

## Message from the President

### *Why Is Nuclear Energy Getting Such Minimal Attention*



Three January speeches made by Canada's NRCAN Minister, Joe Oliver, include many references to the oil sands, their importance to Canada's economy, of diversifying markets for our energy resources and the need to build enabling infrastructure, like pipelines. One word you won't find in these speeches is nuclear.

It's clear that this single-minded fossil fuel focus as the way to make Canada an energy superpower will come with significant greenhouse gas (GHG) emissions. Last year, the International Institute for Sustainable Development indicated that Canada would fall short of its 2020 emission goals by over 50%.

Meanwhile, the National Roundtable on the Environment and the Economy says that unless Canada reduces its GHG emissions and invests in adaptation, the economic impacts of climate change to Canada could climb to billions of dollars per year.

We all know the environmental benefits of nuclear energy. Since 1972, Canada's CANDU reactor fleet has helped avoid more than 2.4 billion tonnes of GHG emissions, about 90 million tonnes a year the equivalent to the exhaust from 18 million cars.

On February 3, the Canadian Nuclear Association published an article "Nuclear in the Oil Sands: Building on Canada's Strengths." It makes the convincing argument that nuclear energy could economically be applied to bitumen extraction from Canada's oil sands while significantly reducing GHG emissions. Besides that, it would create substantial economic spin-offs in the rest of the economy. Several independent analyses clearly show that building new CANDU reactors means tens of thousands of high value person years of employment.

Minister Oliver told the Economic Club of Canada on January 27th that "Now, there is a new customer for Ontario's manufacturing products – the energy sector in the west." Why not make that CANDU reactors Minister?

*David Huc*

## OPG Moves Forward With Darlington Refurbishment and Deep Geologic Repository

On December 6, 2011, Ontario Power Generation (OPG) submitted the Environmental Impact Statement (EIS) and Integrated Safety Review (ISR) reports to the CNSC for their review.

The 4,500 plus pages EIS report concludes that the Darlington refurbishment and continued operation of the plant will not result in any significant adverse environmental effects, given mitigation. This 16-volume report is based on years of comprehensive studies, including public and community consultation on and around the site.

The 10,000 plus page ISR report is based on a comprehensive assessment of plant design, condition and operation over a 3-year period. The report concluded that the existing station demonstrates a high level of compliance with modern codes and standards and did not identify any issues or gaps that would affect either current or long-term operations. On January 31st, the CNSC announced that participant funding is available for the environmental assessment process for this project. The application deadline is March 31, 2012.

On January 24th, the establishment of a 3-member Joint Review Panel (JRP) to review OPG's Deep Geologic Repository Project was announced by the Honourable Peter Kent, federal Minister of the Environment and Michael Binder, President of the CNSC. OPG's proposal calls for the construction and operation of a facility for the long-term management of low and intermediate level radioactive waste at the Bruce Nuclear site. Used nuclear fuel will not be stored or managed at the site.

OPG submitted the EIS and a Preliminary Safety Report for the project to federal authorities last April. The JRP will: conduct an examination of the environmental effects of the proposed project to meet the requirements of the *Canadian Environmental Assessment Act*; and, obtain the information necessary for the consideration of the licence application under the *Nuclear Safety and Control Act*.

On February 3rd, the JRP announced the start of the maximum six-month public comment period on the adequacy of the EIS and documents in support of the application for a Licence to Prepare Site and Construct.



## Moving Forward Together – Canada’s plan for safely managing used nuclear fuel over the long-term

Guest Article by Michael Krizanc,  
Communications Manager, NWMO

Canada is well on its way to re-establishing itself as an international leader in planning for the safe long-term stewardship of used nuclear fuel.

Ten communities have formally entered the Nuclear Waste Management Organization’s (NWMO) Learn More program, the process designed to identify an informed and willing community to host a deep geological repository and

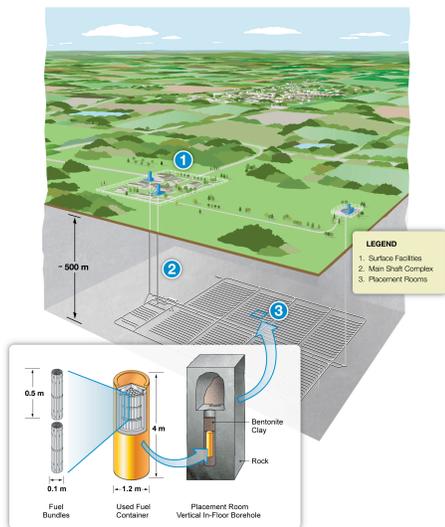
Centre of Expertise for safely managing used nuclear fuel over the long term.

