

**Pickering Nuclear Generating Station
Community Advisory Council
Pickering Nuclear Information Centre
Minutes, February 19, 2019
Highlights**

Site Update

Randy Lockwood presented an update on the operating status of the site units, staff involvement in community activities, management strategic discussions, senior staff changes at OPG, and other topics.

Public and Community Affairs

Analiene St. Aubin presented an update on OPG involvement in co-funding the first ever Boiler Lab at Durham College, hosting elementary school students in releasing salmon eggs into a hatchery at Pickering Nuclear, plans for March Break Madness and other activities. There was also a discussion about communicating with the public about the end of life for the wind turbine on the site.

Update on Nuclear Waste Management

Jennifer Chapin talked about the nuclear waste management program at Pickering. She differentiated between *storage* of nuclear waste and permanent *disposal* of nuclear waste. She updated the Council on plans to increase the capacity of the Pickering Waste Management Facility for used nuclear fuel. She also discussed the current status of a Deep Geologic Repository (DGR) project for low- and intermediate-level waste in Kincardine.

Performance Improvement Program at Pickering

Amanda Briggs talked about three drivers of performance improvement at Pickering: A Corrective Action Program; Operating Experience; and Continuous Learning. Council members asked how OPG measures the effectiveness of the Performance Improvement program and communicates the lessons learned to employees.

**Pickering Nuclear Generating Station
Community Advisory Council
Pickering Nuclear Information Centre
Minutes, February 19, 2019**

Pickering CAC:

John Earley
Natalie Harder
Bill Houston
Tracy MacCharles
Pat Mattson
Sean McCullough
John Miseresky
Cody Morrison
John Stirrat
Ralph Sutton

Regrets:

Jim Dike
Donna Fabbro
Keith Falconer
Kristin Hall
Tim Kellar
Greg Lymer
Zachary Moshonas
Moe Perera
Helen Shamsipour
Dan Shire
Anna-lisa Tersigni

Guest:

Frank Dempsey

OPG:

Amanda Briggs
Jennifer Chapin
Randy Lockwood
Analiese St. Aubin

PDA:

Francis Gillis
John Vincett

Topic #1: Review of Minutes

In reviewing the minutes from January, a Council member noted that David Rogers had talked about OPG efforts to reach out to suitably qualified young people for older sounding trades like wheelwrights and boiler makers. OPG used a “Trade Fair” approach to bring in students and show them how these career paths involve a range of skills and offer attractive compensation. This has been successful. OPG has found that pairing young boiler makers with experienced boiler makers has made the older generation more effective through deploying the technology; and younger boiler makers, who have the tech skills, more well-rounded as they benefit from the experience of the older workers.

In the list of expected CAC topics for 2019, there was a call to add an Update of Pickering Site Repurposing.

With these additions, the CAC minutes for Jan. 15, 2019, were approved.

Topic #2: Letter to Pickering Nuclear Staff

CAC members finalized a letter in which they thanked PNGS employees for their accomplishments over the years, in particular their obtaining a renewal of the site's operating licence to 2028 and improvements to plant performance.

Randy Lockwood noted that he had mentioned the Council letter at a recent staff meeting, where the initiative was well received and applauded by staff members.

Topic #3: Site Update

Senior Vice President Randy Lockwood presented a site update:

- Of the six active reactors, Units 1, 4, 5, 6, and 8 are operating at full power.
- Unit 7 began a planned outage on Feb. 6, which is expected to last to the end of May. Among other activities, workers will be replacing a turbine spindle, which has shown evidence of cracking. The new spindle will be a high pressure design, and will also add six to eight megawatts of capacity to the unit.
- Business plan roll-outs for 2019 have been presented to staff.
- There was a good staff turnout for the Durham Parasport Games held in Whitby from Feb. 8 to 10. OPG is a gold level sponsor of these games.

- There was also a great staff turnout for Black History Month (February) events, which included a presentation from Felicia Samuel that was well received.
- Two days were set aside for management discussions of strategy to 2022, including a look at changes to the energy market. Pickering Mayor Dave Ryan addressed the group about changes anticipated in future years. There was also an address by wilderness writer and adventure photographer Bruce Kirkby, who focused on the importance of assessing and effectively managing risk.
- OPG will be participating in the Canadian Nuclear Association meeting in Ottawa next week. OPG will be hosting a couple of booths on innovation and technology.
- Dominique Minière from EDF (Electricité de France) will be joining OPG on March 4 as the new nuclear president. He will be focusing on new projects and growing OPG's nuclear business. He will be working closely with Chief Nuclear Officer Sean Granville.
- OPG President and CEO Jeff Lyash is leaving at the end of March to head up the Tennessee Valley Authority. He will be replaced by Ken Hartwick, currently Chief Financial Officer at OPG.

