

A Man for the Time

With his blend of operator and supplier experience, OPG's new president may have arrived just when we need him most.

You might say Jeff Lyash, Ontario Power Generation's (OPG) new president and CEO has made a career of supply and demand.

With more than three decades of energy industry experience under his belt including time as both a plant operator and as an engineering, procurement and construction (EPC) contractor, Lyash joins the CANDU industry at a time when the relationship between the two has never been more critical.

And nowhere is this truer than at OPG, poised to enter execution phase of the \$12.8-billion Darlington refurbishment, the success of which will depend on performance excellence from both sides.

A bit more than 90 days into his new post this past December, Lyash sat down with CANDU Owners Group (COG) members and supplier participants at COG's Toronto office to share a vision for refurbishment, operating success and the opportunities that might come if OPG and the CANDU industry can achieve both.

At the time of Lyash's visit, OPG was just a month away from announcing that after six years of planned preparation, it is on schedule to begin the execution phase of the Darlington refurbishment this fall. As part of the announcement, made in conjunction with the Ontario government, it also announced its intent to continue operation of the Pickering Nuclear Station until 2024. Pickering's continued operation will help Ontario maintain the low carbon electricity footprint it currently enjoys during the time when the OPG and Bruce Power refurbishments will cross paths.

In a free-ranging conversation with COG president Fred Dermakar, the OPG president shared his first impressions of the

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Canadian industry as well as his thoughts about what the company, the industry and its members need to accomplish in the next decade and a half. He also spoke about the essential role COG and suppliers must play to ensure the industry's success.

The role of nuclear

"I think the power industry is one of the most vital careers you can engage in globally," Lyash said reflecting on his life's work. "We all know how important electricity — reliable, environmentally-sensitive, cost-effective electricity — is to quality of life and



OPG's new president, Jeff Lyash, brings three decades of experience with utility operation as well as engineering, procurement and construction expertise. All of these are directly relevant to the Darlington refurbishment project set to go into execution phase.

security." The nuclear industry, he added, is "a critical part of the long-term solution to providing electricity to the two billion people in the world who don't have it and to shrinking the carbon footprint of not just the generation industry but the transportation, home heating and (industrial sector) over the next 30 to 40 years."

Safety: Always the top priority

While refurbishment was clearly on his mind, Lyash started his new job's priority list with safety, an over-arching theme he returned to throughout the discussion.

"My first priority is safety; nothing is more important than that and in making sure that's not just something we talk about but that's something we operationalize and that's something we build into every behaviour, every day," he said.

It starts, he added, with personal safety "because it is the discipline in observing personal safety from which everything else falls out," including "great nuclear performance.

"It's respect for the rules; it's understanding the situation; it's following process and procedures; it's training and qualifications; it's all the things that make an operation successful."

Refurbishment: Securing a nuclear future for Ontario

Of course on everyone's mind, including the man now ultimately accountable for its success, is the project set to roll into execution this fall.

Like anyone with lengthy experience in the industry, Lyash has seen the consequence of projects that succeed and of those that fail. He has worked at Duke Energy, Florida Power, Progress Energy, Pennsylvania Power & Light, Tennessee Valley Authority and has had various roles with the U.S. Nuclear Regulatory Commission, all sufficient to give him the combination of confidence and self-deprecating humility that comes across as he speaks about the road ahead.

Perhaps, as important, is the diversity of his experience. From July 2013 until joining OPG last summer, Lyash served as president of the power division of the EPC, Chicago Bridge and Iron (CBI) at its Charlotte, North Carolina location.

“What we're really trying to do is stand up suppliers... (who have) a discipline that will guarantee results, or at least assure the results at a very high level and have a safety culture built into that. If you're really in it for the long term, I want our organization partnering with you and helping you to get where we need to get.”

He has seen many facets of the nuclear sector and of big projects from both sides of the supplier-operator dynamic, the public and private sector, and from the project and operations angles; all directly relevant experience for the Darlington project and all with experiences that would make him appropriately respectful of the challenges the refurbishment team will face.

“My priority is to make sure we are well-prepared and we deliver Darlington refurbishment on-time/on-schedule, on budget, at the level of quality required at a nuclear facility, and safely, period. That's what we must deliver.

“I think this is not just important to OPG. It's important to Ontario, it's important to Canada, it's important to the nuclear industry... That's

what I am here to help the team deliver.”

Lyash's hand-off from previous OPG President Tom Mitchell came at a time when the Darlington project was poised to move from planning to execution; a good time for the baton to shift. After three months of intrusive examination of the preparation the company did before his arrival, he has concluded it is at the right state of preparedness. Now, he said, it's time to focus on execution excellence.

“A great plan is useless without great execution... when you think about execution you have to think about the refurb itself, which is not running a plant.” He recognizes the inherent tension when you have a project running in tandem with operation on the same site. The project mentality, he said, is about agility to course correct as necessary whereas in operation, the focus must be about maintaining procedure and consistency. “Those two approaches don't go terribly well together and they conflict at all the interface points.” But, as with any problem, defining it is the key to the solution.

Pickering: A veteran ready for continued tour of duty

In 2010, following a business-case analysis, OPG announced the decision not to proceed with the Pickering refurbishment. The decision followed successful safety and environmental assessments that favoured refurbishment but the business case did not provide the right economics. At the time, OPG announced a 2020 closure based on the government's long-term energy forecast of the day. In 2016, the need has changed, Lyash said, and so has the plan.

