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Pickering nuclear plant extension still a work in progress

By Geoff Zochodne

OPG says assessments won't be completed until September to confirm if components are in good enough condition to allow the plant to continue operating to 2024.

Ontario may have put the cart before the uranium-fed workhorse in backing a longer lifespan for a nuclear power plant.

The Liberal government announced in January ¹it had approved a proposal that would keep the decades-old Pickering Nuclear Generation Station in service past 2020 to a new expiry date of 2024.

Recent filings, however, show the plant's operator still isn't certain it can stay in operation for that long.

In a Feb. 17 filing to the Ontario Energy Board, Ontario Power Generation referred to the life-extension plan announcement as a "project that is yet to yield a high confidence result."

OPG, the owner and operator of the Pickering nuclear plant, said in year-end financial results that "early technical work to date" shows the Pickering plant can be safely kept in service past 2020. But the Crown corporation said it is "conducting component condition assessments to identify the work required to support the continued operation of the station to 2024."

The company is also continuing work on fuel channels, which hold uranium, "to confirm that the Pickering pressure tubes will achieve the additional life predicted by the technical work carried out to date."

OPG says the component condition assessments are scheduled to be completed by this September, and the fuel channel life management work is slated to finish in the third quarter of 2017. This work could ultimately confirm the Pickering nuclear plant can live long and power. It's just not done yet.

The government's 2013 long-term energy plan had predicted Pickering would stay in service until 2020, and even allowed for an earlier shut down of the plant, located minutes east of Toronto. The plan to keep the plant running longer was first announced on Jan. 11, when Energy Minister **Bob Chiarelli** and Ontario Power Generation president **Jeffrey Lyash** unveiled the proposal in tandem with confirmation that the province would go ahead with the \$12.8-billion rebuild of the Darlington nuclear facility - preparations for which date to 2009.

The Darlington refurbishment will start later this year, and another overhaul will begin at the Bruce nuclear plant in 2020. The Pickering stay of execution is intended to bridge the gap in electricity generation during that time. The station has six operating Candu nuclear reactors that pumped out 14 per cent of the province's power in 2015.

For accounting purposes, OPG's end-of-life date for the operating nuclear units at Pickering is the end of 2020. That will be updated "when OPG's further technical work confirms that the longer fuel channel life necessary to extend Pickering operations will be achieved," states the company's financial results.

The cost of preparing the Pickering plant to stay humming past 2020 will be \$310 million, according to numbers provided to *QP Briefing* by OPG. This includes the price of equipment inspections, technical assessments, work with the safety regulator and managing the state of nuclear fuel channels. It does not include the cost of operating the plant after 2020.

Both Chiarelli and OPG say they're confident the Pickering nuclear plant has more life in it. They are touting \$600 million in savings for electricity customers and eight million tonnes of greenhouse gas emissions that will be avoided as a result of the project (because Ontario would be less reliant on gas-fired power plants), not to mention 4,500 jobs in Durham region that would be preserved.

"We would not be doing it if we didn't think that it's safe to do it," said OPG spokesman **Bill McKinlay**. "The technical work shows the plant can be operated to 2024."

There are regulatory hurdles remaining as well. OPG's current operating licence for Pickering expires at the end of August, 2018. The company also plans to file a five-year rate-setting application to the OEB this year for its hydroelectric and nuclear facilities.

Chiarelli said the life-extension plan would be contingent on the relicensing efforts. The government says OPG will ask it for a "final" approval to keep Pickering running after the company checks off all the regulatory boxes.

"There's a fairly high confidence level, but we don't certainly take it for granted," Chiarelli told *QP Briefing*.

OPG says it is working on a "comprehensive" safety check of the facility. The Crown corporation is spearheading the life-extension plan, which involves running six nuclear reactors at Pickering until 2022, shutting down two units, and then keeping four online until 2024. Which reactors will shut down at what point is still to be determined, OPG says.

Chiarelli said the initial 2020 date for the plant's lifespan had been a "guesstimate" that always needed to be confirmed with the Canadian Nuclear Safety Commission.

Prior to the Jan. 11 announcement, OPG says it relied on existing equipment assessments and planning ahead in judging how reliable Pickering will be during its expanded lifespan. The total cost of the preliminary assessments was \$200,000.

"They didn't find any issues that would stop us from safely operating the plant through 2024," said McKinlay.

OPG says it has spent more than \$200 million on the Pickering nuclear plant since 2010, and that the station "achieved the best ever reliability performance in the station's history" last year. OPG also recently shut down the facility's Unit 8 for approximately \$75 million in planned inspections and maintenance.

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