

Speaking Notes

Hon. Jack Keir

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Canadian Nuclear Association

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Check Against Delivery

Thank you.

It is a pleasure to participate in this year's conference. The line up of distinguished speakers is notable, and I am honored to be amongst those presenting this year.

And to Angela Howard, who spoke before me - Welcome to Canada. I would like to take this opportunity to formally invite you to New Brunswick. It would be a pleasure for me to give you and your colleagues a tour of the New Brunswick energy hub, and of course our nuclear generating station, Point Lepreau.

I had the opportunity to speak at this conference last February. At that time I delivered my vision for New Brunswick - a New Brunswick that is a world class energy hub for the international Northeast region.

Today, I want to focus on two energy mega projects in New Brunswick – the Refurbishment of the Point Lepreau Nuclear Generating station, and the ACR 1000 new build project.

Before I speak specifically about our nuclear industry, allow me to briefly put New Brunswick on the map.

New Brunswick neighbors Quebec, Prince Edward Island, Nova Scotia, and the State of Maine.

It is located within the geographic centre of the international region that encompasses Atlantic Canada and New England, often referred to as Atlantica.

New Brunswick is home to an increasingly diverse energy portfolio, including; electricity generation from hydro, nuclear, wind, biomass, natural gas, coal and oil. As well, we are home to Canada's largest producer of refined petroleum products, and the country's only liquefied natural gas terminal.

We offer a gateway for secure and clean energy supplies to businesses and consumers alike, acting as a strategic energy corridor linking New England and Atlantic Canada, with an opportunity to move increasing amounts of clean, non-emitting energy.

As David Wilkins, former U.S. Ambassador to Canada, recently stated, "I think New Brunswick is poised to be the new energy hub, certainly in

this part of North America” and “New Brunswick will become an integral part of U.S. energy security in the future.”

Premier Shawn Graham and I are committed to growing the New Brunswick energy hub and exploring every possible opportunity for sustainable economic growth in the energy sector.

We intend to not only be a supplier of electrical generation capacity to Eastern Canada and New England, but to also develop sustainable industry clusters in renewable energy, nuclear energy, value-added petroleum and natural gas activities, and new emerging energy technologies such as in-stream tidal power, compressed natural gas, hydrogen and solar power.

I would like to point out that the state of the global economy is certainly a concern to all of us here today, and ultimately none of us are immune.

That being said, I can honestly tell you that investor interest in New Brunswick has not wavered in the last year.

We offer clean, green energy supplies for domestic, regional and export markets, and offer an exceptional business climate to investors and neighbors alike.

We strongly believe in developing competitive regional energy solutions and are committed to working together to achieve sustainable economic growth for the entire international northeast region.

I believe that the global economic challenges that have unfolded over the last few months reinforce this need for regional cooperation and collaboration on economic development and energy issues.

Today, ladies and gentlemen, the New Brunswick energy hub cluster includes over \$20 billion in current, planned or potential projects.

It has attracted the attention of world class companies such as petroleum giant BP, TransAlta, TransCanada, Enbridge, Emera, Repsol, AECL, Hitachi, Spectra Energy, SNC-Lavalin, and Suez Energy, to name but a few.

These energy projects include:

- **The first liquefied natural gas receiving and regasification terminal in Canada, with a sustained capacity of one billion cubic feet per day.**
- **A new 145 km long natural gas transmission pipeline to service our LNG terminal. This is in addition to our existing natural gas pipeline that carries gas from the Sable Island field off Nova Scotia through to markets in New England, and our own corridor resources gas fields near Sussex N.B.**
- **The Eider Rock project – a proposed \$8 billion second oil refinery to be constructed by Irving Oil. This facility as it is fully envisioned will have the capacity to produce 300,000 barrels per day of refined petroleum products - a doubling of existing capacity.**

(6 to 10 cars in Boston fueled by refinery)

And on renewable energy, New Brunswick is a world class wind energy resource.

It is estimated that we have 40,000 MW of wind capacity in N.B. If only 10 percent of this potential can be properly harnessed in the next ten years this represents billions of potential investments in clean energy for our future.

