

DNGS Community Advisory Council
Darlington Nuclear Information Centre
Tuesday, June 25, 2024
Highlights

DWMF Tour

CAC members toured the on-site Darlington Waste Management Facility, which stores used nuclear fuel in dry storage containers.

Site Update

Allan Grace talked about the operating status of the four units on the Darlington site. He also talked about a recent industry peer review of the station and the production of medical isotopes at the plant.

Community Update

Leah Bourgeois reviewed OPG activities in the community over the past several months. Among the items mentioned: OPG's Electrifying Education program involving Durham Region schools; field trips for classes from Courtice Secondary School; the Bring Back the Salmon educational program; the Darlington New Nuclear Project (DNNP) kiosk at South Courtice Arena.

**DNGS Community Advisory Council
Darlington Nuclear Information Centre
Tuesday, June 25, 2024**

CAC:

Jim Boate
Sami Elhajjeh
Cara Gregory
Mary Novak
Stacy Wanamaker

Regrets:

Bethany Dainton
Sheila Hall
Jennifer O'Meara
Pat Pingle
Heather Reid
Penny Smith
Bonnie Wrightman

OPG:

Leah Bourgeois
Lucas Curran
Mark Drummond
Allan Grace
Lindsay Hamilton
Heather Rambukkana
Stan Vichilu

Hardy Stevenson and Associates:

Francis Gillis
Dave Hardy

Topic #1: DWMF Tour

CAC members toured the on-site Darlington Waste Management Facility (DWMF), which stores used nuclear fuel in dry storage containers (DSCs). The facility has been storing used fuel from the plant since it began operations and will continue to do so until

the fuel is transported to a deep geological repository (DGR). The Nuclear Waste Management Organization (NWMO) is currently considering one of two sites in Ontario for a DGR and, pending approval from the local public and Indigenous communities, will select one of the sites by year end.

Heather Rambukkana, Director Eastern Waste Operations, noted that the NWMO is funded by nuclear power operators in Canada, most of those funds coming from OPG.

The tour was led by Heather, with Stan Vichilu, NSS-DWMF Facility Manager and Mark Drummond, NSS-DWMF Operations and Maintenance Manager.

Heather talked about the entire process of DWMF operations:

- Arrival of empty DSCs at the facility
- Transporting the DSCs to the plant storage pools, where they are submerged in the water and loaded with fuel bundles
- Draining water from the loaded DSCs
- Transporting them back to the DWMF
- Welding the top covers to the DSC

Council members saw the rows of dry storage containers, and Heather pointed out the welding areas. She noted that the containers are made of reinforced high-density concrete about 20 inches thick and are lined inside and outside with half-inch steel plate. The thickness of the concrete provides an effective barrier against radiation. Each DSC holds 384 used fuel bundles and weighs approximately 60 tonnes when empty and 70 tonnes when loaded.

CAC members also toured the room where welders view each DSC via camera and complete the welding by remote control.

Heather responded to Council questions:

- *Are there cameras inside the Dry Storage Containers?*
The DSCs are constantly monitored for signs of any radiation leakage, but there are no cameras inside.
- *Once the fuel is in the Deep Geological Repository, if technology is developed to reuse that fuel, will it be retrievable?*
Yes, there is a design requirement that the stored fuel will be retrievable.
- *When it comes time to move the fuel to the DGR, will it be transported in the DSCs here on the site?*
No, a different kind of container will be used for that transport.
- *When will the DGR be in operation?*
By 2045.

- *Will used fuel from the small modular reactors be stored in the same kind of DSCs here in this facility?*
No, the fuel units to be used in the SMRs are of a somewhat different design from the CANDU fuel bundles. SMR used fuel will be stored outside in bigger containers.
- *Is there any private sector oversight of DWMF operations?*
Essentially, third party oversight is by the Canadian Nuclear Safety Commission (CNSC) and the International Atomic Energy Agency (IAEA). IAEA cameras, mounted in various areas to view all the DSCs, ensure that DSC seals (which are put in place by the IAEA) are not tampered with. The cameras are running 24/7. As an extra layer of protection against bias, IAEA inspectors are not born and do not reside in Canada.
- *What kind of training do DSC welders receive?*
Welders have backgrounds as boilermakers or millwrights. They go through 12 to 18 months of in-class and hands-on training.

Topic #2: Review of Minutes

The CAC minutes of April 23, 2024 were approved without changes.

Topic #3: Recent CNSC Hearing

CAC Facilitator Dave Hardy noted that a Pickering CAC intervention was presented at a CNSC hearing a couple of weeks ago. The issue was OPG's request that the Pickering Nuclear licence be amended to extend the operation of Units 5 to 8 to the end of 2026. Dave and a Pickering CAC member presented the Council letter at the hearing.

Topic #4: Comments Heard in the Community

A couple of Council members talked about comments they had seen on Courtice Connection, a Facebook group which now has 15,000 users. Many of those users have expressed doubts about the efficiency of Ontario's emergency evacuation plan. Quite a few said that the plan would result in chaos and that there should be an alternative, back-up plan, a Council member noted.

Lindsay Hamilton noted that, under the Provincial Emergency Response Plan, the Region of Durham works with the province. In the event of a nuclear emergency and an evacuation order, OPG would work with the region and province.

A Council member said that information about the plan should be put in front of the public.

