

**DNGS Community Advisory Council  
Darlington Nuclear Information Centre  
and  
PNGS Community Advisory Council  
Pickering Nuclear Information Centre  
Joint Meeting  
Tuesday, December 6, 2022  
Highlights**

**Site Updates at Pickering and Darlington**

Jon Franke talked about: the operating status of the units at Pickering Nuclear; Government of Ontario requests to extend the operating life of Units 5 to 8 to 2026 and to consider redeveloping them for long-term operation; and other matters.

Richard Geofroy talked about: the operating status of the units at Darlington Nuclear; two units undergoing refurbishment; the new nuclear project; and other matters. Council members asked about the status of new nuclear projects around the world.

**Year-end Fleet Update**

Steve Gregoris, Jon Franke and Richard Geofroy presented a year-end update of Pickering Nuclear and Darlington Nuclear. Both plants achieved outstanding success in safety, innovation and operational performance.

**Public/Community Affairs in 2022**

Olivia Mar presented a year-end review of Pickering and Darlington involvement in community activities. She reviewed public tours of the Darlington and Pickering sites, public visits to their Information Centres, and the sites' programs and events. She also talked about public interest in OPG websites.

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**DNGS CAC:**

Jim Boate  
Jim Cryderman  
Mary Novak  
Penny Smith

Regrets:

Sheila Hall  
Janice Jones

**PNGS CAC:**

Frank Dempsey (by phone)  
Donna Fabbro  
Mary Gawan  
Bill Houston  
Tim Kellar  
Tracy MacCharles (via Teams Meeting)  
Pat Mattson  
Cody Morrison  
Tavis Nimmo  
Peter Ottensmeyer  
Helen Shamsipour  
Dan Shire

Regrets:

Jill Adams  
John Earley  
Sean McCullough  
John Simpson

**OPG:**

Carrie-Anne Atkins  
Lucas Curran  
Jon Franke  
Richard Geofroy  
Steve Gregoris  
Lindsay Hamilton  
Jennifer Knox  
Olivia Mar

**Hardy Stevenson and Associates:**

Francis Gillis  
Dave Hardy

**Topic #1: Land Acknowledgement;**

Steve Gregoris, Chief Nuclear Officer, presented a land acknowledgment.

**Topic #2: Site Updates**

Site updates were presented for Pickering and for Darlington.

**Pickering Nuclear**

Jon Franke, Senior Vice President, presented a site update:

- Unit 1 is in the last phase of its 820-day outage, the purpose of which is to ensure the unit is fit for service until the end of 2024. Units 4, 5, 6, 7, and 8 are all operating at full power.
- Yesterday, Dec. 5, the station welcomed a World Association of Nuclear Operators (WANO) team for a mid-cycle review, looking at the progress made at the plant since last year's peer review. The WANO team indicated that Pickering's performance was very strong in the 14 areas covered by the review.
- The Ministry of the Environment (MOE) has requested that OPG consider extending the operation of Units 5 to 8 to 2026. OPG is checking these units regarding their fitness for service for such an extension. This evaluation is scheduled to be completed by June 2023.

- In a second announcement, the MOE has requested that OPG look at the feasibility of refurbishing Units 5 to 8, which would extend their operating life for 30 years. OPG is exploring this option.
- Last month, Pickering Nuclear employees grew mustaches to mark Movember, a campaign to support men's health and awareness. 120 employees registered and raised \$63,407, an amount ranking them 13<sup>th</sup> in Canada.

Jon Franke and Steve Gregoris responded to Council questions:

- *Did you consider the option of constructing a small modular reactor (SMR) rather than refurbishing Units 5 to 8?*  
Jon: The Government of Ontario is interested in the major capacity of a redeveloped Pickering rather than an SMR.
- *How do Units 5 to 8 compare to the newest nuclear technology?*  
Steve: CANDUs are extremely safe reactors. If we go ahead with refurbishment at Pickering, we will make a safe design even safer. Refurbishment would make those four reactors more durable. Generation demand over the next 30 years is expected to double or triple. We need both SMRs and redevelopment of CANDU reactors in Ontario; OPG will pursue both.
- *How do Pickering and Darlington compare in terms of meeting future demand?*  
Jon: We align with Darlington very well. We are focusing on the gaps in meeting future demand and how to address them.
- *What is the status of Pickering Nuclear's performance on minimizing lost-time accidents?*  
Jon: The last lost-time accident at Pickering occurred in July of last year. Our rate is 0.32, which puts us in the top rank of industry.

