

Chapter 3

Section 3.02

Darlington Nuclear Generating Station Refurbishment Project

Standing Committee on Public Accounts Follow-Up on Section 3.02, 2018 Annual Report

On April 10, 2019, the Standing Committee on Public Accounts (Committee) held a public hearing on our 2018 audit of the Darlington Nuclear Generating Station Refurbishment Project (Project). The Committee tabled a report on this hearing in the Legislature in December 2019. A link to the full report can be found at www.auditor.on.ca/en/content/standingcommittee/standingcommittee.html.

The Committee made six recommendations and asked Ontario Power Generation (OPG) to report

back by April 2020. OPG formally responded to the Committee on April 7, 2020. The status of each of the Committee’s recommended actions is shown in **Figure 1**.

We conducted assurance work between April 15, 2020, and July 10, 2020, and obtained written representation from OPG that effective October 6, 2020, it has provided us with a complete update of the status of the recommendations made by the Committee.

Figure 1: Summary Status of Actions Recommended in December 2019 Committee Report

Prepared by the Office of the Auditor General of Ontario

	# of Actions Recommended	Status of Actions Recommended				
		Fully Implemented	In the Process of Being Implemented	Little or No Progress	Will Not Be Implemented	No Longer Applicable
Recommendation 1	1		1			
Recommendation 2	1		1			
Recommendation 3	1		1			
Recommendation 4	1		1			
Recommendation 5	1		1			
Recommendation 6	1		1			
Total	6	0	6	0	0	0
%	100	0	100	0	0	0

Overall Conclusion

As of October 6, 2020, none of the Committee's recommended actions had been fully implemented and all of the recommended actions were in the process of being implemented. As these recommendations span the lifetime of the Project, they will be in the process of being implemented up to October 2026.

Detailed Status of Recommendations

Figure 2 shows the recommendations and status details that are based on responses from Ontario Power Generation (OPG), and our review of the information provided.

Figure 2: Committee Recommendations and Detailed Status of Actions Taken

Prepared by the Office of the Auditor General of Ontario

Committee Recommendation	Status Details
<p>Recommendation 1</p> <p>Ontario Power Generation should periodically update its forecast of the future supply of skilled trades identified as being at risk of shortage over the lifetime of the Project.</p> <p>Status: The Project is expected to be completed by October 2026. As such, this recommendation will be in the process of being implemented up to October 2026.</p>	<p>In 2018, OPG developed a Trades Capacity Initiative to collect supply and demand data on skilled trades, optimize the current supply of trades, and build up new sources of trades via outreach activities.</p> <p>In February 2020, OPG updated its forecasts for skilled trades (boilermakers, millwrights, pipefitters and carpenters) using information from Bruce Power related to its nuclear reactor life extension project work as well as information from non-nuclear industries in Ontario. This process identified that boilermakers remained the skilled trade of highest demand.</p> <p>OPG has taken mitigating actions to address this risk. For example,</p> <ul style="list-style-type: none"> • OPG created a demand and supply model in collaboration with Bruce Power and the International Brotherhood of Boilermakers, which is a trade union in the United States and Canada for boilermakers, to clarify the need for boilermakers on the Project. • OPG participated in a pre-apprentice program with Durham College and the International Brotherhood of Boilermakers to train 95 graduates to work as boilermaker apprentices. These recruits will be available to both OPG and Bruce Power for their respective nuclear projects. • OPG, together with other employers (including Bruce Power) in Ontario's nuclear industry, applied to the federal government to hire boilermakers from outside Canada as temporary foreign workers. The federal government approved this application in November 2019. <p>OPG applied lessons learned from past Project work to schedule Project work for Unit 3, so that the peak and average staff headcounts needed at specific periods of time will be lower overall.</p> <p>OPG is collaborating with Bruce Power and the Electrical Power Systems Construction Association to continue to review and forecast industry-wide demand and supply of skilled trades for nuclear work in Ontario until October 2026 when the Project is expected to be completed.</p>

