

Message from the President

Why is the Federal Government Turning its Back on Canada's Nuclear Industry?



The federal government's going forward plan for Canada's nuclear industry was made clear in the Minister of Natural Resources speech to the Canadian Nuclear Association's annual conference on February 28th, 2013.

The Honourable Joe Oliver acknowledged the economic

benefits generated by Canada's nuclear industry and the opportunities that exist in the global marketplace. He also noted the continuing role government must play ensuring that Canada has the world-class nuclear science and technology capabilities to address nuclear legacy liabilities and other responsibilities such as health and environmental protection and public safety to security.

However, it is clear that the federal government will be continuing its "restructuring" of the industry--code for we will continue reductions in financial support -- and will not be playing an active role in the industry, including export sales.

The Minister announced the government's intention to find a private company to run Atomic Energy of Canada's nuclear laboratory at Chalk River. The new model, Government-owned, Contractor-operated mode or "GoCo", is intended to exert private sector rigour and efficiency in the operation of the facilities and be driven by a nuclear industry innovation agenda based on cost sharing.

Models in the United Kingdom and United States were cited as examples. In the U.S., the Energy National Laboratories and Technology Centers are overseen by the Department of Energy [DOE]. Sixteen of these 17 facilities are federally funded and administered, managed, operated and staffed by private sector organizations under contracts with the DOE.

According to the 2013 Annual Energy Outlook by the U.S. Energy Information Agency, new nuclear capacity remains attractive to many utilities because it can provide a hedge against potential GHG regulations or higher natural gas prices.

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There are a number of incentive programs in the U.S. to encourage the construction of new reactors. The 2005 *Energy Policy Act* provides a Loan Guarantee Program—a total of \$18.5 billion of which \$8.3 B has been committed - for new nuclear plants that are completed and operational by 2020. The Act also provides a Production Tax Credit of \$18 per megawatt hour for electricity produced during the first 8 years of plant operation. Several states also provide favourable regulations for new nuclear plants allowing plant owners to recover their investments through electricity rates.

Even though the economic benefits are evident, our government is going in the opposite direction. Given rising GHG emissions associated with fossil fuel extraction in Western Canada, building more CANDU reactors in Ontario and other provinces would appear to make sense. Part of the blame lies with our industry—we need to lobby harder for a nuclear roadmap to the future and to make sure our elected representatives understand what is at stake.



Bruce Power Continues Its Successes in 2012

On April 5th, Bruce Power [BP] and the Ontario Power Authority reached an agreement to amend the Bruce Power Refurbishment Implementation Agreement regarding the Bruce B units. The revised agreement extends the floor price for the Bruce B units. BP will continue to invest an estimated \$250 million this year to optimize the life of the units. Over the next 5 years BP's Bruce B investment program will be about \$1.1 billion.

On April 13th, BP announced, for the first time in two decades that all four Bruce A units were operating with the return to service of Unit 4. Prior to its planned outage, Unit 4 had run continuously over 570 days. Nine days later, BP announced the return to service of Bruce B's Unit 6 after a planned maintenance outage. Prior to the maintenance outage, the 825 MW unit had 556 days of continuous operation and finished in 2012 as the world's top performing Pressurized Heavy Water Reactor.

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On the 22nd, BP made history again—announcing that for the first time in about two decades all 8 Bruce units were operating. During the past decade BP has invested \$7 billion in private funds in the site and is now positioned to provide 6,300 MW of low-cost electricity to Ontario. Duncan Hawthorne, BP's President and CEO, cited the company as a world-leading nuclear operator that will maintain its focus on: hiring talented people; developing a workforce that will safely and reliably operate the 8 unit complex for decades; and, its core value of "Safety First."

On May 2nd, Bruce Power was named by Randstad Canada as one of the Top 15 companies in Canada. Randstad Canada undertook an objective survey of 7,000 Canadian employees and job-seekers between the ages of 18 and 65. These individuals are asked for their views on Canada's 150 largest companies, which are selected through national statistics agencies. Companies cannot request or subscribe to be included in the survey.



Courtesy of Bruce Power

Gentilly 2 Controversy Continues

On the Ides of March, François Bonnardel, Coalition for the Future of Quebec's Natural Resources, tabled a motion in the National Assembly calling for an independent audit of the management of the former Liberal government and Hydro-Quebec of Gentilly 2. The motion received the unanimous support of the Assembly.

On March 29th, the Quebec Parliamentary Committee on Gentilly-2 recommended that the government conduct an immediate dismantling of the nuclear power plant. Environmental groups were calling for a 20-year decommissioning plan versus Hydro-Quebec's 50-year proposal during earlier Committee hearings held in January. These groups have argued that this approach is taken in France and is a way of maintaining well paying jobs in the Centre-du-Quebec and Maurice.

