Assessment

- Assessment applied health thresholds to determine potential health risks
  - Developed by credible agencies
  - Considered sensitive individual and cohorts (children, elderly, asthmatics)
- Risks identified for carcinogenic and non-carcinogenic effects
- Risks that were above health thresholds were considered to be residual adverse effects

No Significant Adverse Effects to Local Residents

- Residual adverse effect to local residents predicted during site preparation and construction phase
  - Due to acrolein exposures
  - Effect was assessed to be not significant
- No residual adverse effects to local residents during operations phase

No Significant Adverse Effects to Members of Aboriginal Communities

- Residual adverse effect to members of Aboriginal communities predicted during site preparation and construction phase
  - Due to acrolein exposures
  - Effect was assessed to be not significant
- No residual adverse effects to members of Aboriginal communities during operations phase

No Residual Adverse Effects to Health of Seasonal Users

- No adverse effects for any of the health determinants for seasonal users
- No adverse effects from non-radiological exposures

No Residual Adverse Effects to Health of Workers

- Health of workers evaluated by magnitude of radiological exposures and potential exposure to non-radiological hazards
- Resulting doses were lower than existing dose and occupational targets for workers at the Bruce nuclear site
- Control and mitigation measures were identified for exposures to non-radiological hazards

Radiological Dose to Public

- Radiological effects are considered collectively
- Effects evaluated by estimating total dose from the DGR project
- Radiological doses were lower than dose limits for members of the public

Conclusions

- No significant adverse effects to human health as a result of the DGR Project
- A single residual adverse effect to local residents and members of Aboriginal communities was identified during the site preparation and construction phase
  - The effect was assessed to be not significant
- There were no adverse effects on the health of workers and seasonal users
- Radiological doses to members of the public and workers were lower than dose limits