

OPG Proprietary

March 22, 2021

CD# 00044-CORR-00531-01133

MR. PATRICK BURTONDirector (Acting)
Wastes and Decommissioning Division
Canadian Nuclear Safety Commission
280 Slater Street
Ottawa, ON K1P 5S9

Dear Mr. Burton:

**Notice of Intent to Renew Darlington Waste Management Facility Waste Facility
Operating Licence WFOL-W4-355.01/2023**

The purpose of this letter is to inform the CNSC that OPG intends to apply for a renewal of the Darlington Waste Management Facility (DWMF) Waste Facility Operating Licence (WFOL), which expires on April 30, 2023.

OPG's submission of the licence renewal application will contain the information necessary to demonstrate that DWMF has met the legal requirements of the *Nuclear Safety and Control Act* and *Regulations for Class I Nuclear Facilities*.

OPG will be requesting another ten-year licence term of the DWMF WFOL from May 1, 2023, to April 30, 2033. Over the requested licence term, OPG remains committed to the safe operation of the DWMF in a manner that poses minimal risk to the public, to the employees and to the environment, and will continue to comply with Canada's international nuclear obligations.

OPG will not be requesting any new activities be included in the DWMF WFOL; hence, the *Impact Assessment Act* does not apply to this licence renewal.

Attachment 1 describes the activities associated with the operation of the DWMF for the next ten years. OPG is requesting the currently approved construction and operation of two (2) Used Fuel Dry Storage Buildings be carried over into the new licence.

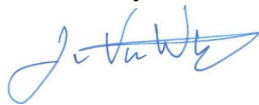
OPG requests that the CNSC provide expectations for the information to be included in the licence renewal application and confirmation of the required schedule for submission of the application.

OPG also requests that CNSC's expectations for the licence renewal application include a list of new Regulatory Documents and/or CSA Standards that the CNSC are considering for introduction into the renewed licence. In that way, OPG can include the appropriate strategy/transition plans within the licence renewal application.

The above information would be appreciated no later than June 1, 2021.

Should you have any questions or requests for further information, please contact Mr. Ghulam Khawaja, Manager, Regulatory Programs, Strategy and Support at 647-524-6378 or by email at Ghulam.khawaja@opg.com.

Sincerely,

A handwritten signature in blue ink, appearing to read 'J. Van Wart', with a stylized flourish at the end.

Jason Van Wart
Vice President
Nuclear Waste Management and Commercial Services
Ontario Power Generation

cc: Won Chung - CNSC (Ottawa)
Sarah Watt - CNSC (Ottawa)

ATTACHMENT 1

Description of the Activities to be Licensed

Attachment 1 - Description of the Activities to be Licensed

1.0 EXISTING DARLINGTON WASTE MANAGEMENT FACILITY

The Darlington Waste Management Facility (DWMF) site is defined by the parcel of land designated for the management of Ontario Power Generation's (OPG's) radioactive waste, and licensed for such use by the Canadian Nuclear Safety Commission (CNSC).

The DWMF is located within the larger Darlington Nuclear site boundary and to the west of the Darlington Nuclear Generating Station as shown in Figure 1.

The DWMF consists of a DSC Processing Building, Used Fuel Dry Storage Buildings (UFDSB) #1 & #2 and the Retube Waste Storage Building (RWSB).