Currently, the province is home to the largest wind farm in Atlantic Canada. Trans Alta's 96MW Kent Hills wind facility became operational at the end of 2008.

Three other New Brunswick wind farms

(one of these being constructed by Suez Energy who is in the room today) are soon to join the Kent Hills facility with a combined generating capacity of over 300MW of green, renewable energy by 2010.

And nuclear energy, ladies and gentlemen, is a key component of the energy hub. The nuclear industry plays a very big role in our province's future.

The Point Lepreau Nuclear Generating Station in Southern New Brunswick has been generating clean, emission free electricity for more than 25 years, and accounts for nearly 30 percent of our province's total electricity needs.

It is one of the top performing nuclear reactors in its class. And for a number of years it was THE top performing nuclear power plant in the world.

As many of you are well aware, Point Lepreau is currently undergoing a refurbishment to extend its life by another 25 to 30 years. This is the first refurbishment of a CANDU-6 reactor in the world.

This is an impressive first for our province, and is key to growing our energy hub.

The refurbishment of the Point Lepreau Generating Station is also an important piece of NB Power's overall strategy to provide clean, safe, reliable and cost-effective electricity for New Brunswick ratepayers.

The refurbishment project has resulted in the establishment of an international Centre of Excellence for the retubing of Candu-6 reactors in Saint John. This new facility serves as a recruiting and training facility for the more than 800 additional staff that are working on the refurbishment project.

Engineers and technicians have come to New Brunswick from the Candu-6 plants in Quebec, Korea and Argentina to learn about the technology and processes that have been pioneered in our province.

They have received comprehensive training on refurbishment methods and on the high-tech tooling required for these complex projects.

And actually, the Province of New Brunswick recently announced a major investment in post secondary education for energy skills development.

There are many more Candu-6 reactors worldwide to be refurbished. This training opportunity, brokered with AECL, is just the beginning of

further training and retraining opportunities in nuclear energy in New Brunswick.

The successful completion of the refurbishment project will allow the Point Lepreau Generating Station to provide approximately 25 per cent of the electrical energy requirements of the people of New Brunswick for the next 25 to 30 years.

After almost three years of detailed planning, on March 28, 2008, Point Lepreau was safely shut down to mark the beginning of the refurbishment. The planned cost of this mega-project was \$1.4 billion.

As many of you are aware, we have experienced some delays, and the price tag for this first-of-a-kind project will come in somewhat higher than our original estimate. I'll touch on that in a moment.

Point Lepreau has undergone significant organizational change since the beginning of the project.

With an operational workforce of approximately 700 employees, it has grown to almost 2,000 employees on site, who are committed to safely and successfully executing this project.

And here I would like to recognize the exceptional contribution of Gaetan Thomas, VP for Nuclear with NB Power, and Ross Galbraith, Business Agent for the International Brotherhood of Electrical Workers at NB Power.

As part of the preparation and planning stages, with our partner AECL, the refurbishment was divided into three stages:

- Station shutdown and defueling, performed by NB Power;**
- outage execution, performed by AECL for the reactor retube activities; and**
- Commissioning and return to service, again the responsibility of NB Power.**

This refurbishment project involves the removal and replacement of all 380 reactor fuel channels and Calandria tubes and associated feeder

pipings, as well as the refurbishment of aging components and the upgrading of certain nuclear and non-nuclear systems.

In preparation for the refurbishment, more than 50 highly automated tooling systems for fuel channel and Calandria tube replacement have been designed and developed by the team at AECL.

Many of these tools are first-of-a-kind, while others are based on tools used for new reactor construction and previous refurbishments of different CANDU models.

Phase 1 of the refurbishment was completed in May 2008, when the reactor core was defueled by removing all 4,560 fuel bundles from the fuel channels, and the pressurized heat transport system was drained of its heavy water.

Once these activities were completed, AECL prepared to take the lead for stage two of the project: executing the reactor refurbishment work – which is taking place right now.

