

OPG Proprietary

October 7, 2016

CD# 92896-CORR-00531-01036

MS. KARINE GLENN

Director
Wastes and Decommissioning Division

Canadian Nuclear Safety Commission
280 Slater Street
Ottawa, ON K1P 5S9

Dear Ms. Glenn:

Letter of Intent to Renew the Pickering Waste Management Facility Waste Facility Operating Licence WFOL-W4-350.02/2018

The purpose of this letter is to inform the Canadian Nuclear Safety Commission (CNSC) of Ontario Power Generation Inc.'s (OPG's) intent to renew the Pickering Waste Management Facility (PWMF) Waste Facility Operating Licence (WFOL), WFOL-W4-350.02/2018, in accordance with Subsection 24(2) of the *Nuclear Safety and Control Act* (NSCA), and Section 5 of the *General Nuclear Safety and Control Regulations*. OPG will request a renewal of the PWMF WFOL until August 31, 2028 to align with the anticipated expiry of the new Pickering Nuclear Generating Station Power Reactor Operating Licence (PROL).

OPG requires permission to construct and operate additional facilities at the PWMF, which currently includes a DSC Processing Building and two DSC Storage Buildings (Phase I), as well as a third DSC Storage Building in a separate protected area (Phase II). In addition to the construction and operation of Dry Storage Container (DSC) Storage Building (SB) #4 permitted in the current licence, OPG plans to construct and operate two additional DSC Storage Buildings (SB #5 and SB #6), and a new DSC Processing Building to replace the existing one.

Attachment 1 describes the current facility and the proposed expansion in more detail.

The construction and operation of DSC Storage Buildings #4, #5 and #6 have been the subject of previous Environmental Assessments as follows:

- PWMF Phase II Project Environmental Assessment (EA) [Ref. 1] approved in May 2004 [Ref. 2]; and,

Ms. Karine Glenn

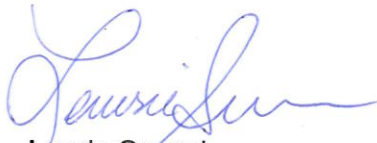
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- Pickering B Refurbishment and Continued Operation EA [Ref. 3] approved in 2009 [Ref. 4].

In response to OPG's Letter of Intent to construct a new DSC Processing Building and two additional DSC Storage Buildings [Ref. 5], the CNSC has concluded in 2013 that OPG's submission satisfied the requirements of the *Canadian Environmental Assessment Act, 2012* (CEAA 2012) and its regulations [Ref. 6], and that there is no requirement for an Environmental Protection Assessment under the NSCA [Ref. 7].

Should you have any questions or requests for further information, please contact Ms. Leslie Mitchell, Manager, Regulatory Programs, Strategy and Support at (905) 839-6746, extension 5198, or by e-mail at leslie.j.mitchell@opg.com.

Sincerely,



Laurie Swami
Senior Vice President
Decommissioning and Nuclear Waste Management

Attach.

cc: H. Tadros - CNSC (Ottawa)
S. Thompson - CNSC (Ottawa)
S. Oue - CNSC (Ottawa)

References:

1. OPG Letter, K. E. Nash to M. Ben Belfadhel, "Pickering Waste Management Facility Phase II Project – Submission of Final Environmental Assessment Report," December 19, 2003, CD# 92896-CORR-00531-00205.
2. CNSC Letter, S. Locatelli to K. Nash, "Record of Proceedings Ontario Power Generation Inc.," May 28, 2004, CD# 92896-CORR-00531-00233.
3. OPG Letter, D. P. McNeil to T. E. Schaubel, "Pickering B Environmental Assessment (EA) for Proposed Refurbishment and Continued Operation – Submission of Final EA Study Report," December 17, 2007, CD# NK30-CORR-00531-04644.
4. CNSC Letter, L. Levert to D. P. McNeil, "Record of Proceedings – Ontario Power Generation Inc.," January 26, 2009, CD# NK30-CORR-00531-05083.
5. OPG Letter, T. Doran to P. Jones, "Pickering Waste Management Facility – Letter of Intent to Construct a new Processing Building and two Additional DSC Storage Buildings," April 4, 2013, CD# 92896-CORR-00531-00653.
6. CNSC Letter, P. Jones to T. Doran, "Application of Canadian Environmental Assessment Act, 2012 Pickering Waste Management Facility – Letter of Intent to Construct a New DSC Processing Building and Two Additional DSC Storage Buildings," June 13, 2013, e-Doc 4150180, CD# 92896-CORR-00531-00663.
7. CNSC Letter, P. Doughty to T. Doran, "Application of the Environmental Protection Assessment process under the *Nuclear Safety and Control Act* - Pickering Waste Management Facility – Letter of Intent to Construct a New Replacement DSC Processing Building and Two Additional DSC Storage Buildings," October 10, 2013, e-Doc. 4214543, CD# 92896-CORR-00531-00683.