The date of 2020 “is not a technical date,” he said. “There's not a safety basis for that date; that was a placeholder date in the policy document. Another of my priorities is to determine what the real lifetime of Pickering should be and to make sure we, and the various stakeholders in this process, are ready to support whatever that right lifetime is.” Pickering can provide a low cost per megawatt, CO2-free energy, which “seems to be pretty important value we can deliver,” he added.

In fact, OPG has stated, the company's technical work shows Pickering can be safely operated to 2024 and that doing so will save Ontario electricity customers up to \$600 million and avoid eight-million tonnes of greenhouse gas emissions. Lyash has committed to work closely with community partners through the process, which will include approval from the Canadian Nuclear Safety Commission (CNSC). OPG has started work on a licence application for CNSC approval in 2018.



OPG President and CEO Jeff Lyash, in conversation with CANDU Owners Group President Fred Dermarkar and other industry members this past December. Lyash shared his insights into the nuclear industry and the role of operators and suppliers in achieving project and operational success.

The role of suppliers in safety and performance

Lyash's former employer, CBI, was the first EPC company to win the Green Cross for Safety medal so perhaps it's not surprising Lyash brings a cultural expectation that suppliers play an important role in nuclear safety.

Quick to state he understands the conflicting pressures suppliers' experience, Lyash noted how important it is suppliers find a way to provide quality assurance.

The industry needs "a supplier community that shares lessons learned, that drives for continuous improvement, that sets standards at a level that exceeds what the owners and the customers need and that builds safety cultures," Lyash said. The work and the parts the suppliers contribute are embedded in the stations and therefore must withstand the rigours of production, not just the day the outage is complete but for the years the plant is expected to operate.

"What we're really trying to do is stand up suppliers, who with a full recognition of 50 years of nuclear experience behind them, understand how important traceability of material is; qualification of workforce; demonstration of weld procedures; inspection criteria... and they implement it with a discipline that will guarantee results, or at least assure the results at a very high level and have a safety culture built into that. If you're really in it for the long term, I want our organization partnering with you and helping you to get where we need to get," he said. Those not committed for the long term need not apply.

Suppliers have not always found it as easy to share OPEX as operators. Lyash gets the constraints of commercial sensitivity but insists that cannot get in the way of building safety culture and sharing critical safety information.

"No judgments implied -- of course suppliers have to be mindful of commercial sensitivity. It is different for a supplier versus an owner but... we tend to hide behind (commercial sensitivity) more than we need to. With more careful thinking and a better parsing of what it is we're sharing and what it is we're not, there is a lot of ground to share that does not, really, impact commercial interest."

In fact, many suppliers and industry members have recognized the same thing. At COG, initiatives are already underway to help suppliers connect with the operators and with each other to share operating experience and develop processes. Just days prior to the Lyash visit, COG and the Organization of Canadian Nuclear Industries (OCI) held a joint workshop that brought owner representatives, regulators and suppliers together on the subject of supply chain security. There, several suppliers openly shared their own processes for prevention and protection methods.

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The role for COG

The history of COG and OPG (and OPG's predecessor Ontario Hydro) is inextricably linked. COG's research and development including fuel channel life management, joint projects undertaken with OPG and other members, the information exchanges and sharing of operating experience have all significantly benefited OPG, and conversely, OPG's participation has benefited COG's other members.

Even after a few months on the job, Lyash sees the value COG

JEFF LYASH IN CONVERSATION

In December, Ontario Power Generation's new president, Jeff Lyash joined CANDU Owners Group members and supplier participants for a candid conversation on the state of the industry and his vision for OPG.

Below are some excerpts from his interview with COG President Fred Dermarkar.

1. [Why the nuclear industry matters](#)
2. [Safety](#)
3. [OPG's refurbishment](#)
4. [A role for COG in refurbishment](#)
5. [Supplier quality control](#)
6. [Opportunities come with success](#)

brings.

"I was very pleased to see the health of an organization like COG because at the heart of this industry has to be sharing lessons learned, helping others learn from each of our experiences, collaborating where there are technical issues to be solved or where there are opportunities to strengthen nuclear safety performance, lower cost, extend asset lives. To make that happen, an institution like this has to be in place... I really think about COG more like I think about EPRI for example in the way this institution and the members support the industry. So far I have been very impressed."

Going forward, he said, "There may be things with making this refurbishment process more efficient, more effective that can be identified where COG can have a role." Noting the Darlington refurbishment will go into 2026 and the Bruce Power refurbishment will be about a decade in duration starting in 2020, he added, "If there are ways to shorten those outages (such as) tooling, equipment, techniques; if there are ways to improve productivity and materials; you've got a big base here just in Ontario and I expect behind that is the international fleet because we want them to be as successful as the plants here in Ontario."

From success opportunity is born

While Lyash comes across as confident as he is experienced; his comments and tone reflect an awareness of fate's fickle nature when it comes to big projects. He is careful, even modest. Yet, he allows himself to imagine the potential the Darlington project could have to thrust OPG forward, and the industry along with it, should the company hold true to its promise of refurbishment success.

"If we're successful... where does that position OPG and where does that position the nuclear industry in Canada? And how do we take advantage of that five years from now? Just imagine if we open the breaker in October and we finish the Darlington refurb ahead of schedule and under budget and put the plant back in service and it runs like it should.

"What does that say about OPG and what does that say about the Canadian nuclear industry? It says a lot. It says you can deliver complex, long-term mega projects and meet what you promised to do."

If OPG does that, and Bruce Power does the same, Lyash said, he sees a renewed discussion about an even bigger role for nuclear in Canada's future. 🇨🇦