Established by Ontario Power Generation, Hydro Quebec and NB Power in 2002, the NWMO conducted a three year study to collaboratively develop with Canadians a plan for safely managing used nuclear fuel over the long term. Called Adaptive Phased Management (APM), the approach was approved by the federal government in 2007.

The municipalities of Brockton, Nipigon and Ear Falls in Ontario, and Pinehouse in Saskatchewan are at step two of the process to select a site. English River First Nation and Creighton – also in Saskatchewan – along with Ignace, Schreiber, Hornepayne and Wawa, in Ontario have moved forward to step three, the feasibility study phase. Several other communities have publicly announced they’ve been briefed on the project and are considering whether to enter the siting process.

APM was developed in dialogue with Canadians to reflect features considered important by citizens. It involves isolation and containment of used nuclear fuel in a suitable rock formation such as crystalline or sedimentary rock, using a multi-barrier system. The plan builds in the potential for retrieval for an extended period until a future society determines the timing of final closure and the form and duration of post-closure monitoring. It is a multi-generational development that will be implemented over many years through a process of phased decision-making, guided by citizen engagement and the most advanced knowledge and expertise.

The project has an estimated cost of \$16 to \$24 billion to be paid by the used fuel producers. It will involve scientists, engineers, professionals, trades-people and many others, and will have a significant impact on any community and region in which it is located.



An undertaking of this size and nature has the potential to contribute to social and economic pressures that will need to be carefully managed to ensure the long-term health and sustainability of the host community. Overall the project will generate thousands of jobs in a host region, and hundreds in a host community, for many decades.

The NWMO’s Learn More Program offers a wide range of resources to communities expressing an interest in learning more about APM, the activities of the NWMO, and the process it will use to select an informed and willing community to host the project. These activities include an initial desktop screening against five high-level criteria and, for communities that successfully complete the screening, funding to hire a third-party expert to review the NWMO’s initial screening; travel expenses for small representative delegations to visit an interim radioactive waste storage facility; resources to help the community develop or augment a long-term vision for community sustainability; and resources for accountable authorities in the community to begin engaging citizens about the project.

As the siting process moves forward, the NWMO’s work will increasingly take place with interested communities and those that surround them, including Aboriginal peoples. Building trust, and doing so in a manner that is both transparent and respectful of communities’ values and needs, is vital to the process. Providing communities with information, building their capacity to understand the work and its potential impact on them, placing independent experts at their disposal—all are part of building sustainable relationships and making the siting process one of partnership and collaboration.

Although it is expected to take seven to ten years, there are no prescribed timelines for identifying a suitable site for the deep geological repository. The NWMO will take the time that is necessary to do it right. Ultimately, there will have to be a compelling demonstration of willingness expressed by the citizens of any interested community after a long period of site assessment, and learning about the project, before a host community is selected.

The NWMO’s technical program is fundamental to the success of the plan. Canadians expect APM to be based on the most advanced scientific knowledge available, domestically and internationally. The organization is making a significant investment to ensure that its research is robust and effective. Its International Technical Review Group has noted impressive development in the research program and indicated that the NWMO has identified all the relevant issues and challenges and proposes a comprehensive work program to address them.

Construction of Canada’s deep geological repository will proceed only after the NWMO demonstrates that all safety, health and environmental protection standards can be met and enforced. Given siting experience, the regulatory process that will be followed and construction timelines, the earliest the facility could be operational is 2035.

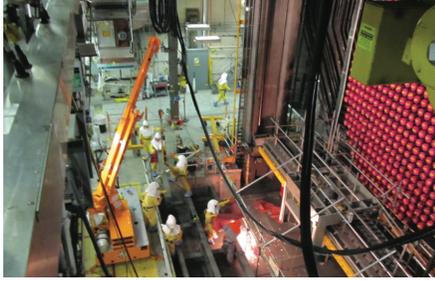
“The process has reached out to the Canadian public and stakeholder groups in numerous ways and to an extent that is truly exemplary.”