Attachment 1 to OPG Letter, L. Swami to K. Glenn, "Letter of Intent to Renew the Pickering
Waste Management Facility Waste Facility Operating Licence WFOL-W4-350.02/2018,"
CD #92896-CORR-00531-01036

ATTACHMENT 1

Description of the Proposed Expansion of the Pickering Waste Management Facility Phase II Site

ATTACHMENT 1

1.0 EXISTING PICKERING WASTE MANAGEMENT FACILITY

The Pickering Waste Management Facility (PWMF) is comprised of two sites, PWMF Phase I and PWMF Phase II, as shown in Figure 1. The current licensed area is delineated in greyish blue, and the area assessed in the Pickering Waste Management Facility Phase II Environmental Assessment (EA) is delineated in royal blue [Ref. 1].

The PWMF Phase I site is located within the Pickering Nuclear Generating Station (PNGS) protected area, southeast of PNGS Unit 8, and adjacent to the east side of the station security fence. PWMF Phase I site consists of the processing building, Dry Storage Container (DSC) Storage Buildings (SB) #1 and #2, and a Retube Components Storage Area. DSC SB #1 and #2 can accommodate up to 185 and 469 DSCs, respectively.

The PWMF Phase II site is located approximately 500 meters north-east of PWMF Phase I, in the East Complex, within a distinct protected area in the Pickering Nuclear property site boundary. The PWMF Phase II site contains a security kiosk, DSC SB #3, and the land allocated for SB #4. DSC SB #3 was placed into service in 2009 and can accommodate up to 500 DSCs.

Figure 1 – PWMF Phase I and PWMF Phase II Sites



SB – (DSC) Storage Building

PB – (DSC) Processing Building

2.0 SCOPE OF ACTIVITIES REQUESTED IN THE PWMF LICENCE RENEWAL

The PWMF licence renewal application will include:

- construction and operation of a new processing building on the PWMF Phase II site;
- construction and operation of DSC SB #4, #5 and #6 on the PWMF Phase II site; and,
- continuing on-site transfer of used fuel in a clamped DSC from the PNGS to the Phase II site, instead of to the Phase I site.

2.1 PWMF Processing Building

The existing PWMF processing building, located on the PWMF Phase I site, includes a processing area, a two-storey office and utility area for equipment storage, and is approximately 1,370 m² in size. The processing building at PWMF was constructed in 1993, and was OPG's first operational processing building. It is small and congested, and many of the support functions, offices and workshop areas are supported by PNGS, or located elsewhere on the Pickering Nuclear site.

OPG is proposing to construct a new processing building to improve the ergonomic conditions for staff, and enhance the work flow through the various DSC processing steps without congestion or unnecessary interruption. It will be designed to increase the processing capability of DSCs from 50 to approximately 100 DSCs per year.