Topic #4: Public and Community Affairs

Analièse St. Aubin, Manager of Corporate Relations and Communications at Pickering Nuclear, presented an update on OPG's involvement in the community:

- In January, Durham College and OPG celebrated the recent completion of the college's first ever Boiler Lab. This hands-on learning tool is funded by both the college and OPG, and will strengthen the Millwright Technician and Power Engineering Technician – Fourth Class Programs offered by the college.
- On Feb. 7, OPG hosted Grade 6 students from St. Elizabeth Seaton Catholic Elementary School at the Pickering Information Centre for the annual release of salmon eggs into the educational hatchery. A couple of days earlier, Darlington hosted two elementary school classes for the launch of that site's first hatchery. The program at Darlington is modelled after the Pickering program.
- March Break Madness programs will run from March 11 to 15 at both Pickering and Darlington Information Centres and in various locations in the community such as the Pickering Recreation Complex and Purple Woods Conservation Area.
- The Neighbours newsletter will be delivered to homes in early March.
- The wind turbine on the Pickering Nuclear site has reached its end of life and will be dismantled. The dismantling will take place in April and will have no impact on public space or the operation of the plant. There will be an article in the upcoming Neighbours

Newsletter informing the general public about the dismantling.

Analiase responded to Council questions:

- *When was the turbine set up?*
It was installed in 2001 and is operated by the Renewable Generation group of OPG, a completely separate entity from the Pickering station.
- *Will the turbine be replaced?*
No, there are no plans to replace it. There is no strong business case to do the major repair work that would be required to continue operation. Also, the Government of Ontario decided a number of years ago that OPG should focus on its core businesses and no longer pursue wind or solar energy projects.
- *Did you conduct a life cycle analysis of the turbine's operation?*
(Randy remarked that, regardless of what a life cycle analysis of a turbine in general might tell us, the business case for continuing this particular unit is just not there.)
- *Eighteen years seems like a short lifespan.*
(Council Facilitator John Vincett noted that, at the time of its installation, the turbine at Pickering was the largest in North America and featured some new technologies that had their teething troubles in the early months of the turbine. Then the Ontario government mandate for renewable energy projects at OPG changed.)
- *Is there a story about the turbine to tell the public. That unit was highly symbolic to the community. Also, it might be useful to communicate how wind power technology has evolved over the last 18 years.*

Topic #5: Update on Nuclear Waste Management at Pickering

Jennifer Chapin, Director of Operations Support at OPG, presented an update on the nuclear waste management program at Pickering (Appendix 1). She set the discussion in the context of the “three pillars” of OPG's nuclear waste management division:

- Stewardship – we look after the waste responsibly
- Lasting Solutions – seeking a permanent solution for disposal
- Peace of Mind – for the public

Jennifer reviewed the three types of nuclear waste—Low-level, Intermediate-level, and High-level—and the three waste management facilities that store OPG nuclear waste:

- Western Waste Management Facility – stores L&ILW from all stations, including Pickering, plus Bruce used fuel
- Darlington Waste Management Facility – stores Darlington used fuel and some Darlington refurbishment waste
- Pickering Waste Management Facility – stores Pickering used fuel and some Pickering refurbishment waste

The CNSC in 2018 granted PWSM an operating licence renewal to 2028. The licence includes construction of Storage Building #4, which has a capacity of approximately 500 Dry Storage Containers. Completion of this building is planned for 2020.

Jennifer differentiated between the concepts of storage and disposal. All current waste *storage* at OPG is interim only. Permanent *disposal* of OPG's low- and intermediate-level waste (L&ILW) will be in a Deep Geologic Repository (DGR) to be built 680 metres below the Bruce nuclear site in Kincardine.

Jennifer talked about the status of the approval process for the DGR. A federal Joint Review Panel considered the DGR Environmental Assessment and, in 2015, found that the project should proceed "now rather than later." In 2016-17 the Canadian government requested additional information, including impact on the Saugeen Ojibway Nation (SON). OPG is currently engaged in respectful dialogue with SON.

Meanwhile, the Nuclear Waste Management Organization (NWMO) is managing a longer term process for siting a separate DGR for the permanent disposal of all used nuclear fuel in Canada, including from OPG stations. Final site selection by NWMO is expected by 2023. A used fuel DGR is expected to be in service by 2043-45.

Jennifer responded to Council questions:

- *Has there been any development in the Saugeen response to the DGR proposal?*
The form for discussion with SON is still being developed.
- *With the completion of Storage Building #4, will there be sufficient capacity to provide for Pickering used fuel storage to 2024?*
No. We plan to keep building new storage capacity until we have added 1,000 DSCs to current capacity. We included a plan for Building #5 in our licence that was approved.
- *Has the design for Dry Storage Containers (DSCs) changed?*
No, not significantly. There were a couple of minor modifications between the first and second generation of DSCs.
- *When changes are made, I assume they have to go before the CNSC.*
Yes, absolutely.
- *How long will the PWSM be in operation?*
At least to the end of life for the Pickering plant, which will be in 2038 (the plant ceases commercial operation in 2024, but decommissioning activities continue to 2038).
- *What is the long-term plan for monitoring the DGR as a permanent solution for low- and intermediate-level waste at Kincardine?*
The plan is for 300 years of active monitoring, followed by closure of the DGR.

- *What is the timeline for construction of a low- and intermediate-level waste DGR in Kincardine?*

We anticipate that construction could commence by 2025 at the latest.

