

**Pickering Nuclear Generating Station  
Community Advisory Council  
Pickering Nuclear Information Centre  
Minutes, February 18, 2020  
Highlights**

**Site Update**

Randy Lockwood presented a site update. Among the items mentioned: the operating status of the units; the voting down of the Deep Geologic Repository at the Bruce site by the nearby Saugeen Ojibway Nation; the Ajax Polar Plunge in support of a school kids breakfast program. There were remarks about a recent Pickering Council discussion of a proposal to accelerate the decommissioning plan for the site.

**Public and Community Affairs**

Analiene St. Aubin presented an update on OPG involvement in community affairs: the Bring Back the Salmon program; OPG plans for March Break Blitz; Neighbours Newsletter to be sent out in early March; Take Pride in Pickering tree planting on April 25; Durham Steps for Life walk on May 23.

**Darlington Refurbishment**

Scott Berry presented an update on the Darlington Refurbishment project, noting the significant economic and environmental benefits for the region and the province. The refurbishment of Unit 2 is now nearing completion. CAC members were impressed with the progress of the project. They asked questions about the role of the reactor mock-up; OPG efforts to recruit skilled tradespeople; and other matters.

**X-Lab and Innovation**

Laura Brooks presented an update on innovation opportunities and projects led by OPG's X-Lab. She talked about X-Lab's role in: building tools and products to be used by various groups at OPG; facilitating connections to vendors offering solutions; supporting staff who are bringing innovations back to their group; developing emerging technologies and fostering an innovation culture.

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**Pickering CAC:**

Frank Dempsey  
Bill Houston  
Tim Kellar  
Julie Kim  
Tracy MacCharles  
Pat Mattson  
Sean McCullough  
John Miseresky  
Cody Morrison  
John Stirrat

**Regrets:**

Jill Adams  
John Earley  
Donna Fabbro  
Kristin Hall  
Natalie Harder  
Greg Lymer  
Zachary Moshonas  
Peter Ottensmeyer  
Helen Shamsipour  
Dan Shire  
Ralph Sutton

**Guest:**

John Simpson

**OPG:**

Scott Berry  
Laura Brooks  
Mike Gilbert  
Randy Lockwood  
Analiese St. Aubin

**PDA:**

Francis Gillis  
Dave Hardy

## **Topic #1: CAC Membership Changes**

CAC Facilitator Dave Hardy welcomed everyone to the meeting and announced two departures from the Council:

- Kristin Hall joined the CAC in January 2018 when she was a student in environmental studies at Durham College. She is now retiring from the Council,
- Ralph Sutton joined the CAC in February 2015 as a member at large from Pickering. Ralph has decided to resign from the CAC due to health issues. Ralph participated in the CNSC hearing in June 2018 as one of the presenters of the CAC's submission to that hearing.

Dave noted that Ralph's and Kristin's involvement in CAC discussions during their tenure is very much appreciated.

## **Topic #2: Review of Minutes**

The minutes of the CAC meeting of Jan. 21, 2020 were approved without changes.

## **Topic #3: Site Update**

Site Vice President Randy Lockwood presented a site update:

- Of the six operating reactors, Units 4, 5, 6, and 8 are currently operating at full power. A planned outage of Unit 1 began in January and is scheduled to continue until the end of May. The purpose of the outage is to ensure the unit's fitness for service. Among other activities is a fuel channel inspection, a task that is done for every outage. Unit 7 was recently taken off line to conduct some investigations and make repairs to the heat transport system; the unit is expected to be back on line at the start of March.
- January was a good month for the site in terms of a very low forced loss rate.
- OPG had proposed a Deep Geologic Repository (DGR) at the Bruce Nuclear site near Kincardine for the permanent disposal of low and intermediate level nuclear waste. The Saugeen Ojibway Nation, whom OPG had consulted on the proposal, has voted it down (1,058 opposed; 170 in favour). OPG is now moving forward with alternative site proposals. The company will consult with affected communities, including First Nation communities.
- Randy appreciated several CAC members attending the recent Pickering Council meeting. The goal of his presentation to the city council was to explain OPG's

decommissioning plan and limit false expectations. He remarked that OPG will look at ways to move some of the milestones of the plan forward.