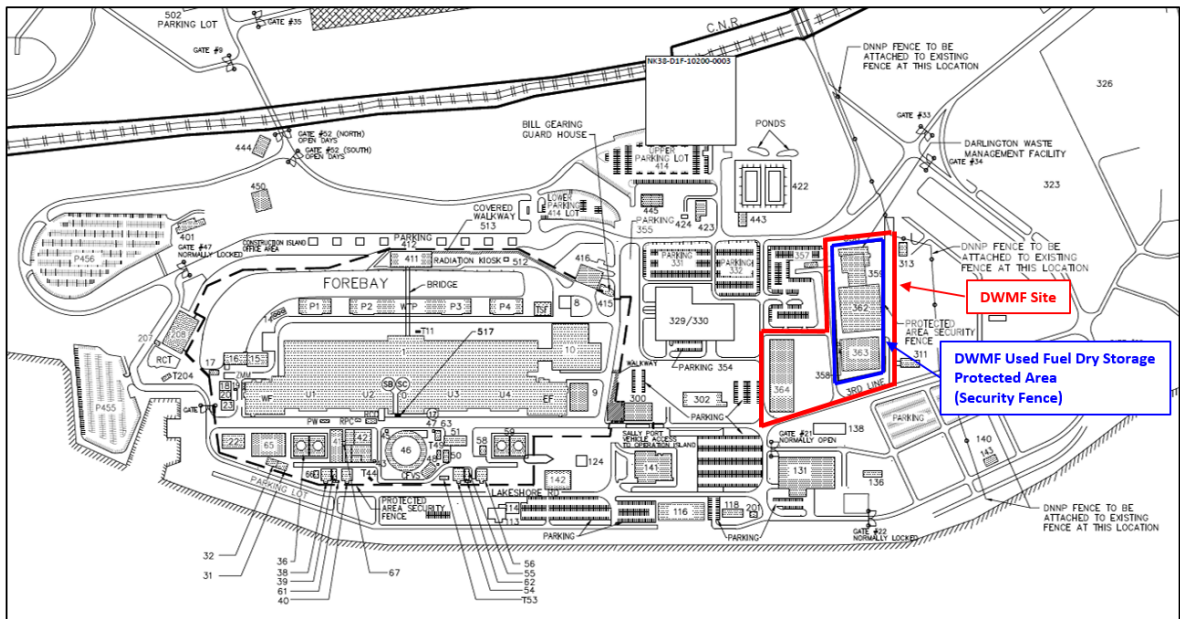


Figure 1: Darlington Nuclear Site

The DWMF site has undergone an orderly development in stages, as additional Used Fuel Dry Storage Buildings (UFDSBs) are constructed when required. The current layout of DWMF is shown on Figure 2.

