

The OPG/Kincardine Hosting Agreement for a Deep Geologic Repository for OPG's Low- and Intermediate-Level Waste

A.G. Castellan and D.E. Barker
Ontario Power Generation
700 University Avenue
Toronto, Ontario Canada M5G 1X6
angelo.castellan@opg.com and diane.barker@opg.com

ABSTRACT

A Hosting Agreement has been reached between Ontario Power Generation and the Municipality of Kincardine for the purpose of siting a long-term management facility for low- and intermediate-level radioactive waste at the Western Waste Management Facility. Following an independent review of the feasibility of three options for a long-term facility at the site, including a review of the safety, geotechnical feasibility, social and economic effects and potential environmental effects, Kincardine passed a resolution indicating their preference for a Deep Geologic Repository. A Host Community Agreement has been negotiated based on this preference, and on information that had been gathered from municipal authorities at other locations that have hosted similar facilities.

The Hosting Agreement includes financial compensation, totalling \$35.7 million (Canadian 2004) to the Municipality of Kincardine and to four surrounding municipalities. The financial aspects include lump sum payments based on achieving specific project milestones as well as annual payments to each of the municipalities. The payments are indexed to inflation, and are also contingent on the municipalities acting reasonably and in good faith during the licencing process of the proposed facility.

In addition to the fees, the Agreement includes provision for a Property Value Protection Plan that would provide residents with compensation in the event that there is depreciation in property value shown to directly result from a release from the proposed facility. New permanent OPG jobs supporting the project would be located at the site. OPG and Kincardine will support a centre of nuclear excellence.

1.0 Background

The Municipality of Kincardine has been host to nuclear facilities for decades, starting in the 1960s with Douglas Point. The Bruce site, 932 hectares on the shore of Lake Huron, also includes the "A" and "B" plants, owned by Ontario Power Generation and since 2001, leased to Bruce Power to operate in a long-term arrangement. The Western Waste Management Facility (WWMF) is located at the Bruce site, and operated as an interim storage facility for radioactive wastes.

Low- and intermediate-level waste is transported by road from the Pickering and the Darlington Nuclear Generating Stations to the WWMF. Low-level waste is processed primarily through compaction or incineration, and stored in low-level storage buildings. The WWMF also includes storage of intermediate-level waste in in-ground containers and trenches, and used fuel from Bruce Power in dry storage containers housed in dry storage building(s). A contractual arrangement between Bruce Power and Ontario Power Generation governs the management of low/intermediate/high level radioactive wastes generated at the Bruce Power plants.

Long-term low and intermediate level radioactive waste management facilities are operating abroad, including Finland, Sweden, Spain, France and United States. Several other countries have made efforts to site a permanent L&ILW facility with limited success. OPG and the Municipality used these site studies to garner lessons learned.

One of the initial Canadian experiences in establishing long-term radioactive waste sites for historic waste had been initiated in 1985. The wastes are located in the area around Port Hope, Ontario. A Siting Process Task Force proposed a Cooperative Siting Process based on the volunteerism principle. The Task Force invited 850 municipalities to information sessions. Twenty six municipalities invited the Siting Task Force to make presentations to their municipalities, and 11 proceeded to appoint Community Liaison Groups. In 1991, three communities remained, with Deep River emerging as the prime candidate in 1994. The Siting Task Force conducted a ballot in the Deep River area to determine public opinion. The results of the ballot showed a lack of community support for the proposal. However, the voting process did include flaws. Thereafter, the Town Council proceeded to negotiate a draft Community Agreement in Principle with the Siting Task Force in 1995. A local referendum conducted later that year showed 72 percent accepted the Agreement in Principle. The agreement expired in 1996 with the inability of the parties to reach a legal agreement.

After the expiration of the Siting Task Force exercise, a group of Hope Township residents, proposed a local solution [1] to their radioactive soil matter. A group of parties including the Federal Government, the Township of Hope, the Town of Port Hope (which have amalgamated to the Municipality of Port Hope) and the Municipality of Clarington, negotiated and signed a legal agreement. This agreement included provisions for Host Community Payments totalling \$30 million, and a Property Value Protection Plan.

