

## Message from the President

### Nuclear Energy's Role In A Canadian Energy Strategy



Recently Canada's environment ministers have been meeting in Ottawa to discuss a national strategy that will enable our country to meet its challenging carbon emission reduction targets. Last year, their energy counterparts met to discuss a nationwide energy strategy intended to help sustain and increase economic growth and energy security.

The inherent environmental and economic benefits of nuclear energy make it well suited to be a key component in both strategies. New Brunswick's investments in Point Lepreau and Ontario's recent announcements supporting the renewal of its nuclear fleet recognize the significant contributions nuclear energy delivers at a provincial level.

These include: substantial reductions in greenhouse gas emissions and smog causing pollutants; economic benefits in the form of tens of thousands of good paying jobs; tax and electricity export revenues; GDP growth; support for R&D that leads to value-added innovation; and, improved energy security that delivers a low-carbon competitive advantage.

Ontario has also renewed its support for the export of Canada's world-class nuclear technology and services. This generates new domestic economic growth while helping other jurisdictions fight climate change. Our nuclear industry can also help advance Canada's diplomatic interests as the CNA's President and CEO, John Barrett has noted.

Stakeholders in our industry have invested significant time and resources advocating for and educating decision-makers and the public about the advantages nuclear energy offers. The previously noted achievements are evidence that these efforts have been successful.

What remains unclear is the position of our new federal government regarding the future role of Canada's nuclear industry. Will it be more supportive than the last government? Will it recognize the important role our nuclear technology can play and reengage with our industry?

Clearly, our industry must continue its advocacy if we want nuclear energy to be "the core of Canada's low-carbon future"—the theme of this year's CNA conference.

*David Shier*

### Sterling End to 2015 And Start for 2016 for Bruce Power

On December 3, 2015 Bruce Power (BP) announced that it would be investing \$13 billion to refurbish the Bruce Nuclear Station. The multi-year investment program was enabled via an amended long-term agreement between BP and Ontario's Independent Electricity System Operator. BP will assume responsibility for cost-over runs. Besides securing 6,300 megawatts of low-cost, low-carbon electricity, BP's investment program will sustain an estimated 18,000 jobs directly and indirectly from operations, and an additional 3,000-5,000 jobs annually. Duncan Hawthorne, BP's President and CEO, described the agreement as a major milestone in the history of the company.

The following day the company made three partnership related announcements. BP indicated that it would be hosting its first annual Aboriginal Employment and Business Forum in Owen Sound on February 29, 2016. This new forum will enable individuals, businesses and organizations from Aboriginal communities to connect with the company and its unions and suppliers on employment and business opportunities.

BP also announced the signing of a memorandum of understanding (MOU) with Cambridge-based, BWXT Canada Ltd (BWXT Canada). The MOU addresses the supply of replacement generators for the four Bruce B units, commencing with Unit 6, which goes offline for refurbishment beginning in 2020.

As well, BP entered into a \$35 million agreement with Laker Energy that will secure key long-lead time reactor components from Laker Energy's Burlington and Oakville facilities.

On December 16, BP signed a three-year Master Service Agreement with NA Engineering Associates Inc. (NAE). The relationship between the two companies began in 2001 and NAE was one of the first suppliers to establish and maintain a local presence with their Kincardine office. Two days later, BP set a post-refurbishment, long-run record for consecutive days of eight-unit production.

Walkerton's soccer complex received a \$100,000 donation from BP on January 8, 2016. On January 12<sup>th</sup>, BP was named one of Canada's top employers for young people for the fifth consecutive year. The company also made a \$25,000 donation to the Bruce County Historical Society's documentary project for Canada and Bruce County's 150<sup>th</sup> anniversary.

On January 18<sup>th</sup>, BP announced a \$116 million investment in a planned maintenance and inspection program in the 822 MW Bruce B Unit 8. The unit is expected to return to service in the second quarter of this year.