## **Darlington Nuclear**

Richard Geofroy, Senior Vice President, presented a site update:

- Darlington has exceeded its targets in both safety and environmental performance.
- In honour of our veterans, Darlington Nuclear has planted 3500 trees along the Highway of Heroes.
- Units 1 and 3 are in refurbishment.
- We have loaded more than 6,000 fuel bundles into the Unit 3 reactor.

- The Unit 2 outage, to allow for preparation for the delivery of Molybdenum-99, is progressing well. Mo-99 is an isotope used in nuclear medicine for diagnostic imaging. The installation of components is now complete. The goal is to return the unit on line before Christmas.
- The production of life-saving isotopes at the station is scheduled to begin in the fourth quarter of 2023.
- Unit 4 is operating at full power.
- Last week, a WANO team conducted a critical review of the restart readiness of Unit 3. The team identified no specific shortfalls for the station to respond to but made a few recommendations.
- On Dec. 15, the WANO team will return to the station to share the results of their investigation.
- On Friday, Dec. 2, the Government of Ontario made an official announcement related to the fact that site preparation was underway at Darlington for North America's first grid-sized SMR. This will be Ontario's first nuclear reactor build in a generation. (Link to announcement: [Ontario Breaks Ground on World-Leading Small Modular Reactor | Ontario Newsroom](#))

Richard Geofroy, Steve Gregoris and Jon Franke responded to Council questions and comments:

- *Those 960 feeder tubes you mentioned, each is a mini-reactor. In effect, refurbishing is creating a new reactor.*  
Richard: It's the pressure tubes that are mini-reactors, but your underlying point is well taken.
- *Are any nuclear reactors being built anywhere else in the world?*  
Richard: A couple of large reactors are being built in the United States.  
Steve: Over 60 large reactors are being built in the eastern hemisphere. Not as many are being built on our side of the world. But we are collaborating with the Tennessee Valley Authority in developing SMR technology. And our large reactor experience is valuable to them. In Canada, we haven't built a new reactor in over a generation. The SMR at Darlington is a good step back into building new nuclear. It makes a lot of sense on many fronts.  
Jon: A quick web check on new nuclear reactors under construction shows 22 in China, eight in India, three in Russia, and construction in many more countries.
- *Steve, in your Land Acknowledgment, you mentioned that two elders led a ceremony on Oct. 7 as part of an Indigenous tour of the Darlington site. Does OPG impart nuclear knowledge to Indigenous people?*

Steve: Yes, we do share information with Indigenous people and answer questions. This helps to dispel myths regarding nuclear power.

- *My granddaughter was hired by OPG to help bring an Indigenous perspective to company policies and activities as well as to educate native people on nuclear power.*

### **Topic #3: Review of Minutes**

The minutes of the joint CAC meeting of Nov. 15 were approved without changes.

### **Topic #4: CAC Report to the Community**

CAC Facilitator Dave Hardy presented an update on preparations for a CAC Report to the Community.

The Report will inform the public that both Pickering Nuclear and Darlington Nuclear Generating Stations have Community Advisory Councils. It will provide a list of CAC members with short biographical notes. It will note that the CACs meet with OPG five times a year and members participate in other activities. It will also note that CAC meetings are open to the public.

Council members discussed a wide range of topics for the Report at previous meetings. The most frequently suggested topics included:

- Darlington new nuclear Small Modular Reactor status
- OPG partnership with Durham College and Ontario Tech University
- Isotope production launch
- Darlington refurbishment
- Emergency preparedness
- Environmental Monitoring
- Pickering Operations to 2026

A Council member suggested including a “Did you know?” feature. This would be a list of interesting items, such as “Did you know that ... OPG employs 0000 people in Pickering.” Another member remarked that OPG should put such information in local media more often.