In order to support all this refurbishment work, modifications to the onsite solid radioactive waste management facility were completed in early 2008. Additional structures were built to store the old reactor components being removed, and additional storage capacity was built to support the extended life of Point Lepreau.

Commissioning of some of the high tech refurbishment tools has been challenging, and the transitions between the many individual work tasks has presented further challenges. These challenges have resulted in production rates being lower than anticipated. The project is experiencing some delays.

From the beginning, we have been very open and upfront with our ratepayers with regard to these delays. We are currently 3 to 4 months behind where we would like to be.

This will obviously affect the overall price tag for the project.

We are determined to take the time required to do this right.

It goes without saying that the team at Point Lepreau is committed to safely recover as much time as possible on the schedule. They are reviewing their processes, identifying and removing barriers, and implementing opportunities to make the most effective use of tools and skills.

The best people are on the job, with an objective to safely deliver a quality, technically sound refurbishment project for our province.

I firmly believe that the workers at Point Lepreau are doing a great job of meeting the challenges that have occurred.

I am confident that the project team consisting of NB Power and AECL staff will successfully deliver a quality, technically sound refurbishment project for New Brunswickers. And they will do it with safety as their top priority.

We are proud to have reached a milestone in December 2008 – even in the midst of this frenetic outage activity -- of achieving over 2.5 million person-hours at Point Lepreau without one lost-time accident.

To shift focus to another major nuclear project for New Brunswick - I am particularly excited about the construction of a second nuclear power plant at Point Lepreau with the new ACR – 1000 technology.

On August 1st of 2007 the Premier and I announced that the government of New Brunswick accepted a proposal put forward by Team Candu New Brunswick to fund and conduct a feasibility study for the construction of a Generation III Advanced Candu Reactor – an ACR 1000 - at Point Lepreau.

I want to say that New Brunswick is very supportive of Canadian technology. We were pleased to stand side by side with AECL and the Canadian nuclear industry in August 2007, and we are pleased to do so today.

Team Candu New Brunswick represents five of the world's leading nuclear technology and engineering companies: Atomic Energy of Canada Limited, Babcock & Wilcox Canada, GE-Hitachi Nuclear

Energy Canada, Hitachi Canada Ltd, and SNC-Lavalin Nuclear Limited. It is a pleasure to have them investing in New Brunswick.

We have been working diligently with Team Candu because we believe in Canadian Candu technology – a world class platform that has served New Brunswickers very well to date, and will continue to do so into the future.

The most recent Federal Budget reflects the ongoing Federal government support for both AECL and for the ACR-1000 design.

This is extremely positive news for New Brunswick and the world. I would like to commend Minister Raitt and the Federal Government for their commitment to the nuclear industry and its strategic place in our green future.

Team CANDU New Brunswick undertook a \$2.5 million study in 2007/2008 that confirmed the business case and overall project viability of an ACR-1000 nuclear generating plant at Point Lepreau that would

supply clean electricity to the Maritime provinces and New England states.

Based on direct input from utilities, as well as independent studies, the evaluation identified a demand in the Maritimes and New England for between 1,100 MW and 1,700 MW of competitively priced, base load and zero greenhouse gas emission power, in the 2017-2018 period.

This projected market demand clearly substantiates the business case for one unit, plus an option for a second.

Independent transmission studies, including some recent results from the New Brunswick System Operator, have also confirmed the technical and financial feasibility of delivering power from the Point Lepreau site to markets in the Maritimes and New England.

As part of our energy hub development efforts, New Brunswick is collaborating with the private sector, the New Brunswick System Operator, and regional jurisdictions throughout the international

northeast region in the active pursuit of incremental east-west and north-south transmission capacity.

We are encouraged by both the Government of Canada's and US government's commitment to strategic infrastructure investments and the concept of international energy corridors.

The ability to reliably and cost-effectively transfer increasing amounts of clean, non-emitting electricity within the Maritime Provinces and New England is a very important piece of our energy hub vision.