The Committee's report notes that the immediate decommissioning option has not been studied by Hydro-Quebec and that an accelerated plan must satisfy CNSC regulations regarding safety. The Committee also recommended putting pressure on the federal government to decommission Gentilly-1, which has been closed for nearly 30 years and a relaxation of the criteria for the Economic Diversification Fund that is available for the affected areas.

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On April 2nd, the Quebec government announced a temporary moratorium on uranium mining in the province. A provincial environmental review board, Bureau d'audiences publiques sur l'environnement [BAPE] will now hold public hearings on the uranium sector. The Grand Council of the Crees is opposed to all uranium mining in its territory. Strateco's Matoush uranium project will not proceed while the hearings are underway.

The Council is concerned that the province's review process does not recognize Cree rights as they are set out in the 1975 James Bay and Northern Quebec Agreement.

Cameco—the Ups and Downs of Uranium

On March 8th, 2013 Cameco announced that Victor J. Zaleschuk, the current chair of the board of directors will be stepping down following the corporation's May 14 annual general meeting. Cameco's board has selected Neil McMillan as the successor to this non-executive position. Mr. Zaleschuk will remain on the Board as a director.



Neil McMillan,
Chair, Board of Directors,
Courtesy of Cameco



Tim Gitzel,
President and CEO,
Courtesy of Cameco

On March 20th, Tim Gitzel, president and CEO of Cameco complimented the new provincial royalty system announced in Saskatchewan's budget. Mr. Gitzel stated that the changes "will give Cameco added confidence to continue the large investment we are

making to sustain and grow production from our Saskatchewan operations." According to Cameco's announcement, the industry has generated about \$8.5 billion in capital investment in the province over and above operating costs.

In April, Cameco joined Sasktel and SaskPower in a new initiative to improve communication technology and electricity reliability in northern Saskatchewan. The three companies will invest in over 500 kilometers of new fibre in the area, with Cameco contributing \$8 million. The corporation expects this will create new efficiencies for its four mines in the area.

On May 1, Cameco announced a 93% drop in profit in the first quarter as uranium volumes and prices fell. While uranium production was up during the January-to-March period, sales and prices dropped. Uranium sales continue to be affected by the aftermath of the Fukushima Daiichi atomic power plant event but in the longer-term, nuclear energy growth in India and China is expected to increase demand.

Cameco's first quarter performance was also affected by lower electricity revenue from Bruce Power and higher expenditures associated with the addition of NUKEM and corporate restructuring costs.

OPG Makes Progress on Nuclear Projects

The month of March brought good news for Ontario Power Generation [OPG] with two positive announcements from the Canadian Nuclear Safety Commission [CNSC] on the 14th. Approval was granted to renew OPG's Darlington Waste Management Facility operating licence for a period of ten years—from March 13, 2013 to April 30, 2023. Authorization was also given to OPG to construct and operate two additional storage buildings.

On the same day, the Commission announced its decision on the Environmental Assessment for the proposed refurbishment and continued operation of the Darlington Nuclear Generating Station [DNGS]. During the public hearing on these three matters, the Commission considered submissions from OPG, 690 intervenors and recommendations from CNSC staff. OPG undertook extensive environmental studies on the DNGS, which were submitted in an Environmental Impact Statement to the CNSC in December 2011. The refurbishment of the four Darlington reactors will enable their continued operation for approximately 25-30 additional years.

In late March, the CNSC informed OPG that there are no fundamental barriers to licensing a once-through cooling system for the proposed Darlington New Nuclear Project. The CNSC's March 28th letter did outline some conditions. OPG was required by the Joint Review Panel to undertake a formal quantitative cost-benefit analysis for cooling tower and once-through condenser cooling water systems applying the principle of best available technology economically achievable.

On April 3, 2013, OPG announced that it had awarded an approximately \$350 million equipment and technical services contract to Alstom Power & Transport Canada Inc. to refurbish the four turbine generator sets at DNGS. OPG also has a contract with Burns & McDonnell-Canada of Calgary to provide independent oversight on the refurbishment project.

OPG also made progress on the Deep Geologic Repository Project for low and intermediate level waste at the Bruce

nuclear site. The Joint Review Panel announced on April 25th that it had set a deadline of May 24 to receive public comments on the project's Environmental Impact Statement [EIS].

Point Lepreau—Restart Hiccups

On March 4th, NB Power announced that it had begun reducing reactor power at the Point Lepreau station from 100% to address re-fuelling requirements. The reactor

had been filled with new fuel before the Station came back online in 2012, thereby delaying refuelling for the first several months of high power operation.

