

**Pickering Nuclear Generating Station  
Community Advisory Council  
Pickering Nuclear Information Centre  
Meeting Minutes, October 16, 2018  
Highlights**

**Site Update**

Randy Lockwood presented an update on: the operating status of the nuclear reactors; site visits by the OPG Board of Directors and by the Pickering MPP. Glenn Pringle presented an update on the Pickering Waste Management Facility, and Dragan Popovic reported on a followup visit from the Operational Safety Review Team (OSART).

**Community Update**

Analiene St. Aubin talked about OPG involvement in recent and forthcoming community activities. A visit to the Pickering Nuclear Information Centre by students from a private school in Toronto, OPG employees involved in volunteer outdoors work at seniors' homes, and the Darlington Refurbishment Open House were among the items mentioned.

**Cyber Security at OPG**

Ian Roberts presented an overview of OPG's program to minimize cyber risks to its information assets and generation facilities. Council members asked many questions and were reassured by Ian's responses. Ian also talked about innovations in digital information that are transforming how OPG runs its business.

**Public Reporting on Groundwater Monitoring**

Council members made many suggestions on how OPG should report data about groundwater at the Pickering and Darlington sites. They emphasized providing simple summary information for the general public with access to more detailed information for those interested. Context and clarity were also emphasized.

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**Pickering CAC:**

John Earley  
Donna Fabbro  
Kristin Hall  
Natalie Harder  
Bill Houston  
Greg Lymer  
Pat Mattson  
Sean McCullough  
Cody Morrison  
Dan Shire  
John Stirrat

Guest:

John Miseresky

Regrets:

Jim Dike  
Keith Falconer  
Donald Hudson  
Tim Kellar  
Zachary Moshonas  
Moe Perera  
Helen Shamsipour  
Ralph Sutton  
Anna-lisa Tersigni

**OPG:**

Tiasi Ghosh  
Randy Lockwood  
Dragan Popovic  
Glenn Pringle  
Art Rob  
Ian Roberts  
Analiese St. Aubin

**PDA:**

Francis Gillis  
John Vincett

**Topic #1: Review of Minutes**

The CAC minutes for Sept. 18, 2018, were approved without changes.

## Topic #2: Site Update

Randy Lockwood, Senior Vice President, presented a site update:

- Units 1, 4, 5, 6, and 7 are operating at full power. Unit 8 continues in a planned outage, which will be completed in December of this year. (Units 2 and 3 are in safe storage.)
- The OPG Board of Directors recently toured PNGS and had a chance to interact with plant staff. The Board also provided good feedback to plant staff.
- A number of MPPs visited the site on Oct. 10: Ajax – Rod Phillips, Minister of the Environment, Conservation and Parks; Durham – Lindsey Park, Parliamentary Assistant (Attorney General); Scarborough-Rouge Park – Vijay Thanigasalam; Markham-Stouville – Paul Calandra, Parliamentary Assistant (Energy, Northern Development and Mines). They were joined by staff from their Queen's Park offices.
- On Nov. 8, Pickering will appear before the CNSC to discuss their annual report and answer any questions that are raised by Commission members.

Glenn Pringle, Manager of the Pickering Waste Management Facility, presented a PVMF update:

- The PVMF received a renewal of its operating licence in March.
- The CNSC inspected the facility about a month ago. The inspection went well, and facility staff are now waiting for the report.
- The PVMF has had no lost-time accident during its entire 24-year history.
- The facility is currently about 10 percent behind in its transfers of Dry Storage Containers (DSC's) to the new facility on site. This is owing to road construction activity and work under way in the fuel bay impeding the transportation route. A plan is in place to meet the year end targets for units moved. Repair work on the road south of the station will provide us with an alternative transportation route in the future.
- The facility continues to offer tours, in conjunction with NWMO, to representatives of those five communities involved in the site selection process for the used nuclear fuel disposal site and Indigenous groups living near the proposed potential sites, the most recent being a visit of representatives of the (Grand Council Treaty #3) Wabagoon Lake First Nation.

Glenn responded to Council questions:

- *I assume your transport route needs a substantial base, given the heavy vehicles using the road to transport Dry Storage Containers.*  
That's right. The normal road base specification is 60 tonnes; our roads involved in

these transportation activities for DSC's is 110 – 120 tonnes.

- *What is the lifespan of the DSC's?*

The first storage container was placed in the facility in 1996. The lifespan was originally set at 50 years, but we will revisit that issue long before the 50-year milestone is reached and will analyze the sustainability of the DSC's.

Randy introduced Dragan Popovic, who is Director of the Life Extension Process at Pickering Nuclear.

Dragan talked about OSART (the Operational Safety Review Team), which reviewed the plant in 2016 and recently made a follow-up visit:

- They found seven of their suggestions were fully completed and nine were underway and at a satisfactory level of completion. None was outstanding. That is calculated to be a 53 percent completion rate, where the norm at this point of time after an inspection would be 25 percent.
- They noted a very strong culture of teamwork at the station.
- They were really impressed with the station's work program, including the timeliness of repairs and the good program on backlog tasks.
- They indicated that the station needs to focus more time on housekeeping (e.g., keeping work areas neat and orderly; keeping areas free of slip and trip hazards; etc.).
- Overall, the inspection team was extremely complimentary.