The business case further indicates that a privately financed ACR-1000 project at Point Lepreau could successfully compete for and win power market share in the Maritimes and New England. And that it would provide a reasonable rate of return for its investors.

Several major nuclear utilities and project developers have expressed interest in becoming part of the project proponent company, sponsoring the licensing and environmental assessment process, and becoming the major owners and investors in this project.

Despite the current economic downturn, these world class organizations recognize the unique opportunity presented by the Point Lepreau ACR-1000 project. And therefore want to step into the role as project developer and eventually as investor and owner of the project.

The process for a Clean Energy Dialogue between Canada and the U.S. is further proof of the integration and trade dependency of our energy markets.

New Brunswick has long recognized this, and this recent development further fuels our determination to shoulder on with clean and green energy solution for the Northeast New England market place.

This new build project would create up to 4,000 construction jobs as well as up to 700 permanent jobs in the operation of the single unit plant.

Furthermore, Team CANDU New Brunswick is already working with the New Brunswick Department of Energy to develop additional economic and social opportunities for our province.

Many New Brunswickers support the construction and operation of an ACR-1000 nuclear power plant at the Point Lepreau Generating Station.

With growing public concern over greenhouse gas emissions and global warming, nuclear energy is seen by many as an important and integral step towards meeting our long-term energy needs.

After 18 months of market development, Team CANDU New Brunswick has established a unique opportunity for the investors to initiate the first formal Site License Application and Environmental Assessment based solely on ACR-1000 technology. This site application would be for up to two ACR-1000 units at the Point Lepreau site.

I am confident in the merits of our Canadian designed ACR-1000 technology. Candu power plants have been built on time and on budget

in the far corners of the world in the last 12 years. A number of these reactors – in fact most of them – are world leaders in terms of lifetime capacity performance.

As you can see, we view nuclear energy as a vital part of our evolving and diverse energy generation portfolio.

I believe that the stars are aligned for the nuclear industry. I believe that nuclear energy can meet the demand for clean, greenhouse gas emission-free energy.

I also believe that increased attention needs to be paid by the nuclear industry to delivering nuclear projects on time and on budget. We are providing ammunition to our critics whenever a project is off schedule.

The refurbishment of the Point Lepreau Nuclear Generating station is not the first nuclear project to experience delays - In fact, far too many have come out over budget and taking longer than anticipated.

In a time when nuclear energy is the way of the future, the industry needs to focus on setting realistic timetables and realistic budgets for future refurbishments and new build projects.

I think we have an opportunity to prove to our critics, not only can the nuclear industry provide reliable, clean energy, but we can establish clear timetables and goals and follow through with them to achieve results.

I believe that in setting achievable budgets and project goals, the nuclear industry will rise hand over fist above its competitors. In planning accordingly, the world's energy future is your oyster.

I want to quickly mention our Province's nuclear supply chain initiatives before concluding.

Our supply chain development project is an innovative public and private sector partnership that includes major energy sector project proponents, the Province of New Brunswick, and Government of Canada.

A primary focus of the initiative is to develop New Brunswick supply chain capacity and capability in the nuclear sector, with a particular focus on knowledge and fabrication applications, including expertise in the refurbishment of nuclear reactors.

Our supply chain development project manager Linda Macdonald is here today as part of our New Brunswick delegation, along with my Deputy Minister, Claire LePage; our Director of Electricity, Stephen Waycott; and David Hay, President and CEO of our utility NB Power.

In conclusion, we are focused on maximizing the benefits associated with the New Brunswick Energy hub for current and future generations of New Brunswickers. Energy, and nuclear energy in particular, is a key component of the Province of New Brunswick's self sufficiency agenda.

New Brunswick is extremely proud of its leadership role in the Canadian nuclear industry and the track record of NB Power as one of the world's leading nuclear operators. We are proof that Canadian

technology and Canadian operators can produce nuclear power safely, efficiently, and economically.

Like U.S. President Obama says :

“when it comes to energy development” - in New Brunswick – “yes we can” !

Thank you for the opportunity to share the New Brunswick energy hub vision and our commitment to nuclear energy with you.

Thank you.