2.0 Introduction

The Municipality of Kincardine has reaped benefits from the nuclear industry, including stable employment, and highly skilled and professional jobs. Alternatively, the industry has been the benefactor of positive relationships and support from the local citizenry and governments. The community is knowledgeable and well-informed when it comes to the nuclear industry. They also believe that they have an obligation to future generations to establish a long-term solution for the management of low and intermediate level waste. This contributed to Council's decision to consider hosting a long-term radioactive waste site [2].

During much of the period of construction and operation of the Bruce nuclear stations, Ontario Hydro (the predecessor company to Ontario Power Generation) had a Community Impacts Program in place. The program had been established during the construction phase of the plant, with the intent to compensate the community for increased infrastructure needs, such as schools, municipal services required as a direct result of the large number of new residents working on the

construction of the facility, and later for those who would be working at the operating plant. These grants came to an end in 2001 when OPG leased the facility to Bruce Power to operate.

In 2002, the Municipality of Kincardine approached OPG seeking to enter into an agreement to study options for long-term low- and intermediate-level radioactive waste management at the existing WWMF. The discussions led to the signing, in April 2002 of a Memorandum of Understanding (MOU) between OPG and the Municipality of Kincardine. The purpose of the MOU is for OPG, in consultation with the Municipality of Kincardine, to develop a plan for the long-term management of low- and intermediate-level waste at the Western Waste Management Facility. The work plan under the agreement included:

- A review of the technical feasibility of the long-term management of low- and intermediate-level waste
- A socio-economic impact assessment in the Municipality of Kincardine of the existing operation of the WWMF and of the potential long-term plans
- A review of European and American models for long-term management of low- and intermediate-level wastes, including site visits to look at issues such as technical infrastructure and community compensation.

A Nuclear Waste Steering Committee, comprising members of the Kincardine Council and representatives of OPG, directed and monitored the progress of the work plan. This study, referred to as the Independent Assessment Study, had been contracted to an expert consultant, Golder Associates. The results are published in the Independent Assessment Study Report in February 2004. The study concluded that each of the considered options (ie. enhanced processing and long-term storage, covered above-ground concrete vault disposal facility, and deep geologic repository) is technically feasible, safe, and could be constructed and operated with no significant adverse effect on the environment. Other conclusions are that there would be no significant adverse social effects, and there would be spin-off economic benefits to the community [3].

3.0 Council Agrees to Support a DGR

Based on a review of the Independent Assessment Study, on April 21, 2004 the Council of the Municipality of Kincardine passed Resolution #2004 – 232:

“that Council endorse the opinion of the Nuclear Waste Steering Committee and select the ‘Deep Rock Vault’ option as the preferred course of study in regards to the management of low and intermediate level radioactive waste”.

The Council’s decision to support the DGR as its preferred option was based on the following key points:

- It provides the highest level of safety of any option.
- There will be a rigorous environmental assessment and Canadian Nuclear Safety Commission regulatory process that includes opportunities for public input before construction is approved.

- The deep geologic repository will permanently isolate the low and intermediate level waste stream, much of which is already stored on site.
- It provides significant economic benefit to the residents of the municipality.
- No high level waste or used nuclear fuel will be allowed in the facility.

Kincardine's next step was to seek OPG approval and negotiate an agreement.

4.0 Setting the Ground Rules for an Agreement

Council had visited a number of communities which host waste facilities, including Zwiilag in Switzerland, Centre de L'Aube in France, SKB in Sweden, Barnwell and WIPP in United States. One of the purposes of these visits was to meet with local officials to discuss any agreements, the approvals process and their experiences. The site visits and literature search yielded a large amount of information. They also confirmed that there was international precedent for Agreements for hosting long-term radioactive waste facilities, agreements that are based on siting considerations.

Some host communities received no additional compensation or benefits for hosting a radioactive waste management site. Some jurisdictions, for example Spain, have a legislated and complex formula for calculating the amount of compensation based on the type of waste accepted and distance from the facility. In some cases the compensation is shared with the County seat or the state. Compensation may be targeted for specific purposes or it may be used at the discretion of the host community. There is no consistency between agreements, each situation adapting to local needs and circumstances.