There was a discussion about the practice of listing CAC members in the Report to the Community. There was some concern about anti-nuclear groups possibly putting pressure on members. It was noted, however, that CAC meeting minutes, which include attendance lists, are already posted on the OPG public website, and that meetings are open to the public. It was agreed that the bios listed in the Report should be very brief and generic. (The bios listed in previous editions of the report included only the

member's name and affiliation.) It was suggested that the list of members include a preamble explaining that the CAC is not a decision-making body.

### **Topic #5: New Member Process**

Dave noted that, in the recent interviews, Council members called for demographic diversity and a range of ages on the CAC.

The approach for recruiting new members is that OPG makes the original outreach and invites people to a meeting to see if the group works for them. It is anticipated that several potential members will attend the Pickering and Darlington January meetings. OPG will follow up with those candidates, then Dave will undertake the official on-boarding on the new members. The on-boarding process will include a plant tour for new (and interested current) members and a Nuclear Power 101 presentation.

### **Topic #6: Year-end Fleet Update**

Steve Gregoris, Jon Franke and Richard Geofroy presented a year-end update of Pickering Nuclear and Darlington Nuclear (Appendix 1).

#### **Pickering Nuclear**

Jon remarked that it has been a solid year for Pickering Nuclear. He noted that the outage of Unit 5 was completed 30 days early. There was 100 days of continuous service from all six units simultaneously. The very successful vacuum building outage was completed in 30 days (12 days shorter than previous VBOs). Regarding forced outages, OPG is very proud of this year's forced loss rate of 1.6 percent.

The year also included OPG's first all-women-led crew with female control room shift supervisors and shift managers.

Regarding the success of the Unit 5 outage, OPG expects similar success with the current outage of Unit 1.

Steve remarked that the 100 days of continuous service is due to efficient outages and the excellence of PNGS operators.

Jon said he thought that 100 days of continuous operation of six reactors at a plant is unprecedented.

Regarding the very successful vacuum building outage, Steve remarked that innovation brings out the creativity in the OPG workforce. A Council member suggested that paragraphs about the robotic Spot the Dog and other innovations at the plants be included in the CAC Report to the Community.

Regarding the all-women-led shift at Pickering Nuclear, Steve noted that it was not deliberately planned but “really neat to see it happen.” He saw it as a reflection of OPG’s Equity, Diversity and Inclusion strategy.

Steve said that the Government of Ontario’s call for the extension of Units 5 to 8 operation to 2026 and request to consider refurbishment of those units reflects the Government’s confidence in OPG. “Pickering is one of the largest nuclear sites in the world,” he said, “and is not easy to operate. The improved performance over the years reflects the talent of the workforce.”

A Council member asked if there was video footage of the vacuum building outage. Jon said that photos and videos could be brought to the next meeting.

**ACTION: Show vacuum building photos and videos at the next meeting.**

### **Darlington Nuclear**

Richard mentioned Darlington’s role in Exercise Unified Command, where the station collaborated with provincial and federal government organizations. There is always something to be learned from such emergency scenario exercises, he said.

He also talked about: two units in parallel refurbishment, a first for OPG; the WANO peer review; and molybdenum-99 production.

Richard remarked that Unit 2’s completion of 529 days of continuous service, a record for that unit, is a testimony to the quality of the refurbishment work that had been completed on the unit.

Steve noted that the Unit 1 continuous run of over 1,000 days was well past any previous record. He remarked that Darlington is a particularly busy site, with the added challenges of tritium removal from groundwater, production of isotopes, the WANO review and the SMR project. Darlington is successfully meeting all these challenges.

Richard also presented brief reviews of the Darlington refurbishment and new nuclear project over the past year.

Steve talked about plans for 2023, including the licence renewal for the Darlington Waste Management Facility and a decision regarding the refurbishment of Pickering Units 5 to 8.

