

**PNGS Community Advisory Council
Virtual Meeting
Minutes, Tuesday, September 21, 2021
Highlights**

Site Update

Jon Franke presented an update on the productivity of the plant, a historic first of all six units operating continuously for 74 days, the safety of reactor pressure tubes, a World of Nuclear Operators (WANO) plant inspection, and the 50th anniversary of the opening of Unit 1.

Centre for Canadian Nuclear Sustainability

Carla Carmichael presented an update on CCNS. She talked about the Centre foundation principles, CCNS funding of innovation projects with potential for use across the nuclear industry, and community outreach.

**Environmental Monitoring Program (EMP) and
Groundwater Monitoring Program (GMP)**

Lindsay Parks presented the 2020 results of the EMP report for Pickering and Darlington. She noted that public doses of emissions from the sites remain a small fraction of both the annual legal dose limit and the annual natural background radiation in the area. She responded to Council questions about warm water discharged from the stations into the lake and about other matters.

Ali Esmaily presented the 2020 results GMP report for Pickering and Darlington. A key result was that there were no indications of offsite impacts from PN and DN groundwater. Ali responded to a question about the linear decrease in tritium from 1999 to the present.

Community and Public Affairs

Carrie-Anne Atkins presented an update on Pickering Nuclear involvement community activities over the past summer. Among the items mentioned: PowerOn Tuesdays, a curbside program in which 1,500 activity kits were picked up by members of the public; OPG responding to misinformation in flyers being distributed by an anti-nuclear organization; The Climate Challenges podcast launched by OPG.

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Pickering CAC:

Frank Dempsey
Tim Kellar
Greg Lymer
Tracy MacCharles
Pat Mattson
Sean McCullough
John Miseresky
Cody Morrison
Zachary Moshonas
Peter Ottensmeyer
Dan Shire
John Simpson

Regrets:

Jill Adams
John Earley
Donna Fabbro
Natalie Harder
Bill Houston
Helen Shamsipour
John Stirrat

OPG:

Carrie-Anne Atkins
Carla Carmichael
Ali Esmaeily
Jon Franke
Raphael McCalla
Sabrina Nestor
Lindsay Parks
Analiese St. Aubin

Hardy Stevenson Associates:

Francis Gillis
Dave Hardy

Topic #1: Health and Safety Moment

Jon Franke, Senior Vice President at Pickering Nuclear, noted that we are now seeing a fourth wave of COVID-19, though there are not a large number of cases at the plant. The site has been very successful at managing a large workforce through the pandemic. Such measures as random testing, social distancing, wearing masks when working in close quarters, and encouragement of hand washing have been very effective. We are finding that employees are safer at work than in the community. Eighty-six percent of employees have been fully vaccinated.

Topic #2: Review of Minutes

Minutes of the joint meeting of the Pickering and Darlington Community Advisory Councils on May 18, 2021 were approved without changes.

Topic #3: Jim Dike

Jon Franke expressed his condolences to the CAC on the recent death of Council member Jim Dike. He noted Jim's stellar contribution to the CAC and the broader community, including his leadership role in the PARA Marine Search and Rescue organization.

Topic #4: Site Update

Jon presented a site update:

- All six active units are operating at full power except for Unit 7, which went into a planned outage on Sept. 10.
- This summer, the site marked a historic first, with all six units in continuous operation for 74 days.
- On August 28 there was a short outage of Unit 8 due to algae concentration at the unit's intake. This was a pre-staged protocol: a unit is shut down when algae concentration reaches a certain level.
- This summer, the hydrogen equivalent level (Heq) in several fuel channels at Bruce Units 3 and 6 went above regulatory limits. The hydrogen equivalency level is only a concern when plants are shut down and go cold, at which time there is an opportunity for hydrogen to over-pressurize the channels. On July 27, the Canadian Nuclear Safety Commission (CNSC) ordered the Bruce, Pickering

and Darlington stations to obtain authorization from the Commission prior to the restart of any units or following any outage that results in the cool down of the heat transport system. On Sept. 10, OPG presented its perspective to the CNSC. The Commission recognized that the pressure tubes at the Bruce site are much older than those at Pickering and Darlington, where the kinds of Heq levels experienced at the Bruce site have never been seen. OPG demonstrated to the Commission a high degree of confidence that the licence limit will not be exceeded at Pickering or Darlington. As well, there are systems in place at the two sites to mitigate any pressure tube failure. We have sampled the pressure tubes at the two sites many times and have never seen nor expect to see numbers like those at the Bruce site. We are very confident there are no operating issues with the pressure tubes at Pickering and Darlington.