The Municipality of Kincardine recognized the need to establish a value of their offer to host a radioactive waste management site, both in terms of operating waste and decommissioning waste, and to also consider the benefits that their community would receive as a result of the continuance of the nuclear industry in the area, jobs both in the industry and other jobs resulting from the economic activity in the area.

OPG and the Kincardine members of the Nuclear Waste Steering Committee agreed that the Port Hope Agreement is a recent Ontario initiative would be used as a point from which to draw initial ideas.

5.0 The Negotiation

The Host Community Agreement was negotiated by the members of the Nuclear Waste Steering Committee, with three representatives from OPG and four from the Municipality of Kincardine. The Committee met approximately every two weeks during this period, each time having reviewed the draft and tabling new clauses and amendments. After consensus had been reached on the key intents of the agreement, a final term sheet was approved by both parties to the negotiation. The lawyers were tasked to prepare the legal agreement/document.

Negotiations began in May, and final agreement was reached in October 2004. The agreement included provision for community payments to four surrounding municipalities, recognizing their importance as key stakeholders.

6.0 The Agreement [4]

The Agreement is based on the implementation of DGR at the WWMF. In negotiating the agreement, sufficient detail was provided in the waste source descriptions to be able to clearly define the project for purposes of seeking federal Environmental Assessment approval.

The agreement includes provisions for a community consultation exercise, allowing local residents an opportunity to express their endorsement/rejection/neutrality regarding Council's decision to support the DGR. A positive mandate from the community is required in order for the agreement to take effect.

The agreement provides continued rights to OPG to pursue its existing waste management activities at the WWMF.

6.1 Financial Terms

The monetary terms were the last negotiated, but because of their dependency on other items such as volumes of waste, source of waste, schedule, etc., they are reported first in this paper.

The financial terms includes lump sum payments at two milestone points, including a positive result on the community consultation in 2005, and approval of the licence to construct the DGR in 2013. Further, annual payments will be made to each of the participating municipalities, Kincardine, the host municipality and Saugeen Shores, Huron-Kinloss, Arran-Elderslie and Brockton, starting in 2005 and continuing for thirty years. Payments are indexed to inflation. A schedule of payments is provided in Table 1. Payments are subject to continued support from the municipalities during the regulatory approvals process for the proposed DGR.

6.2 Waste Included Under the Agreement

Under the Agreement, the facility would accept only low and intermediate level radioactive waste:

- Derived from the operation or decommissioning of CNSC licensed facilities owned by OPG or its subsidiaries at the time of execution of the Agreement located on the Bruce, Darlington and Pickering nuclear sites
- Produced by or stored at facilities in Ontario associated with the operation of the Bruce, Darlington, and Pickering nuclear generating stations, including that stored at a laboratory previously owned and operated by OPG. This clause is included to address waste produced at laboratories owned and operated by OPG but not co-located with the generating stations
- Stored by OPG at the WWMF
- Produced from new generation facilities, and prorated at 1/20 of the current fee structure for new units.
- Agreed by both parties and included in an amendment to the agreement.

OPG will not allow high-level wastes to be stored in this facility.

6.3 Property Value Protection

Based on information from other sites where long-term radioactive waste and hazardous waste facilities have been located in past, OPG does not expect any impact on property values in the area. Nevertheless, the Hosting Agreement includes a Property Value Protection Clause to provide an additional level of assurance to local residents. The clause extends to Kincardine and the four other municipalities, and uses a tiered qualifying approach. Before a property owner can pursue a claim for a site more than 8 km radius from the DGR, a valid claim has to have been processed within the 8 km radius. A valid claim is defined as a claim in which property value is proven to have decreased as a result of radioactivity from the DGR. Property owners who prove a decrease in property value would be compensated for their economic losses.

6.4 Jobs

To provide additional employment locally, it is agreed that new OPG jobs associated with the DGR construction and/or operation will be located at the WWMF, subject to the collective bargaining agreements to which OPG is a party.