On March 18th NB Power had reduced reactor power to 35% to allow workers to adjust the process for re-fuelling the reactor. The Station had operated at or near 100% for much of January and the full month of February. The work also coincided with the spring freshet when conditions are better for hydro generation and electricity demand is lower due to above zero temperatures.

On April 2nd, fuelling activities at the Station had resumed. Additional testing, necessary before a consistent fuelling rate and reactor power could be increased above 35%, also commenced. A robotic machine removes closure plugs at the end of each fuel channel and then inserts new fuel bundles and reinstalls the plugs. During the refuelling process operators found that the closure plugs were more difficult to remove than anticipated and necessary adjustments were made.

Ten days later, NB Power announced that the reactor had been temporarily moved to minimum power while

adjustments were made to boiler water chemistry. By the 30th of April, the reactor was back on line at 35% power and that fuelling was resuming. Gaëtan Thomas, President and CEO of NB Power, noted that the issues the company had been managing in the first five months of operation are normal and to be expected following the refurbishment and restart of the Station.

Worth Repeating...

On March 22, 2013, President Obama's Council of Advisors on Science and Technology [PCAST] released a letter to the President outlining six components that should be central to the Administration's strategy for addressing climate change.

The letter included the following:

“Nuclear power requires special attention, as the Federal Government's role is different that for all other technologies. ...Achieving low-carbon goals without a substantial contribution from nuclear power is possible, but extremely difficult. Nuclear power involves large capital investments recovered over long time periods. Even if current market conditions driven primarily by low natural gas prices persist for a decade or more, it is important to eliminate obstacles now that would impede renewed commitments to nuclear energy as energy economics shift over time....”

In short...

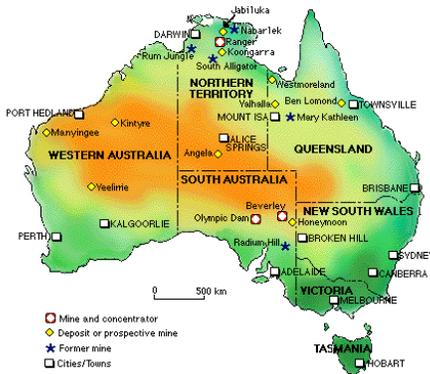
Australia Leans Toward Nuclear Energy

In early May, Australia's new Minister of Resources and Energy indicated that he supports the development of a nuclear energy industry in Australia. This would help Australia



The Honourable Gary Gray

support its growing uranium-mining sector and significantly reduce greenhouse gas emissions. To enable the latter, current legislation that prohibits nuclear generation in Australia would need to be changed. According to the World Nuclear Association [WHA], Australia has the world's largest known uranium resources—about 31% of the world total and worth about \$300 billion at present day values. Australia is the world's third-ranking producer of uranium behind Kazakhstan and Canada.



Germany's Nuclear Energy Phase-out

Energy Transition The German Energiewende

Germany's Energiewende is a long-term plan to transition the country to renewable sources of energy and slash the CO emissions. By 2020 Germany hopes to produce 35% of its electricity from green sources and 80% by 2050. Part of the plan also included phasing out Germany's nuclear fleet, which provided 25% of the country's electricity in 2010. Eight of Germany's oldest reactors have already been shutdown with all remaining reactors to be off-line by 2022.

The total costs of Energiewende are expected to be over € 1 trillion. A February 2013 report from the Fraunhofer Institute for Solar Energy Systems indicates that the solar and wind energy capacity is growing rapidly. However, fossil fuels and nuclear continued to deliver the largest net electricity production in 2012-- 143 TWh from brown coal, 196 TWh from hard coal, 94 TWh from nuclear, 49 TWh from natural gas versus 45.9 TWh from wind, 27.9 TWh from solar and 17 TWh from run of the river.

Mad about your hydro bill? Blame nuclear and gas plants

On April 19th, the Toronto Star ran an article that suggested the biggest component of an Ontario hydro bill, the global adjustment charge [GA], was due to payments being made to nuclear and natural gas fired generating stations not those going to renewable energy suppliers. Ontario uses the GA to account for the difference between the market price and the rates paid to regulated and contracted generators and for conservation and demand management programs.

On April 23, Heather Kleb, President of the Canadian Nuclear Association responded to the Star article with a letter to the Editor



Heather Kleb

—“Correcting the Global Adjustment Numbers.” Ms. Kleb noted that it would be more accurate to point out that a megawatt [MW] of wind-generated electricity received a Global Adjustment of \$74 in 2011 compared to a MW of nuclear generated electricity at \$26. “In other words, electricity generated by wind power received a GA nearly 3 times the adjustment for nuclear. The fact that nuclear received a larger share of the GA in 2011 was because nuclear provided 56.4% of Ontario's electricity compared to wind at just 3%.”

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The member groups are:

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