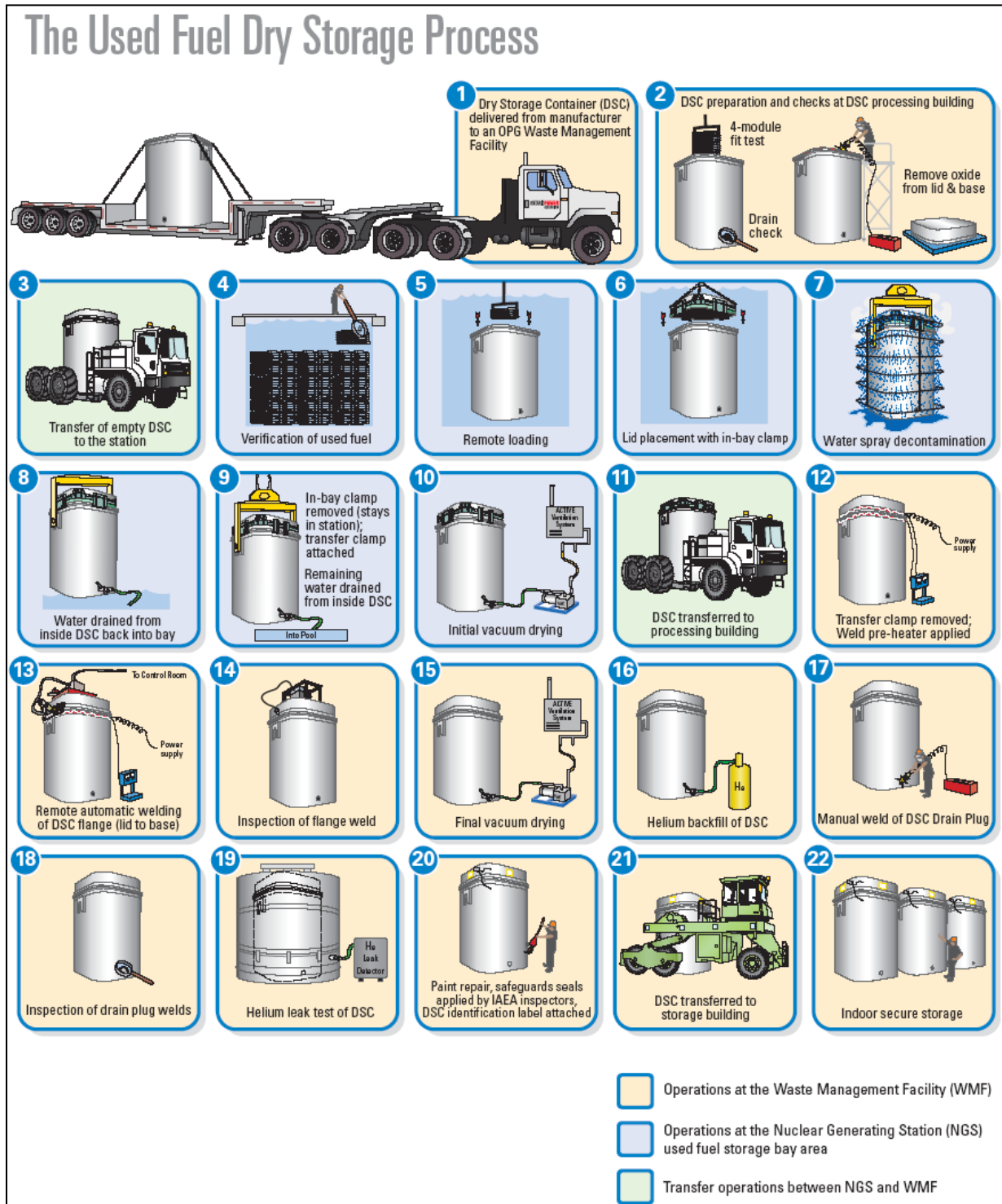
The proposed processing building at Pickering will be similar to the processing building at Darlington and Western Waste Management Facilities with minor changes adapted to operating experiences and site-specific conditions, and is intended to include:

- space of approximately 1,600 m² for a processing shop with crane area;
- space of approximately 2,300 m² to support DSC operations and maintenance; and,
- an amenities area.

The amenities area will provide access control, office spaces for IAEA staff, office spaces for an increased number of OPG staff (up to 50), a lunch room and, areas for lockers, storage and shower rooms. Constructing a new and larger processing building would consolidate the support functions of processing DSCs in one central location with dedicated spaces in a new enhanced facility.

The steps to process a DSC, as shown in Figure 2, will remain the same, albeit relocated to a different site location. These steps include seal welding, weld inspection, vacuum drying, helium backfilling, leak testing, paint touch-up, and safeguard seal application.