Technical report prepared for the Blue Ribbon Commission on America’s Nuclear Future - June, 2011.

continued...

## Bruce Power's 2011 Successes

Bruce Power (BP) had a lot to be proud about the company's 2011 performance as attested to by its major operations, employee and community accomplishments.



Unit 1 work progresses, Courtesy of Bruce Power

On the operations side, Units 3 through 8 provided about a quarter of Ontario's electricity. Bruce A and B achieved a capacity factor of about 90% and the company announced it would be investing \$500 million in the site's operating units to ensure continuing safe, reliable operation.

The Units 1 and 2 Restart program achieved major milestones including fuel loading for both units. This was accomplished while reaching 15 million hours worked without an acute lost-time injury, thanks to the Restart team's commitment to a "Safety First" initiative. BP also enhanced its emergency response capability by creating an Emergency and Protective Services division.

The company was also recognized as one of the 50 Most Engaged Workplaces in Canada and one of Canada's 10 most outstanding employers for its commitment to young people. BP and its employees and contractors also demonstrated major community spirit donating over \$2 million to community initiatives including relief efforts in Goderich, Japan, northern Ontario, Easter Seals Ontario, United Way of Bruce County, Unity for Autism and Wounded Warriors.

Earlier in December, BP announced that it would not be pursuing a new nuclear power plant in Alberta but instead focusing on the Bruce site. On February 3, 2012, BP provided an update on the steam generator-recycling project. The update noted that since BP has proven science behind its plan it would re-apply for the licence when appropriate.

## Gentilly-2 Still Awaiting Hydro Québec's Financial Analysis

In the absence of a final decision from Hydro Québec and the provincial government, the debate continues regarding the future operation and refurbishment of Gentilly-2.

Back in March 2011, Hydro Québec announced it would be providing the Quebec government with a cost-benefit analysis of the closing of the Gentilly-2 nuclear power plant.

Recently, Québec's Minister of Environment told an audience of Boards of Trade from the host region that the financial report

would be a major factor in the government's decision. During a press conference, the Minister stated that the Quebec government does not intend to go further in the nuclear field but instead sees hydro and wind turbines as the solution for the future. He noted that Cabinet would make the decision on the fate of Gentilly-2.

Opponents of the project are lobbying for the closure and decommissioning of the nuclear power plant. Hydro Québec's website gives several reasons for the continuing operation and refurbishment of the Gentilly-2 power plant: 25 years of proven safe operation; its strategic role providing a constant supply of energy; production that is not subject to climatic variations; and, major economic benefits for the region and Québec.

On June 29th, 2011, the CNSC renewed the operating license for Gentilly-2 for a five year time period. It also allowed Hydro Québec to merge the waste management facility operating license with that of the plant. This combined license runs until June 20th, 2016, allowing for the refurbishment to take place.

## Worth Repeating....

"The implementation of the three R principles at Canadian nuclear facilities is endorsed by the Canadian Nuclear Safety Commission. It ensures that the management of radioactive waste is carried out to the highest standards for health, safety, security and environmental protection.... That is why the CNSC stands by the recent decision to license the transport of the Bruce Power steam generators to Sweden for recycling."

*Information Update – Steam generator processing: an excellent example of responsible and safe nuclear waste management practices, dated January 13, 2012, Canadian Nuclear Safety Commission*

## Cameco Off To A Good Start In 2012

Day Two Hearings were held on January 17th, 18th and 19th in Port Hope for Cameco's relicensing of its Blind River Refinery, Port Hope Conversion Facility and Cameco Fuel Manufacturing. The CNWC and Local 13173 of the United Steelworkers (USW) made presentations at the hearings in support of both licence renewals at Port Hope.

In December, Cameco held a community forum in Port Hope on the relicensing process. Cameco's VP of fuel services, Andy Thorne, provided an update to about 70 people on local operations, relicensing, Vision 2010 and the future of the Port Granby Waste Management Facility. This was followed by two presentations, one on the relicensing process by a CNSC project officer and the other by the President of Local 13173 of the USW on how the union and the company work together to ensure a safe workplace.