- Last week, the first stage of World Association of Nuclear Operators (WANO) inspections took place at Pickering. Every two years, WANO does a full inspection of nuclear plants. Pickering expects to repeat in the upcoming inspections the high score achieved in 2019. These inspections will be completed in October.
- This summer, Pickering Nuclear celebrated the 50th Anniversary of the opening of Unit 1. Jon thanked Council member Dan Shire for participating in the celebration.

Jon responded to Council comments and questions:

- *Regarding hydrogen concentration, for pressure tubes to fail Heq would have to be a lot higher than the regulatory limit.*
Yes, the regulatory limit of the hydrogen equivalent level to 120 parts per million is very safe. We do many tests for Heq.
- *It would be useful to know the actual level that would cause the tube to fail.*
We are going to run some higher Heq level tests. In our actual pressure tubes, Heq would never get to 120 ppm.
- *I don't doubt the safety of the tubes, but we really don't know the degree of safety until a tube is tested to failure.*

Topic #5: Centre for Canadian Nuclear Sustainability

Carla Carmichael, Vice President Nuclear Decommissioning Strategy, presented an update on CCNS activities (Appendix 1).

She noted the four foundation pillars of OPG's Centre for Canadian Nuclear Sustainability:

- Environment: Sustainable Plans for safe, environmentally and socially responsible decommissioning
- Economy: Advance projects resulting in Economic Stimulus and skilled job opportunities
- Innovation in the Industry: Innovation Thought Leadership: Collaborative research and development with academia and vendors
- Community: Broad outreach and inclusiveness; community involvement

Carla noted that the CCNS has an annual \$2-million innovation fund for R&D projects. The fund will help support decommissioning in a number of key areas, including process optimization, radiation management, nuclear material management and site restoration.

There is also the potential for use of the fund across the nuclear industry, and it could help advance zero emissions nuclear technologies like Small Modular Reactors.

To date, OPG has selected nine ideas through the RFII [stands for?] process.

CCNS has announced four specific projects to date under consideration for funding:

- Peel-off surface cleaner – Promation Nuclear
- Robotics and used fuel packaging – Eclipse
- Using mining techniques to clean concrete – Hatch
- Energy-saving cooling system for used fuel – Framatome

Regarding community outreach, Carla talked about virtual community representations to local Rotary clubs as well as several virtual community events to be included in CCNS One-Year Anniversary Celebrations. She also talked about the CCNS Indigenous Advisory Council and about charitable giving, including CCNS sponsoring Youth Science Canada 2022.

CAC Facilitator Dave Hardy remarked that it was wonderful to see CCNS fostering and supporting leading edge innovation.

A Council member asked the date of the CCNS One-Year Anniversary Celebration. Carla said she would ask Analiese St. Aubin to reach out to the CAC with save-the-date information. She noted that the event will be very simple due to COVID restrictions.

Topic #6: Environmental Monitoring Program (EMP) and Groundwater Monitoring Program (GMP)

Raphael McCalla, Director Environment, Health & Safety, introduced Lindsay Parks, who presented the annual EMP report, and Ali Esmaily, who presented the annual GMP report.

Environmental Monitoring Program (EMP)

Lindsay Parks, Environmental Advisor, Nuclear Environment, presented the 2020 results of the EMP Report for Pickering and Darlington (Appendix 2).

Key points:

- Site emissions remained at a very small fraction of their respective Derived Release Limits (DRLs are specified in federal legislation for radionuclides that may be released to air and water from the site.)
- 916 laboratory analyses were performed for the 2020 public dose calculation.
- The 2020 site public doses remain a small fraction of both the annual legal dose limit and the annual natural background radiation in the area.
- Tritium in drinking water measured at local water supply plants remained at a small fraction of the Ontario Drinking Water Quality Standard of 7,000 becquerels per litre and OPG's voluntary commitment of 100 Bq/L.

Other Monitoring Programs

- OPG monitors the impact of the discharge of warm water from the Pickering and Darlington stations on the spawning success and larvae development of fish species. There is no indication of a warming trend that would approach the no-effects threshold of less than six degrees Celsius.
- Fish impinged on the water intake screens of the Pickering plant in 2019 was estimated to be 2.87 kilograms per million square meters of station flow. The 2020 Impingement Report was submitted to the CNSC in May 2021.