Randy agreed that the OSART inspectors gave a very positive review. They found that the station had made great progress over two years. OPG will post their followup report on the company's public website.

Randy responded to further Council questions:

- *Given the international character of the inspection team, was language a problem at all?*  
No, all team members spoke English. But the different cultures represented brought different perspectives. Also, not just CANDU operators but representatives of various technologies were part of the team – which adds to the richness of the inspection process.
- *Are OPG staff members part of OSART inspections at other companies?*  
Yes, OPG representatives are involved in reviews at other companies. This also represents an excellent opportunity for OPG managers to gain additional perspective and international experience.

- *Do the OSART inspectors identify best practices?*  
Yes, very much so.
- *It might be worth sharing the best practices and review findings in the Neighbours Newsletter.*  
Yes.

### **Topic #3: Community Update**

Analiese St. Aubin, Manager of Corporate Relations and Communications at Pickering Nuclear, talked about OPG involvement in recent and forthcoming community activities:

- Cheryl Johnston is leaving Pickering after 37 years working on this site and going to Darlington as Public Affairs Manager. Leah Bourgeois is leaving Darlington and coming to Pickering to take on the Senior Communications Advisor role.
- On Oct. 11, the Pickering Nuclear Information Centre hosted 22 students from the Nile Academy, a private school in Toronto. Many Nile Academy students are looking at a future in science-related post-secondary studies and are interested in the nuclear industry.
- On Saturday, Nov. 3, North American Young Generation in Nuclear (NAYGN) will be holding their Fall Operation Clean Sweep at seniors' homes in the Pickering area.
- Everyone is welcome to attend the Darlington Refurbishment Open House on Saturday, Oct. 27.

### **Topic #4: Cyber Security at OPG**

Ian Roberts, Chief Information Officer, presented an overview of cyber security at OPG. He noted that OPG works to operate its information and operational technologies in a secure, vigorous and resilient manner that minimizes cyber risks to its information assets and generation facilities.

Key elements of cyber security at OPG:

- Defence in depth strategy utilizing NIST (U.S. National Institute of Standards and Technology) risk-based framework and industry leading practices
- Regulatory compliance
- Cyber risks understood for critical assets, disciplined separation of operational technology (OT) and information technology (IT), and continuous improvement on

protection, detection, response and recovery capacities.

- Robust employee awareness and training program, industry leading third party risk program and active in the intelligence and cyber security communities.
- Practice and test our capabilities on an ongoing basis.

Ian responded to Council questions:

- *Regarding OT and IT, doesn't Internet connection leave you vulnerable?*  
There is no actual network connection; we have our own network. We are going to build our own separate internet.
- *Is there a risk of false information getting on to your operational network?*  
Our operational technology will not be part of our Internet. And we have always kept OT and IT separate.
- *Is the greatest threat to cyber security insiders?*  
That's a good question. There are only two risk vectors: anyone who can touch the network, and anyone bringing cyber equipment in. We take the following steps to reduce risk:
  - A strict program of checking all digital equipment and devices that are coming in to the plant
  - Security clearances for individuals
  - Continuous behavioural observation and coaching; things don't usually happen out of the blue; we encourage people experiencing problems or undergoing stress to access support mechanisms
  - No single person can access information; such access always requires the cooperation of two or more persons
- *If there is a breach of security, do you have to notify the regulator?*  
Yes. Any deviation of compliance with regulations has to be reported.
- *Do you conduct annual exercises in cyber security?*  
We participate in industry-wide cyber security tests, and we have many levels of exercises internally that test our systems and any potential vulnerabilities.
- *Chips could be hidden in devices.*  
We continually monitor our IT to be alert to that kind of risk.
- *What about people not stealing information but altering it?*  
Modifying data is a whole different area. It's a potential problem. However, our operational technology networks are fairly closed. The issue is more data in our business network. We use profile detection; if something is suddenly out of character for a user, it triggers an alert. Banks have driven this type of monitoring.

- *Is artificial intelligence used in operating the plant?*  
Artificial intelligence may be used to assemble the paperwork so that a piece of equipment can be put into service, or to prepare a work order, for example. The process is always overseen by human managers. We are not looking for AI to operate equipment or to make safety decisions. But a robot can do routine stuff.

Randy remarked that OPG is going to leverage AI and robotics. This is an exciting development for which OPG is being recognized in industry.

## **Topic #5: Digital Innovation at OPG**

Ian described how connectivity, automation and access to data is transforming how OPG runs its business. He noted that Pickering Nuclear is a hub at OPG that is driving innovation within the nuclear industry.