- Regarding the proposal from Pickering Harbour Company Ltd. to develop land within the Pickering Nuclear exclusion zone, Randy said he is open to talking to any stakeholder about this issue.
- Randy is participating in the Ajax Polar Plunge at Ajax Rotary Park on Feb. 29. Participants in this Superhero event will jump into the lake, with all proceeds going to the Falby School Kids Breakfast Program. CAC members are welcome to sign up for the OPG team or to simply donate. Details at <https://ajaxpickering.ca/event?evid=2626>.
- OPG will be participating in the Canadian Nuclear Association conference on Feb. 26 – 28. This event will be looking at the future of energy. Scientists, regulators and vendors will be in attendance. Small Modular Reactors will be the main topic.
- Pickering Nuclear's progress in fostering diversity was recognized in the recent WANO report on their review of the site in December. For example, the site has held an anti-bullying day. There are also activities related to Black History Month (February). (Analiese St. Aubin noted that OPG partners with the Women's Multicultural Resource and Counselling Centre of Durham Region.)
- OPG will be holding on-site discussions with the CNSC tomorrow (Feb. 19).

A CAC member who attended the recent Pickering Council meeting commented on what transpired in the discussions about decommissioning the Pickering Nuclear site. He commended Randy's presentation for its focus on facts. He expressed disappointment with the order of presenters, saying that OPG should have presented first.

A CAC member hoped there would be an additional opportunity for OPG to do a follow-up presentation to Pickering Council.

Randy said it was important for people to understand Pickering Nuclear's decommissioning plan as written. OPG would be pleased to work further with Pickering Council should ways to advance Plant decommissioning be identified.

For example, the push for early dismantling needs to include the decision of where to put the resulting radioactive waste. The Plant also produces valuable isotopes, and that activity would stop.

Randy noted that the motion discussed at the Pickering Council meeting was to endeavor to accelerate the decommissioning process. OPG would be pleased to

consider more efficient dismantling ideas but doesn't want people to think that dismantling the plant by 2034 is feasible.

Regarding the refurbishing of any fuel channels during unit outages, a CAC member asked where this refurbishing is done. Randy said that it is done on site.

## **Topic #4: Public and Community Affairs**

Anaiese St. Aubin, Manager of Corporate Relations and Communications at Pickering Nuclear, presented an update on OPG involvement in community affairs:

- As part of the Bring Back the Salmon program, the site received 100 eggs for its salmon hatchery on Jan. 28. With the current educational situation, OPG's partner school, Sir John A. MacDonald's Grade 5 students were unable to attend this event. OPG filmed a video that was sent to the school and will visit the school on Feb. 19 for follow-up activities.
- OPG's March Break program lineup and information is now posted on [www.opg.com](http://www.opg.com).
- The Winter issue of Neighbours Newsletter will be in mail boxes in early March.
- The Take Pride in Pickering tree planting (Dusty Drive, Duffin Heights area, north on Brock Road) will take place on April 25, 10 a.m. to noon.
- The 10<sup>th</sup> anniversary Durham Steps for Life (walking for families of workplace tragedy) will take place on May 3<sup>rd</sup>.

## **Topic #5: Darlington Refurbishment**

Scott Berry, Senior Manager, Darlington Refurbishment Communications and Stakeholder Management, presented an update on the project (Appendix 1). Key points:

- Darlington refurbishment and continued operations will bring 30 more years of clean electricity, yielding significant economic benefits (including job creation) as well as significant environmental benefits. Darlington refurbishment is one of the largest projects in Canada to address climate change.
- Darlington refurbishment schedule:
  - Unit 2: Q4 2016 – Q2 2020
  - Unit 3: Q2 2020 – Q3 2023
  - Unit 1: Q4 2021 – Q4 2024
  - Unit 4: Q2 2023 – Q2 2026

- Many safety enhancements have been carried out on the site; all 18 infrastructure and safety projects have been completed.
- Unit 2 refurbishment is now 93% complete, on time and on budget; 42 of 58 systems are now in service. The following items are now complete:
  - Steam generator work
  - Major overhaul of turbine generator—the first time since Darlington was built
  - Feeder campaign
  - Unit loaded with new fuel
- Safety performance: 22 million hours of work on the project now completed, with only one lost time accident—around 10 times better than industrial average.
- “We are nuclear professionals.” The perspective of each worker: “I understand how my tasks impact the core, my peers and our community. I care to take actions to protect them.” (The core of a CANDU reactor contains the fuel channels.)
- Lessons learned from addressing the challenges that arose in refurbishing Unit 2 can be applied to subsequent units, a cumulative learning process. (Randy, who was involved in the startup of Darlington in the early 1990s, remarked that lots of issues arose in the construction of Unit 1, but the construction of each subsequent unit went faster.)
- The refurbishment is attracting more female workers, and OPG is working to draw Indigenous workers.
- Bruce Power also has a refurbishment project underway. OPG and Bruce Power are collaborating to maximize efficiencies for Ontario and deliver the projects safely, with quality on time and on budget.