Figure 2: Used Fuel Dry Storage Process



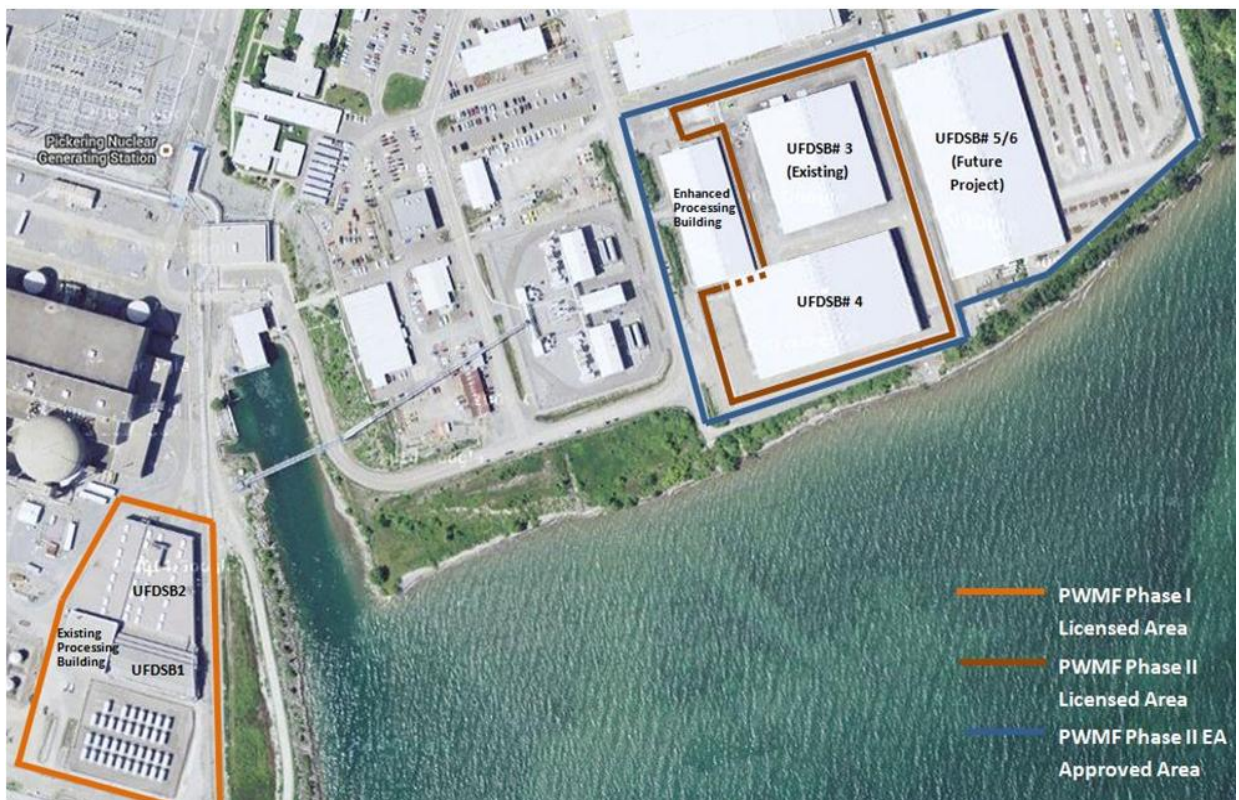
2.2 DSC Storage Buildings

In January 2005, the CNSC amended the PWMF Operating Licence to include the construction of DSC SB #3 and #4. DSC SB #3 is currently in service.

As OPG plans to process and store all the used fuel generated by PNGS to the end of its commercial operational life on the PNGS site, three additional storage buildings, DSC SB #4, #5 and #6, will be required. These storage buildings would be similar in design to DSC SB #3, and will be constructed and placed into service when needed (approximately 2019 and 2024). The storage buildings will be single-story, commercial type, precast concrete structures with concrete slab-on-grade floors. The storage building capacity will be maximized to most efficiently utilize the land available.

The future storage buildings are envisioned to be located south and east of DSC SB #3, as shown in Figure 3.

Figure 3: Current Proposed Locations of the New Processing Building and SB #4 - #6



2.3 On-Site Transfer of Clamped DSCs from PNGS to PWMF Phase II site

CNSC's *Packaging and Transport of Nuclear Substances Regulations* does not apply to on-site shipments between the PNGS and the PWMF. In the absence of any specific rules for on-site packaging and transport, OPG provides an equivalent degree of safety to workers, the general public and the environment as would have been achieved for off-site transportation. OPG uses a specially designed multi-wheeled transporter to transport DSCs. The design of the transporter limits the lifting of a loaded DSC to about 20 cm and travels at low speeds. The transporter is capable of stopping within a short distance.

3.0 REFERENCES

- [Ref. 1] OPG Letter, D.P. McNeil to T.E. Schaubel, CNSC, "Pickering B Environmental Assessment (EA) for Proposed Refurbishment and Continued Operation – Submission of Final EA Study Report," December 17, 2007, CD# NK30-CORR-00531-04644.