Committee Recommendation	Status Details
<p>Recommendation 2</p> <p>Ontario Power Generation should continue to leverage industry best practices to ensure appropriate succession planning programs are in place over the duration of the Project. Status: The Project is expected to be completed by October 2026. As such, this recommendation will be in the process of being implemented up to October 2026.</p>	<p>OPG has developed and implemented enterprise-wide succession planning and development programs to continue to build the skilled work force, management, and the executive team to ensure successful completion of the Project.</p> <p>OPG has also identified successors for key management and executive management positions, and for roles that require specialized skills or significant experience to be proficient. Apart from enhancing its internal succession strategies, OPG has also taken external candidates into consideration to diversify staff experiences.</p> <p>As well, OPG's performance management process requires all regular management staff to have an Individual Development Plan, including those who have been identified as potential successors for the Project. Employees work collaboratively with their leaders to identify specific areas for training and development. These efforts ensure that they continue to develop and improve in their current role and/or become ready to be the successful candidate for a future role for which they have been identified as a potential candidate.</p> <p>In addition, OPG has rolled out a number of training and mentorship programs aimed at identifying and preparing future leaders to assume key roles as the Project unfolds. Corporate-level initiatives are also under way to ensure Individual Development Plans are specific to OPG's corporate succession plans.</p> <p>OPG will continue to leverage industry best practices to ensure appropriate succession programs are in place for Project staff until October 2026 when the Project is expected to be completed.</p>
<p>Recommendation 3</p> <p>Ontario Power Generation should continue to track the costs associated with the support provided to contractors and retain contractual rights to recover these amounts at a later date. Status: The Project is expected to be completed by October 2026. As such, this recommendation will be in the process of being implemented up to October 2026.</p>	<p>OPG has continued to provide additional support to contractors through secondments. OPG indicated that seconding, or letting its staff work for the contractors, leverages unique plant-specific expertise while also reducing training and travel costs as seconded staff tend to live locally.</p> <p>OPG has tracked the number of its staff being seconded and anticipated about five to eight of its staff will be seconded to a single contractor for Unit 3. The total salary estimated to be paid to these employees while they are seconded is about \$3 million, which OPG would pay whether the staff were OPG or contractor personnel. OPG will continue to track the costs associated with the support provided to contractors and retains contractual rights to recover these costs, as deemed appropriate, at a later date until October 2026 when the Project is expected to be completed.</p>

Committee Recommendation	Status Details
<p>Recommendation 4</p> <p>Ontario Power Generation should continue to monitor and analyze safety events in order to identify common causes, better respond to emerging trends, assess the effectiveness of corrective actions, apply lessons learned over the duration of the Project, and introduce new safety indicators if needed.</p> <p>Status: The Project is expected to be completed by October 2026. As such, this recommendation will be in the process of being implemented up to October 2026.</p>	<p>OPG has continued to monitor and analyze safety events.</p> <p>In May 2019, OPG rolled out a safety awareness and planning initiative that uses past data and lessons learned to proactively assess upcoming Project work to identify areas of higher risk and develop targeted initiatives aimed at preventing safety events. OPG also made other changes in 2019, including providing staff with new gloves and cut-resistant liners, to improve safety for staff working on the Project. As a result, the number of first aid and medically treated injuries has dropped, from six before these changes to three (as of June 2020).</p> <p>In December 2019, OPG performed an analysis of all 2018 and 2019 safety events, to assess the effectiveness of corrective actions implemented in response to specific safety events. This analysis identified that the overall number of safety incidents deemed as having a “High Maximum Reasonable Potential for Harm” has dropped from 13 in 2017 to four in 2018 and five in 2019. For example:</p> <ul style="list-style-type: none"> • the number of safety incidents involving working at heights dropped from seven in 2017 to one in 2018 and two in 2019; • the number of safety incidents involving material handling dropped from two in 2017 to zero in 2018 and zero in 2019; and • the number of safety incidents involving falling objects changed from three in 2017 to one in 2018 and three in 2019. <p>OPG will continue to monitor and analyze safety events in order to identify common causes, better respond to emerging trends, assess the effectiveness of corrective actions, apply lessons learned, and introduce new safety indicators if needed until October 2026 when the Project is expected to be completed.</p>
<p>Recommendation 5</p> <p>Ontario Power Generation should provide vendors with regular updates about safety standards and industry best practices to remind all vendor staff of the importance of good safety practices.</p> <p>Status: The Project is expected to be completed by October 2026. As such, this recommendation will be in the process of being implemented up to October 2026.</p>	<p>OPG has continued to collaborate with its vendors to reinforce safety standards and best practices.</p> <p>As previously mentioned, in May 2019, OPG rolled out a proactive safety awareness and planning initiative that uses past data and lessons learned to assess upcoming Project work, identify areas of higher risk, and develop targeted initiatives aimed at preventing safety events. These initiatives have been embedded into the work schedule and provide all staff with important safety messages to reinforce a safety mindset in advance of starting higher-risk work.</p> <p>OPG will continue to work collaboratively with its vendors to ensure industry-best safety practices are incorporated into the planning and execution of work until October 2026 when the Project is expected to be completed.</p>

Committee Recommendation	Status Details
<p>Recommendation 6</p> <p>Ontario Power Generation should periodically review its evaluation scorecards as part of its procedure for procurement activities and adjust the weightings applied to technical criteria and bid price as necessary.</p> <p>Status: The Project is expected to be completed by October 2026. As such, this recommendation will be in the process of being implemented up to October 2026.</p>	<p>OPG revised its procedures for procurement activities in July 2018. In our follow-up, we found that OPG has followed these revised procedures. For example, if an OPG internal group requisitions for a contractor, it must now collaborate with OPG's internal supply chain group to determine the evaluation criteria and weightings (such as weighting of technical criteria over bid price) for a competitive procurement. These criteria and weightings must then be fully disclosed to all participants.</p> <p>Subsequent to our 2018 audit, OPG has undertaken one competitive procurement related to engineering oversight work for the remaining units that need to be refurbished. The updated procedures were followed, including disclosure of the evaluation criteria and weightings (75% for technical criteria and 25% for bid price).</p> <p>OPG will continue to periodically review its procedures for procurement activities, including determining the proper weighting of technical criteria as part of its future competitive procurements, as necessary.</p>