## OPG On A Roll



Glenn Jager,  
President, OPG Nuclear  
and Chief Nuclear  
Officer

Ontario Power Generation received a pre-Christmas gift from the Canadian Nuclear Safety Commission (CNSC) on December 23, 2015. The CNSC granted OPG a ten-year licence for the Darlington Nuclear Generating Station. The licence, valid from January 1, 2016 until November 30, 2025 is the longest ever granted for a Canadian nuclear power plant. OPG's Nuclear President and Chief Nuclear Officer, Glenn Jager attributed the licence terms to Darlington's strong performance and OPG's preparations for refurbishment.

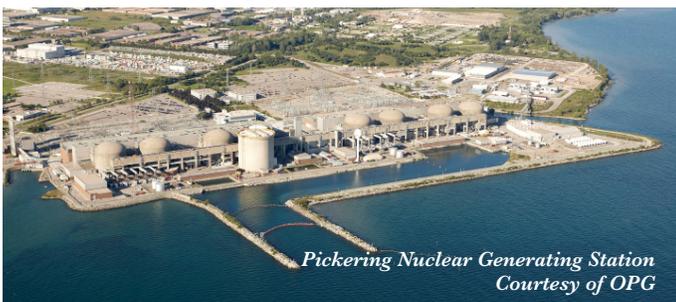
On January 11, 2016 OPG received more good news, this time from the provincial government announcing that Ontario would be moving forward with refurbishment at the Darlington Station as well as pursuing continued operations at the Pickering Nuclear Generating Station (PNGS) to 2024.



Darlington Nuclear Generating Station  
Courtesy of OPG

OPG estimates the Darlington refurbishment budget at \$12.8 billion, about \$1.2 B less than originally projected. All four units are scheduled to be complete by 2026. The government's news release noted that the refurbishment project would secure 3,500 MW of affordable, reliable and emission-free power. As well, it notes that the Darlington refurbishment is estimated to contribute \$15 B to the province's gross domestic product throughout the project and create up to 11,800 jobs annually. In total the project will involve "30 million hours of work and support Ontario's globally recognized CANDU nuclear supply chain".

Ontario's government also approved OPG's plan to pursue the continued operation of the PNGS up to 2024. The station was scheduled to go off-line in 2020. PNGS is the largest employer in Durham Region with about 4,500 employees. The continued operation of the station is estimated to avoid 8 million tonnes of greenhouse gas emissions, or the equivalent of taking 490,000 cars from Ontario roads. As noted in the last CNWC President's



Pickering Nuclear Generating Station  
Courtesy of OPG

Message, the Power Workers' Union commissioned a report by Strategic Policy Economics, "Extending Pickering Nuclear Generating Station Operations: An Emissions and Economic Assessment for 2021 to 2024". The report, released last November, demonstrated the significant environmental and economic benefits of operating the plant for four more years.

OPG President and CEO, Jeffery Lyash responding to the government's support for refurbishing Darlington stated that "We have been preparing since 2009 and we are ready to deliver the job safely, on time and on budget."

## What Others Are Saying

"New York is a leader in working towards a clean energy future and we applaud the state's recognition to include some of its existing nuclear energy plants in its carbon-cutting plan. This reinforces the fact that in order to make meaningful carbon reductions, nuclear energy must be a part of the mix. In counting the power generated by New York's upstate nuclear energy plants in its CES, New York is properly valuing these assets for their significant role in producing carbon-free energy. We are also pleased with the state's decision to prevent the premature retirement of clean, safe and reliable nuclear plants through the creation of new market incentives.

However, all of New York's existing nuclear energy plants should be supported as part of the CES, not just those upstate. The state's current existing nuclear plants provide 60% of the state's carbon-free power and over 30% of the state's energy. Put simply, New York cannot afford to lose any of its existing nuclear assets, as this would hamstring the state's ability to meet its clean energy goals. Additional premature plant retirements would also come at a detriment to the reliability of the grid, thousands of jobs, and millions in tax revenues.

New York's inclusion of nuclear in its CES is unprecedented, and represents exactly the kind of action that must be taken to preserve the existing nuclear fleet. We are hopeful that other states will follow in New York's footsteps to properly value nuclear for its carbon-free attributes and ensure a cleaner, more secure energy future."