Steve and Richard responded to Council questions:

- *What percentage of electricity does Darlington supply to the province?*  
Richard: Darlington supplies 20 percent of the province’s electricity, and Pickering 14 percent.

- *Used pressure tubes contain high purity zirconium, a substance for which there is potential future use. Is this zirconium captured?*  
Richard: We don't presently have a use for zirconium, but would take advantage of it if a use were discovered.
- *Have other plants shown an interest in Darlington refurbishment?*  
Steve: Yes, Bruce Power is also undergoing refurbishment and our two plants mutually share information. Other provinces and countries have asked about our refurbishment project.
- *I understand that the SMR at Darlington will not be in operation until at least 2028. I thought an SMR would be built faster.*  
Steve: That schedule is fast compared to the time it takes to build large reactors. This is new technology to us and to the regulator. Subsequent SMRs will be built much more quickly.
- *How many Darlington people are involved in interactions with the Canadian Nuclear Safety Commission (CNSC)?*  
Steve: Hundreds. If you're looking at both Darlington and Pickering, you're getting into the thousands.
- *OPG and the station in New Brunswick are teaching the CNSC about nuclear power.*
- *What is the total amount of Pickering Nuclear's output?*  
Jon: Pickering Nuclear capacity is 3,100 megawatts now. There are ways to increase that, which can be explored if Units 5 to 8 are refurbished.

## **Topic #7: Public/Community Affairs in 2022**

Olivia Mar, Stakeholder Relations Coop Student, presented a year-end review of Pickering and Darlington involvement in community activities (Appendix 2).

She reviewed public tours of the Darlington and Pickering sites, public visits to their Information Centres, and the sites' programs and events.

Key activities in 2022:

- 45 tours of the Darlington site with a total of 424 participants
- 11 tours of the Pickering site with a total of 125 participants
- OPG information centres reopened on July 4<sup>th</sup>
- 111 visitors to the Pickering Nuclear Information Centre
- 98 visitors to the Darlington Nuclear Information Centre
- March Break Madness
- Tuesdays on the Trail

- Bring Back the Salmon education program delivered to more than 92 classrooms over a 15-week period
- Poppy campaign with Royal Canadian Legion
- Kids Safety Village in Whitby, Ontario (OPG is a major participant)
- Tree planting and other environmental activities involving the public
- Throughout March and April, the new OPG Virtual Power Kids program

Olivia also talked about OPG websites, participation in social media, and the Neighbours Newsletter. She presented some statistical data about the many thousands of public accessions of several topics related to Darlington and Pickering on the OPG website.

Asked about the meaning of website “impressions”—e.g., Pickering Nuclear: 24,616 impressions—Carrie-Anne Atkins, Manager Corporate Relations and Communications, said it referred to the number of views of the website page.

Lindsay Hamilton, Senior Manager Stakeholder Relations, remarked that OPG is seeing unprecedented levels of support from the public, politicians and media. There is a very strong realization, she said, that nuclear has to be part of the sustainable energy solution worldwide. Part of the OPG communications job is to measure that support. She noted that there has been no notable negative reaction to OPG and nuclear energy on the web.

Regarding the quarterly Neighbours Newsletter, she noted that its major role is to “drive people to the OPG website.”

She also noted that OPG tries to be involved in local Facebook pages in order to monitor public opinion.

## **Topic #8: Concluding Remarks**

Dave, Jon and Richard thanked CAC members for taking part in this evening’s meeting.

Jon remarked that the plants operate at the will of the people living around them, so OPG appreciates hearing CAC views.

Richard agreed, stating that OPG’s “success relies on the community.” He remarked that it was great to have an in-person meeting.

Dave wished everyone all the best for the season.

## **Next Meetings**

PNGS Community Advisory Council  
Pickering Nuclear Information Centre  
Tuesday, January 17, 2023

DNGS Community Advisory Council  
Darlington Nuclear Information Centre  
Tuesday, January 24, 2023