Scott responded to Council questions and comments:

- *How important was the mock-up unit to the efficiency of the project?*  
A mock-up unit is not a new concept, but the structure at Darlington was notable for its enormous fidelity to an actual unit. The structure was built well in advance of actual work on the refurbishment. Tools were developed and tested on the mock-up, so it paid for itself even before the refurbishment actually started. Workers were able to demonstrate their training on the mock-up. This process built up teamwork. A tremendous asset of the precision-built mock-up is the predictability it provides.
- *The industry would serve itself well if it were to promote the advantages of working skilled trades in OPG/nuclear.*

Yes, there is a stigma to working in trades, though many people are shifting to trades in mid-career. Trades offer high pay and the opportunity to work with sophisticated tools, for example the use of robotics in boiler-making. (Randy noted that events at the Pickering site have been connecting youths to trades and the opportunities this career path offers.)

- *Has OPG addressed the welding failure rate in structures?*  
We have been successful in resolving the weld issues and removed a lot of risks for subsequent units.
- *Are there challenges in recruiting employees for the nuclear industry?*  
Nuclear was always mistakenly considered a sunset industry, but we provide predictable and consistent employment. Experience in the nuclear industry looks great on a resume. It also offers the opportunity to stay for 35 years and advance to supervisory and management roles.

## **Topic #6: X-Lab and Innovation**

Innovation Specialist Laura Brooks presented an update on innovation opportunities and projects at OPG's X-Lab (Appendix 2). She described X-Lab as an innovation accelerator for OPG. The unit has now moved from four to seven employees.

Laura discussed the following areas:

- Innovation Velocity: speed and direction
- X-Lab's Mission: to create cost savings through creative thinking and to drive improvements in safety, reliability and efficiency
- What X-Lab does:
  - Build: X-Lab builds tools/products to be used by various groups
  - Connect: X-Lab acts as a consultant connecting you to the right group or vendor for a solution
  - Teach: X-Lab supports staff to develop the necessary skills to bring innovation back to their groups
  - Inspire: X-Lab develops prototypes/proofs of concept of emerging technologies to drive the change in innovation culture
- Under the Build mandate, X-Lab provides:
  - Wireless Technology: wireless sensors; wireless gateways; asset tracking
  - 360-degree video technology, including HoloLens and HTV Vive
  - Digital Tools: Apps, PowerBi
  - Additive Manufacturing: 3D printers; 3D scanners

- Laura gave examples of video technology capabilities:
  - A boiler room can be put in a virtual reality headset, which can cut in half the time it takes to tour the boiler room.
  - Taking photos and videos of a reactor in operation
  - A virtual reality hologram can give a close-up view of a fuel channel; animation can take the fuel channel apart

Laura responded to Council questions:

- *When taking close-up photos or videos of a reactor in operation, do you have to dispose of the camera?*  
We are able to de-contaminate the camera.
- *How do older workers respond to new technologies, such as the virtual reality headset?*  
We make sure the more experienced workers are comfortable with the headset. We buy it and add features to make it more user friendly in a nuclear plant setting.
- *Are you measuring the payoff from leading edge technology?*  
Yes, we address that. The workers really like the new technologies.

A CAC member asked about the production of medical isotopes at Pickering Nuclear. Randy noted that the site has been making medical isotopes since 1971, providing about 40 percent of the world supply.

Concluding remarks:

Randy remarked that OPG is really proud of X-Lab, which is driving a culture of innovation across the company. As a result, there has been a significant improvement in recent years in how the nuclear industry sees OPG. At their December review of the site, WANO inspectors saw Pickering Nuclear looking to the future. At a recent X-Lab reception at Casa Loma, participants unfamiliar with OPG thought it was a start-up company while others who know the company remarked they could not believe this was OPG.

## **Topic #7: CNSC News**

For selected news items from the CNSC, please see Appendix 3.



**Next Meeting**  
**Tuesday, April 21, 2020**  
**Pickering Nuclear Information Centre**  
**(supper available at 5:30 pm)**