

# Setting a new pace

*Current refurbishment and life extension projects at three CANDU stations have created a rare convergence of knowledge, talent and a rate of discovery that is exponentially expanding the capacity for innovation within the industry.*

*The implications are better projects and possibly new opportunities that go well beyond the current mid-life refurbishments.*



NA-SA's Embalse plant

## Nucleoelectrica, Argentina

### *Life extension project of Argentina's Embalse Power Plant nears completion*

The refurbishment of NA-SA's nuclear plant in Cordoba is well into its final stage, the reconditioning of the plant. The installation of the upper feeders was completed April 2, and installation of the lower feeders has begun.

The life extension project has been underway since Jan. 1, 2016. Following completion of the project, the plant will enter its second 25-year operating cycle and see a 6% increase in power, reaching 683 MWe.

Innovations have been many throughout the project including the complex task of steam generator replacement.

**Read more here:**

<http://www.na-sa.com.ar/prensa/avanzan-las-ltimas-tareas-del-proyecto-extensi-n-de-vida-de-la-central-nuclear-embalse/>

or follow the project on Nucleoeléctrica's Twitter page: [@nucleoelectrica](https://twitter.com/nucleoelectrica).

## OPG Darlington, Ontario

### Unit 2 moves toward restart

The Darlington Refurbishment Project is on schedule and on budget as Unit 2, the first unit out of the gate, moves into reconstruction and restart mode. The reactor's 58 systems are being reassembled and restarted and the team is now installing new calandria tubes (CTs).

Part of the fuel assembly, replacement of these 480 calandria tubes, signals the start of physically rebuilding the reactor with new components.

Other tasks underway include the refurbishment of fuel handling equipment, the rebuilding and replacing of almost 1,000 valves and the overhauling of turbines and generators. Unit 3's refurbishment has also been given the go-ahead, and execution is set to begin in 2020. Once the refurbishment is complete, the four-unit plant will operate through to 2055.

**Read more** at [www.opg.com](http://www.opg.com) including: [https://www.opg.com/darlington-refurbishment/Pages/20180709\\_Unit\\_2\\_Rebuilding.aspx](https://www.opg.com/darlington-refurbishment/Pages/20180709_Unit_2_Rebuilding.aspx)



OPG Darlington



Bruce Power CEO Mike Rencheck announces contracts in Spring 2018

## Bruce Power, Ontario

### Bruce Power awards \$914-million in contracts for life extension project

Bruce Power continues to invest in its life extension program, which will see the replacement of major components of six of the plant's eight reactors between 2020 and 2033.

In a single day in April, the company announced \$914-million in advanced manufacturing contracts for the MCR project including:

- \$642 million to BWXT Canada Inc. for manufacturing of 32 steam generators to be produced at BWXT's Cambridge facility;
- \$144 million to Laker Energy Products for end fittings, liners and flow elements, which will be manufactured at its Oakville location;
- \$62 million to Cameco Fuel Manufacturing, in Cobourg, for calandria tubes and annulus spacers for all six MCRs; and
- \$66 million for Nu-Tech Precision Metals, in Arnprior, for the production of zirconium alloy pressure tubes for Units 6 and 3.

The company also said Kinetrics will perform fuel channeling inspection, Brotech Precision CNC will supply shield plug assemblies, and Shoreline Power Group will be responsible for the reactor retube.

Read more at [www.brucepower.com](http://www.brucepower.com)

## With lessons from refurbishments already completed...



NB Power's Point Lepreau Station refuelling after refurbishment

## Point Lepreau, New Brunswick

While the companies with the three refurbishment/life extension projects currently underway are gaining significant learnings from each other, they are also learning from peers at other CANDU stations including New Brunswick Power's Point Lepreau station, which completed refurbishment in October 2012 and KHNP, Korea, which returned Wolsong 1 to service in 2015.

New Brunswick's Paul Thompson, a leader on the Lepreau refurbishment and former CANDU Owners Group board member, has been a frequent keynote speaker at refurbishment workshops and forums, including COG's recent **Return to Service Workshop**. Knowledge on restart and what operators can expect in the months and years beyond refurbishment will prove equally valuable.

In its 2017-18 fiscal, Lepreau achieved its best performance since 1994.

Read more at [www.nbpower.com](http://www.nbpower.com)

## COG Return to Service Workshop brings international participants

As NA-SA, Argentina and OPG begin to turn units back toward operation, their minds are turning toward return to service. Others in the industry, including COG international members looking to begin their own mid-life refurbishments, also want to learn what happens after project completion. COG's recent Return to Service workshop, which included a day at the Darlington project site and several expert speakers provided answers for participants from around the globe.