6.5 Centre of Excellence

In several of the nuclear waste host communities visited by representatives of the Kincardine Council, an increase in local visits to the site is observed as a result of locating a long-term waste facility. To assist Kincardine with realizing a similar benefit, the agreement includes clauses allowing access to the facility for educational tours to the extent that it is possible within regulatory requirements. OPG and Kincardine also agree to support a nuclear centre of excellence.

6.6 Municipal Taxes and Additional Fees

The current tax framework does not make provision for a Deep Geologic Repository. To provide greater certainty for both, OPG and the Municipality of Kincardine agreed to support the concept of assessment of the value of the DGR on a basis equivalent to that on which Municipal Property Assessment Corporation assesses the value of the commercial waste storage facilities at the Western Waste Management Facility. Both parties agree to support this position in representations to the provincial authorities that govern municipal assessment.

OPG does not pay building permit fees, however under the Hosting Agreement committed to pay the Municipality payments in lieu equivalent to building permit fees.

6.7 Disputes

The agreement provides an arbitration process for resolving disputes with the agreement. Either party can submit items for dispute resolution.

Although the agreement is formally between OPG and the Municipality of Kincardine, OPG received letters of support for the agreement from each of the four other municipalities.

7.0 Community Consultation

Following signing of the Host Community Agreement, OPG and Kincardine opened a Community Consultation Centre to provide information on the DGR proposal and the agreement to local residents. Public feedback on the agreement is varied. “Some people didn’t think it was enough money, some wondered when we needed compensation at all when the facility is deemed to be so safe and other felt the negotiations were appropriate”, Mayor Glenn Sutton said [5].

A telephone poll of all residents of Kincardine eighteen years of age and older was conducted in January and February 2005. A clear majority of participants supported Council’s decision to host a Deep Geologic Repository at the Western Waste Management Facility.

8.0 References

1. *The Port Hope Low-level Radioactive Remediation Project: Building Community Acceptance at the Local Level.* Rick Austin, Mayor, Municipality of Port Hope. Presentation to the 25th Annual Canadian Nuclear Society Conference. 2004.
2. *Community Expectations.* Larry Kraemer. Presentation to the Canadian Association of Nuclear Host Communities. 2003.
3. *The Review of Options for Long-term Management of OPG’s Low- and Intermediate-Level Waste.* T. Squire and D.E. Barker, 2005. Ontario Power Generation. Presented at the May, 2005 CNS Conference.
4. *An Agreement Regarding A Deep Geologic Repository for Low & Intermediate Level Nuclear Waste.* 2004. Ontario Power Generation and the Corporation of the Municipality of Kincardine.
5. *Majority Say Yes to Waste Facility.* Marie Wilson. Kincardine News. February 23, 2005.

Table 1
Hosting Agreement – Payment Schedule

Expressed in thousands of dollars.

Sharing below is in constant dollars but actual payments will be indexed to Inflation Rate

Year	Kincardine		Saugeen Shores		Huron Kinloss		Arran-Elderslie		Brockton	
	One Time Payment	Annual Payment	One Time Payment	Annual Payment	One Time Payment	Annual Payment	One Time Payment	Annual Payment	One Time Payment	Annual Payment
2005	1,300	650	500	250	140	70	80	40	80	40
2006		650		250		70		40		40
2007		650		250		70		40		40
2008		650		250		70		40		40
2009		650		250		70		40		40
2010		650		250		70		40		40
2011		650		250		70		40		40
2012		650		250		70		40		40
2013	1,300	650	500	250	140	70	80	40	80	40
2014		650		250		70		40		40
2015		650		250		70		40		40
2016		650		250		70		40		40
2017		650		250		70		40		40
2018		650		250		70		40		40
2019		650		250		70		40		40
2020		650		250		70		40		40
2021		650		250		70		40		40
2022		650		250		70		40		40
2023		650		250		70		40		40
2024		650		250		70		40		40
2025		650		250		70		40		40
2026		650		250		70		40		40
2027		650		250		70		40		40
2028		650		250		70		40		40
2029		650		250		70		40		40
2030		650		250		70		40		40
2031		650		250		70		40		40
2032		650		250		70		40		40
2033		650		250		70		40		40
2034		650		250		70		40		40
2035		650		250		70		40		40