Lindsay and Raphael responded to Council questions:

- *If you get a high reading at one of the monitoring stations, how do you find the cause?*
Raphael: There is monitoring throughout the year. If we get a high reading, we check back to see if there is a correlation between the reading and a particular event at the station.
- *Your charts show that readings at the property line are consistently higher at Pickering than at Darlington.*
Lindsay: Yes, but the differences between the two stations are not statistically significant.
- *What is the rationale for the timeframe of the thermal plume studies around the Condenser Cooling Water (CCW) systems?*
Lindsay: Warm water is discharged from the stations into the lake through the CCW systems. As part of a multi-year study, the resulting thermal plumes were monitored from Dec. 1, 2019 to March 31, 2020.
Raphael: That is the time of year when the fish species of concern spawn. We monitor the discharge area to see if the warmer water causes the eggs to hatch too soon. We make sure that the water temperature does not increase more than

six degrees Celsius. (As noted above, Lindsay indicated that the warming trend is considerably less than the no-effects threshold of less than six degrees Celsius.)

- *Is there impingement of invasive species on the water intake screens of the plants?*

Raphael: Yes, Round Gobi continues to impinge. As has happened with other invasive species, in time, Round Gobi will come to be considered part of the natural ecosystem.

Groundwater Monitoring Program

Ali Esmaily, Section Manager Environment, presented the 2020 results of the GMP Report for Pickering and Darlington (Appendix 3).

Key results:

- For both Pickering Nuclear and Darlington Nuclear, the groundwater flow patterns remain consistent with original interpretations.
- Groundwater data collected from the key areas remained stable, indicating consistent environmental performance.
- There were no indications of offsite impacts from PN and DN groundwater.

Ali and Raphael responded to a Council question:

- *You mentioned that the linear decrease in tritium from 1999 to the present was expected. Why expected?*

Ali: The decrease would be expected from the decay of the tritium and the movement of the groundwater.

Raphael: And we arrested the tritium source. Hence the expected decrease from 1999.

Topic #7: Community and Public Affairs

Carrie-Anne Atkins, Manager Corporate Affairs, presented an update on Pickering Nuclear's involvement in community activities:

- PowerON Tuesdays was a curbside pickup program that ran on select Tuesdays in July and August. 1,500 activity kits were picked up by members of the public over the four weeks. Community partners included the Toronto and Region Conservation Authority, Earth Rangers, public libraries and others.
- Region of Durham nuclear public alerts will take place on Monday, Oct. 18 and Tuesday, Oct. 19.

- The Summer edition of the Neighbours Newsletter arrived in mailboxes in July. The next edition will arrive in November.
- Over the last few weeks some homes in GTA communities have received flyers from an anti-nuclear organization, containing misinformation related to nuclear power and to OPG efforts to progress plans for a new nuclear reactor at the Darlington site. OPG wants to make sure that, as informed stakeholders, Council members have the right information and the ability to counteract misinformation. There is a fact sheet on our clean energy future that you may consider sharing (Appendix 4). You can also subscribe to OPG's [online newsletter here](#). Other resources you can access include:
 - [Climate change | OPG](#)
 - [Darlington new nuclear | OPG](#)
- OPG's The Climate Challenges Podcast was launched in September and will run to December 2022. [Media release > New OPG podcast focuses on building a post-carbon future - OPG](#)
- OPG has been nominated for a Whitby Chamber of Commerce (WCC) Business Achievement Award. The awards will be announced on Nov.10.
- As part of Take Pride in Pickering this past weekend, OPG and community partners distributed more than 300 serviceberry shrubs to families throughout Durham Region. The curbside pickup program provided families the opportunity to plant a native shrub safely in their own backyard.
- The City of Pickering Environmental Award video can be viewed on YouTube at the following link- <https://youtu.be/pgWStws6Bsl>
- On August 23, four women in OPG's Advanced Inspection and Maintenance division broke new ground as they set out on one of the company's first-ever-all-female dives. With more than 470 dives completed this year to conduct maintenance on the Pickering plant's 2,000-foot fish diversion net, this one was a milestone for the books. (See photo in Appendix 5.)
- We should hear in October about the CNSC decision regarding OPG's application for renewal of the Site Preparation Licence for the Darlington New Nuclear Project.
- OPG's Wesleyville site received the 2020 Ontario Nature Corporate Award for its contribution to improving nature conservation in the Wesleyville area. (Carrie-Anne thanked Council member Dan Shire for flagging this award.)

Next Meeting (Virtual)

**Joint Meeting of PNGS and DNGS
Community Advisory Councils**

Tuesday, October 19, 2021

5:30 pm – 7:30 pm