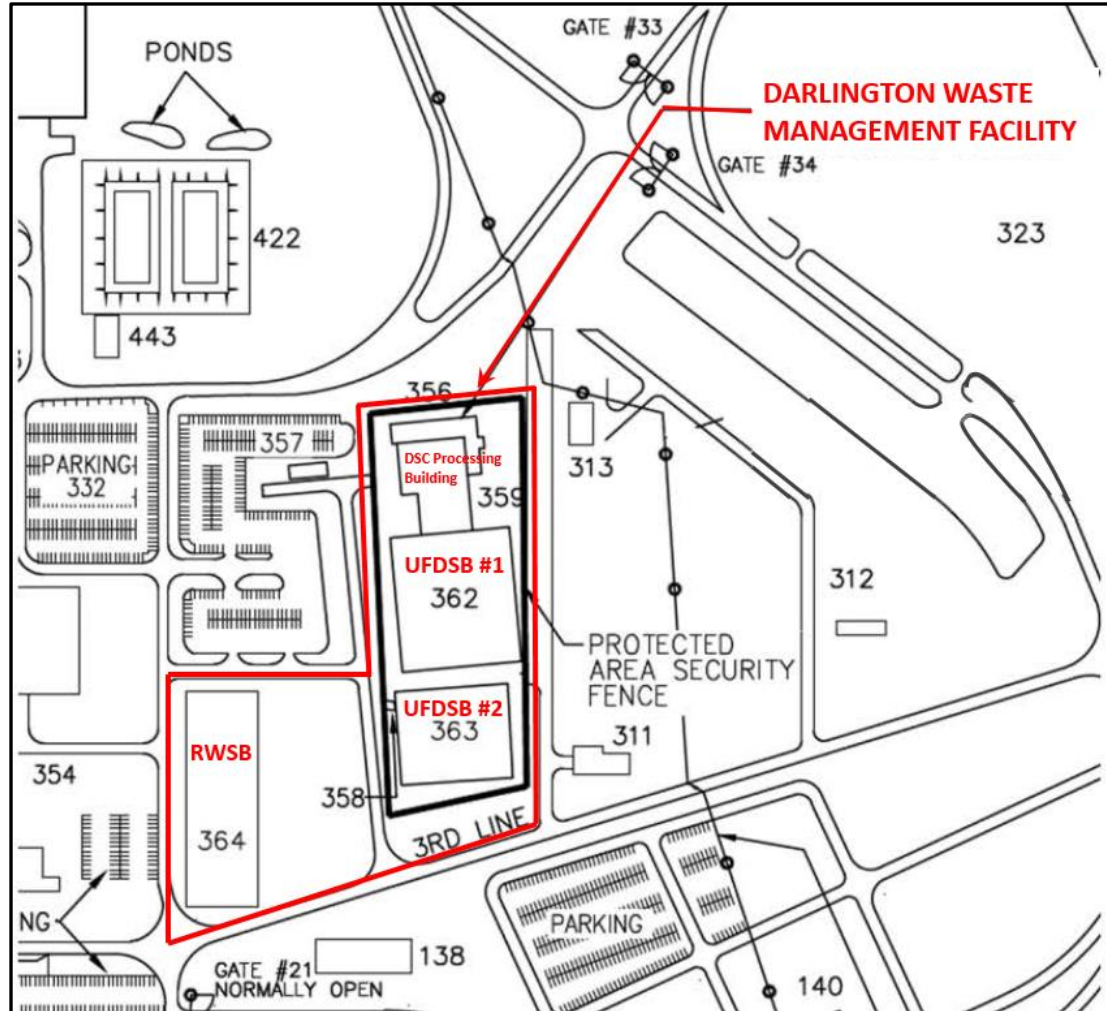


Figure 2: Layout of DWMF

1.1 Existing Used Fuel Processing and Storage Area

The DWMF consists of a Used Fuel Dry Storage system based on wet-loading of used fuel into Dry Storage Containers (DSCs), similar in design to those currently in use at Pickering and Western Waste Management Facilities. Four used fuel storage modules, containing a total of 384 used fuel bundles, are loaded into a DSC in the existing Wet Cask Handling Bay at each Fueling Facility Auxiliary Areas within the Darlington Nuclear Generating Station. The filled DSC is then drained, vacuum dried, decontaminated, and transferred to the DSC processing building at the DWMF. The transfer clamp and seal are installed to secure and seal the lid during transfer. At the DSC processing building, the DSC lid is seal welded to the DSC body and the weld inspected by the Phased Array Ultrasonic Testing (PAUT) scanner. The DSC is then vacuum dried, back filled with helium and leak tested (drain plug is welded and inspected). Finally, the welded area is painted and the DSC is transferred to a DSC storage building for interim storage. The application of the International Atomic Energy Agency (IAEA) seals is completed in a designated IAEA surveillance area inside the DSC processing building or a designated IAEA surveillance area inside the Used Fuel Dry Storage Building (UFDSB) #1.

Each DSC storage building is designed to house up to a maximum of 500 DSCs. There are currently two (2) UFDSBs on the DWMF site as shown in Figure 2.

1.2 Existing Retube Waste Storage Building (RWSB)

The Retube Waste Storage Building (RWSB) is a single building located above ground and to the west of UFDSB #2. The RWSB provides storage capacity for the interim storage of refurbishment waste generated during the refurbishment of the four Darlington reactor units. The Intermediate Level Waste (ILW) is processed prior to arriving at the RWSB, stored within a container (Radioactive Waste Container or RWC). For additional shielding, each RWC is stored within a Darlington Storage Overpack (DSO). The RWSB has a nominal capacity for 400 containers, which is sufficient for the retubing of the four Darlington units. Spare space is available to accommodate up to 490 containers. The RWCs are designed to contain irradiated components such as pressure tubes, calandria tubes, end fittings and calandria tube inserts.

1.3 CARRY-OVER OF ACTIVITIES FROM CURRENT LICENCE

OPG constructs storage buildings on an as needed basis. UFDSBs #3 and #4 have already received environmental approvals [R1] [R2] and are included in the current Waste Facility Operating Licence (WFOL), but have not yet been constructed. OPG is requesting the approval for construction and operation of these buildings to be carried over into the next licensing period. Figure 3 shows the proposed locations of UFDSB #3 and UFDSB #4. Figure 3 is for illustrative purposes only. The buildings are not to scale.

The same activities will occur in these buildings as allowed under the current licence. These structures will be located inside the current licensed area.



Figure 3: Proposed Locations of UFDSB #3 and UFDSB #4

1.4 NEW ACTIVITIES TO BE LICENSED

There are no new activities to be licenced in the next licensing period.

1.5 FEDERAL AUTHORIZATIONS

Environmental Assessment approval has previously been obtained for the DSC Processing Building, four (4) UFDSBs and the RWSB [R1] [R2].

As all of the buildings and activities for the current DWMF licence have EA approval and OPG will not be requesting any new activities be included in the DWMF WFOL, the *Impact Assessment Act* does not apply to this licence renewal.

REFERENCES

1.6

[R1] CNSC Report, Record of Proceedings, Including Reason for Decision for OPG's Environmental Assessment Screening Report for the Proposed Darlington Used Fuel Dry Storage Project, November 7, 2003, OPG CD# 00044-CORR-00531-00034.

[R2] CNSC Report, Record of Proceedings, Including Reason for Decision for OPG's Environmental Assessment Screening Regarding the Proposal to Refurbish and Continue to Operate the Darlington Nuclear Generating Station in the Municipality of Clarington Ontario, March 14, 2013, OPG CD# NK38-CORR-00531-16265.