- *The DGR is a credible concept, but I don't understand why industry is not looking for a better solution—such as re-use of the nuclear waste.*
- *I believe researchers will come up with some way of re-using used nuclear fuel.*
(Randy commented that it is difficult to make a business case for investing in re-using nuclear fuel. There is a glut of used fuel currently on the market, he noted, and quite a bit of uranium now in the ground in Canada. Jennifer added that, even if used fuel were to be used a second time, it would still be very radioactive.)
- *Where exactly is NWMO in the siting process for a DGR for used nuclear fuel?*
The NWMO is currently looking for communities with the right geological properties to volunteer to host a DGR. Presently, there are five locations under consideration and each is going through further research activities to determine suitability. The five locations include three in the Canadian Shield—Ignace, Manitouwadge and Hornepayne; and two on the Bruce Peninsula—Huron-Kinloss and South Bruce. The benefits for the site community will include financial compensation and employment opportunities. Regarding data on potential host communities for a DGR for used nuclear fuel, Jennifer noted that this information is available on the NWMO website.
- *How is the used fuel DGR to be financed?*
Nuclear plants in Canada contribute annually to a special fund for this purpose, which is based upon megawatts generated. This is a condition of the licence. As at Dec. 31, 2018, OPG has set aside \$9,964M in the Ontario Nuclear Funds Agreement (ONFA) Used Fuel Segregated Fund to pay for the long-term management of the used fuel bundles.

Topic #6: Performance Improvement Program at Pickering

Amanda Briggs, Performance Improvement Manager at OPG, discussed the program at Pickering Nuclear (Appendix 2). She talked about three drivers of performance improvement at the site:

- Corrective Action Program (CAP)
- Operating Experience (OPEX)
- Continuous Learning

The Corrective Action Program encourages employees to raise concerns about issues, from small to big. If an incident occurs, a cross functional team undertakes two levels of review:

1. The impact of an event
2. The cause of an event: the underlying factors of why it happened

The greater the impact, for example on productivity, the higher the level of investigation.

We encourage employees to report all potential and actual performance issues, Amanda said, which results in a large volume of information. Like hospital emergency departments, we triage the issues so that we can give greatest attention to the most important items.

The findings from the review provide a basis for developing and implementing a plan to prevent a recurrence of the event. This action plan often includes short-term and long-term elements. The effectiveness of the action plan is tracked.

Amanda responded to Council questions:

- *Can you give an example of an event or series of events that would be investigated?*
One would be slips in the parking lot.
- *How is Pickering's safety performance bench marked?*
We compare performance within our own industry and with other industries.
- *If an employee is injured, is there union involvement in the investigation of the incident? Are disciplinary actions taken?*
Overall, the goal is to learn from the incident. The union would be involved. (Randy noted that there is a path for disciplinary measures—should they be required.)
- *Suppose the review team's analysis is not right.*
If we find that the plan arising from the review is not effective, we take another approach. We also define successes, which we can refer back to as new issues are identified.

Amanda went on to talk about Operating Experience (OPEX). OPG takes into account external industry trends as well as experiences at the Pickering site. “We learn from from the industry and they learn from us,” she said. Internal experiences are shared within the station and with other OPG sites.

As an example of learning from other industries, Randy mentioned the Slip Simulator, which is a device that reproduces hazardous walking surfaces and is used to teach employees how to safely negotiate such surfaces. “We've learned a lot from this simulator,” he said, “regarding footwear and how to walk on slippery surfaces.”

Amanda also talked about Continuous Learning at Pickering, which is fostered by mentorship, and by reflecting on incidents and how to improve performance so that they do not recur. Nuclear plants at OPG pride themselves on being the best safety performers in the energy industry. Maintaining that position requires continuous improvement.

Amanda responded to further Council questions:

- *It might be interesting to have a conversation about safety issues and incidents in the home, and how they may act as an indicator for safety performance.*

We strive at all times to draw matters of safety to the attention of employees and recognize the potential for performance in the home and workplace to influence each other.

- *You mentioned looking at 1,000 issues. That seems an awfully high number.*
Yes, and part of determining trend information is looking at large amounts of data. They allow us to focus on areas where there are good opportunities to improve performance. We don't just identify issues. We also identify trends.
- *Do you provide information on findings about trends and issues to employees?*
Yes. For example, we provide storyboards on accidents—as well as small incidents—and on the remedies we have initiated to prevent recurrence. We do trend reports three times a year and share information with other stations. We also talk about applying what we learn in the workplace to life outside work.
- *Do you measure the effectiveness of steps taken to improve performance?*
Yes, we measure our effectiveness as the Performance Improvement unit and also solicit feedback from employees.
- *Do you apply the same performance standards to long-term contractors?*
Yes, we don't distinguish between employees and external contractors when it comes to safety standards. (Randy added that Pickering Nuclear is striving to reach a point where you can't tell the difference between employees and contractors when it comes to safety performance.)

Topic #7: CNSC News

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

Next Meeting
Tuesday, April 16, 2019
Pickering Nuclear Information Centre
(supper available at 5:30 pm)