Ian talked about digital and mobile worker developments at OPG:

- Deploying mobile technology to nuclear so workers can complete work orders in the field
- Looking at using Augmented Reality technology to advance maintenance functions within the plant
- Use of virtual reality technology for training
- Radiation hazard signs that provide workers with real-time views of radiation levels in areas on large screen displays
- Mobile business network bringing information and applications to workers in the field
- Our X-Lab now looking at hands-free work

Ian also described how OPG is supporting operational excellence with artificial intelligence and robotic process automation. He highlighted three specific areas:

- A Monitoring and Diagnostics (M&D) Centre using advanced sensor technology and advanced Value Based Maintenance
- Artificial Intelligence (AI) to improve outage planning scheduling
- Wireless Improvement Program is providing a secure and seamless WI-FI network connectivity for employees and registered guests; breaking the boundary of office and field.

## **Topic #6: Public Reporting on Groundwater Monitoring**

Council members made suggestions on how OPG should report on data about groundwater at the Pickering and Darlington sites.

There were calls to “keep it simple,” providing the public a summary of information with an option to go into more detail:

- Provide an introductory page with bullet points, animation, and key numbers highlighted, and a link to more detailed information.
- Provide three or four layers of information, depending on the medium being used; for example, build three or four layers on the screen to tell a story.
- Provide boxes to click on to get more information.
- You need some explanation of why one number is higher than the others.
- Context is needed. You need to include a history of legacy issues, and an explanation that the numbers are high, but tritium is not going into the lake. Trend lines are reassuring. You need a page to provide an overview to reassure people that groundwater flows are well managed.
- It's important to make sure that people understand the values indicated by the numbers.

It was remarked that the title of the diagram, *Site Perimeter and Protected Area Groundwater Tritium Concentrations for 2017*, was uninformative, and that the diagram should show that the tritium is going down. Additional suggestions and comments regarding maps or diagrams:

- Provide more description and context for the diagram.
- Use colour coding to differentiate the units.
- To show elevation changes in groundwater, consider using a ramp scale; e.g., green corresponds to low spots and red is the highest elevation.
- Provide clearer arrows indicating direction of groundwater flow.
- Address the huge range differences.
- Highlight significant numbers and give a sense of relative importance.
- The data is in engineering terms and therefore meaningless to the public.
- Yes, use actual units, not engineering terms.
- As most people are unaware of groundwater well construction and the idea behind a deep or shallow well, consider using a cross-section of the site. This could include a line showing where the water table is and the depths of the wells from which OPG is gathering the data. The arrows would show how the water is moving in the ground, and



the depths would show how OPG is fully aware of that information. All of the maps and diagrams shown to the CAC have viewed the wells from above. A cross-section showing what's under the surface would give additional useful information.

- Consider using a basic contamination attenuation zone (CAZ) figure that can display, if a contaminant release were to occur, the flow path of that contamination. A colour ramp could also be used to display a timeline to show the contamination's travel. As well, multiple locations of a release could be shown; examples: a tritium release into groundwater from a unit; a diesel spill at an onsite maintenance shop.
- Give a sense of hills, etc., as a Google map would. Show flags for wells. And landmarks so people can see where they live. Put in the names of major highways and which unit at the plant is a source of contaminants in groundwater.
- People may think groundwater refers to drinking water, so clarify that it's not.
- Show the low numbers of contaminants in the lake.
- Use bar links to show values. Indicate that those values are not a risk and are going down.

A Council member asked if there had been any recent questions from the general public about tritium or other substances in groundwater. Analiese was not aware of any.

Randy noted that, during the CNSC hearing on the renewal of Pickering Nuclear's licence, there was a request for more groundwater data to be released to the public. OPG committed to releasing more data, but not raw data, which critics interpret as a snow job. OPG has no problem with transparency, but the information released has to make sense to people.

Randy said OPG will take all of the CAC comments into consideration as they design public information on groundwater data. He anticipated that developing this information will be an iterative process, with drafts being run by the Council.

## **Topic #7: Other Business**

Asked if there was anything new regarding site repurposing at Pickering, Randy said there was nothing new *per se*; the focus right now is on getting clarity on a timeline for decommissioning.

Art Rob, Vice President of Nuclear Decommissioning, noted that OPG has a long-term corporate strategy on site repurposing.

Asked about retrofitting the structures on the site, Randy said there is no intention to retrofit at this time.

Art said he would be happy to come back to the Council to give an update on long-term plans.

A Council member asked if OPG has responded to all federal government queries regarding the Deep Geologic Repository (DGR) proposal at Kincardine. Randy said that government considerations are still ongoing. He added that OPG has answered all stakeholder questions. Glenn noted that the Saugeen First Nation in the Bruce peninsula has raised some questions that the government is now looking at.

It was noted that the Environmental Monitoring Program (EMP) would be discussed at the next meeting, a joint session at Darlington with the Darlington CAC.

### **Topic #8: CNSC News**

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

**Next Meeting**  
**Tuesday, November 20, 2018, 6 pm**  
**Darlington Nuclear Information Centre**  
**(supper available at 5:30 pm)**