On January 3rd, 2012, Cameco announced the breakthrough of a second mineshaft at their Cigar Lake mining project in northern Saskatchewan. Two separate water inflows, one in 2006 and the other in 2008, interrupted work at the mine, which had begun in 2005. Remediation work commenced in 2010 following dewatering of the mine.

The sinking of the new shaft into the main mining works was a key element of the remediation plan. It provides increased ventilation of the underground works as well as an additional means of accessing the mine. The company expects to resume full mine development and construction activities in 2012 and to remain on target for mining ore by mid 2013.

On February 1, the company received more good news when chosen, for the third consecutive year, as one of the 10 Best Companies to Work For by the Financial Post.

## Last Major Refurbishment Activity Underway At Point Lepreau

In early January, NB Power issued an update on the preparedness for restart and operation at Point Lepreau. The installation of 760 lower feeder pipes, the last major refurbishment activity prior to fuel loading was described as being approximately 13% complete. The project team expects to load fuel into the reactor this spring.



Point Lepreau,  
Courtesy of NB Power

A small spill of heavy water occurred on December 13, 2011 while the moderator system was being refilled in preparation for restart. About 4 to 6 litres was released into the containment building. A damaged pump diaphragm causing the spill was addressed and the refill of the moderator system was resumed.

A CNSC press release the following day noted that all precautions were taken by NB Power to protect workers and that the spill did not result in any risk to the public, the environment or the workers. NP Power noted that highly sensitive radiation monitoring equipment worked as per design and workers responded quickly to the situation.

NB Power is seeking a five-year licence renewal for the plant, as the current Power Reactor Operating Licence expires on June 30th, 2012. Romeo Bourque, V.P. IBEW Local

37, delivered an oral presentation on behalf of the CNWC at the December 1, 2011 CNSC Public Hearing in St. John. The CNWC expressed their full support for NP Power's application.

## In short...

### EU Releases "Energy Roadmap 2050"

A communication released December 15, 2011 by the European Commission certifies "Nuclear energy as an important contributor" going forward. While public policy on nuclear power differs between Member States of the EU, the Commission will support the nuclear safety and security framework for those Member States that have nuclear in their energy portfolio. High standards for nuclear security, both in the EU and globally, require high skill technology and leadership "which can only happen if competence and technology leadership is maintained within the EU."

### New Skilled Workers Needed

 A new study released by Canada's Electricity Sector Council entitled "Power in Motion", highlights the need for an integrated strategy to address the looming labour market challenges that face the electricity industry. Some of the pressures identified include investments being made in the existing electricity system, the addition of renewable resources, the planning and building of new infrastructure, and losses to the labour force from retirement, as well as

competition for new skilled and soon-to-be skilled workers from other sectors.

The labour market study draws from 89 employer organizations and 47 post-secondary institutions, covering 30 critical electricity occupations in 140 labour markets across Canada. Solutions discussed in the study include: increased collaboration of provincial governments, colleges and universities to add new programs for the needed skilled workers; and to consider non-traditional recruiting sources, such as immigrants, women, and aboriginal workers.

### IAEA Missions Findings

On December 9, 2011, the International Atomic Energy Agency (IAEA) concluded a two-week mission to review Canada's nuclear regulatory system. The peer review team, consisting of ten experts from eight member states, conducted the review as a follow-up to the 2009 Integrated Regulatory Review Service (IRRS). In addition, the group also looked at Canada's response to the Fukushima accident, and the transportation of radioactive materials. The IRRS mission found that most of the issues identified in 2009 have been satisfactorily addressed and can be closed, and that significant progress has been made on the remaining issues. The team noted that the regulatory response to Japan's Fukushima Daiichi accident was "prompt, robust and comprehensive" and that the regulatory framework for transport of radioactive materials is well established. A draft report of the main findings was sent to the CNSC, with the final report expected in about three months, at which time the CNSC plans to release it publicly.

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The Canadian Nuclear Workers' Council is an organization of workers represented by unions working in various areas of the Canadian nuclear industry which includes uranium mining, nuclear fuel processing, nuclear power stations, radial isotope production for medical and industrial purposes, and nuclear research.

### The member groups are:

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