Source: "Nuclear Matters Applauds New York's Plan to Include Nuclear Energy as Part of Clean Energy Standard." Press release -- January 26, 2016., Nuclear Matters

## New Year Begins Well for Cameco

Cameco's Board of Directors announced a quarterly cash dividend of \$0.10 per common share, payable on January 15 of this year. On December 14, 2015 the company announced that production from the Cigar Lake mine had surpassed 10 million pounds of uranium concentrate. Cameco's share represented 5 million pounds.

Cameco announced on December 17 that underground mining activities at the Rabbit Lake operation had been restricted due to the discovery of a fall of rock.

Forty non-essential personnel were removed from the affected area in the Eagle Point mine and activities restricted as a precautionary measure. There were no injuries nor was the environment affected. Operations at the Eagle Rock mine are to be temporarily suspended until an assessment of the affected area is completed. The Rabbit Lake Mill continues to operate.

On January 16, 2016 Cameco announced that the Cigar Lake operation is expected to produce 16 million packaged pounds of uranium concentrate this year. Cameco's share will total 8 million pounds. Areva's McClean Lake operation mills and packages the Cigar Lake ore. The operating licence for the McClean Lake mill currently has an annual production limit of 13 million pounds. Areva intends to submit an application to the CNSC to increase the mill's annual production limit.

Later in the month, Cameco was named for the first time as one of the world's 100 most sustainable corporations. *Corporate Knights*, a Canadian-based media and research company, organize the global analysis, which uses 12 key indicators to judge the companies.



Eagle Lake Mine,  
Courtesy of Cameco

## Point Lepreau Delivers Solid Capacity Factor Performance

The Point Lepreau Nuclear Generating Station (PLNGS) was operating at 100 percent reactor power on December 8, 2015. NB Power indicated that the Station had been operating for 52 consecutive days and that the capacity factor for November had been 99 percent. The company also indicated that over 1000



people had participated in the two-day, full-scale, multi-jurisdiction test of the nuclear

emergency response plan, called *Intrepid 2015*.

On January 8, NB Power announced that PLNGS had been operating for 83 consecutive days at high power and that the net capacity factor for December had been 99.7 percent. During December, the station produced about 48 percent of NB Power's total net generation and helped the province weather a major winter storm.

## Busy Year for Labour Negotiations in Canada's Nuclear Industry

Collective agreements covering some union workers in the nuclear industry will expire this year.

Collective agreements for UNIFOR locals at GE Hitachi's Ontario facilities in Toronto, Peterborough, and Arnprior end on February 11. The two United Steel Worker (USW) locals at Cameco's Port Hope Uranium Processing facility expire June 30<sup>th</sup>. As well, agreements covering all of the Unions at the Canadian Nuclear Laboratories' facilities

at Chalk River, Ontario and Pinawa, Manitoba end this year.

## Worth Repeating....

...Everyone agrees that the most urgent component of decarbonisation is a move towards clean energy, and clean electricity in particular. We need affordable, abundant clean energy, but there is no particular reason why we should favour renewable energy over other forms of abundant energy. Indeed, cutting down forests for bioenergy and damming rivers for hydropower – both commonly counted as renewable energy sources – can have terrible environmental consequences...

Nuclear power, particularly next-generation nuclear power with a closed fuel cycle (where spent fuel is reprocessed), is uniquely scalable, and environmentally advantageous. Over the past 50 years, nuclear power stations – by offsetting fossil fuel combustion – have avoided the emission of an estimated 60bn tonnes of carbon dioxide. Nuclear energy can power whole civilisations, and produce waste streams that are trivial compared to the waste produced by fossil fuel combustion. There are technical means to dispose of this small amount of waste safely.... Most importantly for climate, nuclear produces no CO2 during power generation...

...Nuclear will make the difference between the world missing crucial climate targets or achieving them. We are hopeful in the knowledge that, together with renewables, nuclear can help bridge the 'emissions gap' that bedevils the Paris climate negotiations.

The future of our planet and our descendants depends on basing decisions on facts, and letting go of long-held biases when it comes to nuclear power. "

Source: *"Nuclear power paves the only viable path forward on climate change."*

by James Hansen, Kerry Eamuel, Ken Calderia and Tom Wigley, *The Guardian*, December 3, 2015