Allan Grace and Lindsay Hamilton indicated that they could have a representative from the province come and speak to the CAC about the Emergency Response Plan.

Council members expressed interest in hearing about the Plan, and OPG's role in it, including in an evacuation.

Topic #5: Site Update

Senior Vice President Allan Grace presented a site update:

- Unit 1 is in the final stages of refurbishment. Fuel and water are now in the unit, which is close to going on line.
- Unit 2, just out of a planned outage, is now on line at full power. Unit 2 was the first Darlington unit to be refurbished and is performing very well.
- Unit 3 is also operating at full power. Unit 3 was the second Darlington unit to be refurbished.
- Unit 4 is undergoing refurbishment and is in the final part of the disassembly stage. Darlington is now about 60 percent through its refurbishment project, which will be completed by early 2026, when Unit 4 is expected to go back on line.
- The World Association of Nuclear Operators (WANO) was on site at the beginning of June and gave Darlington Nuclear a very favourable review.
- Darlington has received CNSC approval to start producing Cobalt-60 at all four units. This isotope is used to irradiate and sterilize medical devices and equipment as well as certain foods. (In response to a Council question, Allan said, yes, Darlington is one of the world sources for Cobalt-60.)
- Very soon, Darlington will be producing Molybdenum-99, which helps detect illnesses like cancer and heart disease.

Topic #6: Community Update

Following a Land Acknowledgment by Lindsay Hamilton, Senior Communications Advisor Leah Bourgeois presented details and photos capturing OPG activities in the community over the past several months (Appendix 1).

Leah listed events and visitor numbers:

- April 2, Clarington Energy Summit – 100 visitors
- April 20-21, Darlington New Nuclear Project (DNNP) kiosk at South Courtice Arena – 300 visitors
- May 6-8, Skills Ontario Competition – 40,000 visitors
- May 11, DNNP sponsored community swim Delpark Homes Centre – 118 visitors
- June 7-8, Bowmanville Ribfest – 406 visitors

Leah talked about additional items:

- Since the launch of the Electrifying Education program earlier this year, Darlington and Pickering Nuclear have visited eight different schools and interacted with almost 2,000 students and teachers across Durham Region. Bob the Robot Dog is always a popular feature of the program.
- OPG-sponsored community swims have been quite successful.
- Darlington Nuclear partnered with Central Lake Ontario Conservation Authority (CLOCA) to provide a community Earth Week tree planting on Sunday, April 27th.
- In early April, OPG worked with students from Courtice Secondary School on site nest box maintenance. Following the fieldwork, students toured the mock-up reactor training facility.
- On May 21st, over 35 Courtice Secondary School students visited Darlington Nuclear to learn about native pollinators. This visit included a hands-on workshop delivered by Pollinator Partnerships Canada.
- OPG and partner organizations have just completed a five-month hands-on education program, known as Bring Back the Salmon. On May 23rd, 40 children participated in the release of salmon fry into Bowmanville Creek. OPG's program partners include the Ontario Federation of Anglers and Hunters, Central Lakes Conservation Authority, and Valley's 2000.

Forthcoming Community Events

Lindsay Hamilton, Senior Manager Corporate Affairs, talked about OPG's annual Community Power Expo, which will take place at the Darlington Energy Complex on Saturday, Sept. 14th. She remarked that this family-friendly, free event is one of the biggest events of the year at the Darlington site.

Dave expressed appreciation for all the important work that OPG does in the community.

Topic #7: CNSC Request

Lindsay mentioned a recent CNSC request regarding potential worker exposure to neutron radiation from refurbishment waste containers on the Darlington site (Appendix 2). The contents of the containers include pressure tubes, calandria tubes, or calandria tube inserts, removed from reactors during refurbishment. The CNSC is requesting an assessment of whether the unaccounted dose has caused any worker to exceed regulatory dose limits.

A Council member asked how the neutron radiation was flagged. Lindsay said that the IAEA noted the radiation, and the CNSC was concerned that there might have been worker exposure. An OPG team is currently exploring the situation and has committed to report to the CNSC by mid-July.

Dave suggested that OPG report on the results of their investigation at the September meeting.

Topic #8: Detour of Great Lakes Waterfront Trail

A Council member commented about the detour of a 1.4 kilometre section of the trail to an on-road section of Energy Drive, which passes the SMR project. The member remarked that this section of Energy Drive is very busy and the safety corral for cyclists is almost invisible as its colour blends into the road. He suggested it be painted bright yellow with black stripes to make it more visible as a safety crossing by trail users and motorists. The Council member is working with an OPG team on this matter.

Dave noted that the CAC intervention letter presented at the CNSC hearing last November, regarding the applicability of OPG's environmental assessment to the SMR project, suggested that OPG look for a way to reintegrate that section of the trail on to OPG land.

Topic #9: Concluding Comments

Dave wished CAC members an enjoyable summer. He noted that the next meeting in September will include the annual Environmental Monitoring Program and Groundwater Monitoring Program reports. Given forthcoming OPG licence applications, among other agenda items, a busy fall is coming up.

Allan appreciated the curiosity and interest shown by Council members during this evening's tour of the Darlington Waste Management Facility. He wished everyone a happy summer.

Next Meeting

Darlington Nuclear Information Centre
Tuesday, Sept. 24, 2024
4 pm – 7 pm