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Oral Statement from

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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

Présentation orale par

Ole Hendrickson

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

16 septembre au 12 octobre 2013

Canada

DGR Joint Review Panel Hearing Written Submission in Support of an Oral Statement

Concerned Citizens of Renfrew County

August 13, 2013

During the 1980s and 1990s the federal government created and financed a Siting Task Force process to seek a willing host community for low-level nuclear wastes in the Port Hope area. Experiences with that process are instructive in the matter of the proposed Deep Geological Repository.

Only one potential host community remained at the end of the Siting Task Force process: the Town of Deep River, just upstream from the Chalk River Laboratories of Atomic Energy of Canada Limited (AECL). The Siting Task Force financed technical studies of the feasibility of constructing a rock cavern on AECL property – essentially, a deep geological repository - that would accept not only Port Hope wastes but a variety of low- and intermediate-level wastes from the Chalk River Labs themselves, and nuclear wastes from other locations. The Siting Task Force also conducted an inventory of low- and intermediate nuclear wastes throughout Canada, and showed that, at the time of their studies, Chalk River had the largest quantity of waste in terms of total radioactivity of any site in Canada.

The Siting Task Force process ended in failure. Elected officials in the Ottawa Valley in both Pontiac County, Quebec and Renfrew County, Ontario opposed Deep River's effort to make a deal with the federal government to ship the Port Hope wastes to Chalk River and deposit them in a rock cavern. Dangers of waste transportation and long-term pollution of the Ottawa River were serious concerns.

People also questioned whether Deep River was legally or ethically justified in seeking compensation for the project, given that it is upstream from the proposed site and would not have been affected by truck shipments or water pollution. Deep River officials were negotiating for long-term job guarantees at Chalk River Labs when the federal government finally pulled out of the Siting Task Force process, having spent over 30 million dollars.

My group, Concerned Citizens of Renfrew County, led the opposition to a nuclear waste repository at Chalk River. Technical information produced by the Siting Task Force included diagrams showing that radioactive wastes, arsenic, and other toxic materials would leak from the proposed cavern and reach the Ottawa River in a matter of decades, and that the cavern would continue to leak for millennia.

The Chalk River Laboratories property is dominated by metamorphic rocks, faulted and fractured, with relatively high rates of lateral subsurface water movement into the Ottawa River. As well, the Ottawa River lies along an ancient fault line, a great rift valley where the North American continent partially split apart in past geological eras. Earthquakes up to a magnitude of around 7 on the Richter Scale, and associated faulting, still occur in the Ottawa Valley. Faults occur on the Chalk River Laboratories property. During the Siting Task Force process, proponents of a nuclear waste cavern tried to downplay the importance of seismic data in evaluation of the Chalk River site. These technical limitations, and the

fact that millions of people live downstream from Chalk River and use water from the Ottawa River, fueled opposition to the Siting Task Force process.

Efforts are under way to clean up "legacy liabilities" at the Chalk River Labs. So-called "historic" nuclear wastes date back to the 1940s and 1950s when Chalk River produced plutonium for the Manhattan Project and ongoing manufacture of U.S. nuclear weapons. In 2011 the federal government estimated Canadian taxpayer liability for the Chalk River clean-up at around 3 billion dollars. This figure has already been increased once and is likely to grow further as better information becomes available about the nuclear wastes on site. The federal government has created a "Nuclear Legacy Liabilities Fund" to address these liabilities, and it partly reflects them in the current federal deficit.

Despite evidence that rock on the Chalk River Laboratories property is technically unsuitable for a nuclear waste cavern, and considerable public opposition during the Siting Task Force process, AECL officials are still quietly seeking to create a geological repository that would accept both on-site and off-site wastes. The Nuclear Legacy Liabilities Fund has financed the creation and analysis of a new series of bore holes. Results confirm earlier work by the Siting Task Force: the Chalk River property has severe technical limitations. An interesting new finding is that significant microbial activity occurs at depth in the rocks. Nuclear waste proposed for inclusion in the geological repository contains organic carbon. Microorganisms would likely feed on this organic waste. This would increase the rate at which nuclear substances could migrate into surface waters and the atmosphere.

Implications for the proposed Deep Geological Repository for the Bruce area are as follows:

1) Even if local municipal officials support construction of a Deep Geological Repository adjacent to Georgian Bay and Lake Huron, the potential for long-term nuclear pollution will generate interest and concern among a wider range of citizens and their governments who are concerned with the long-term health of these water bodies and of downstream portions of the Great Lakes.

2) Financial considerations such as jobs at the proposed facility may be a primary consideration for local municipal officials, but people and governments located further from the facility will likely be more concerned about long-term health and environmental implications.

3) Although technical suitability should be the overriding determinant of whether a Deep Geological Repository is built in the Bruce area, proponents may seek to downplay technical limitations.

4) If technical limitations of the proposed site are perceived as being downplayed during the evaluation and/or approval process for the proposed Deep Geological Repository, this will trigger opposition well beyond the immediate geographic area of the Great Lakes, because of the precedent it would set for candidate facilities in other areas.

5) New and emerging technical evidence about the behaviour of nuclear wastes, and in particular the impacts of subsurface microbial activity on mobilization of radioactivity, should be considered in the evaluation of the proposed Deep Geological Repository.

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