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Policy Proposal Notice:

Title:
Draft Supply Mix Directive

EBR Registry Number:
011-1701
Ministry:
Ministry of Energy
Date Proposal loaded to the Registry:
November 23, 2010

Keyword(s): Electricity

Comment Period: 45 days: submissions may be made between November 23, 2010 and January 07, 2011.

Description of Policy:

In 2004, the government established the Ontario Power Authority (OPA) as the province's long-term energy planner. That set into motion a planning process that would ensure that Ontario's energy infrastructure would continue to be modernized. In 2007, the OPA prepared a 20-year energy plan (formally known as the Integrated Power System Plan or IPSP). The 2007 Plan focused on creating a sustainable energy supply, targeted to improving current natural gas and renewable assets at a sustainable and realistic cost.

Since this first Plan was developed, Ontario has continued to make progress in ensuring adequate supply, phasing out coal-fired electricity generation, accelerating the development of clean and renewable electricity projects, investing in transmission upgrades, and achieving demand reductions through conservation programs – many of these actions enabled by the Green Energy Act and Green Economy Act, 2009.

An updated Plan is needed for the next 20 years that builds on these significant accomplishments. On November 23, 2010, the Ministry of Energy released Ontario's Long Term Energy Plan: Building Our Clean Energy Future to help guide the province as it continues to build a clean, modern, and reliable electricity system and help ensure that Ontario can meet the needs of an evolving economy and shifting electricity demands.

To meet these needs, Ontario will need a diverse supply mix, with each type of generation having a role in meeting overall system needs. Ontario requires the right combination of assets to ensure a balanced supply mix that is reliable, modern, clean and cost-effective. Ontario will also, first and foremost, make the best use of its existing assets to upgrade, expand or convert facilities.

To achieve these goals, the Ministry has developed a draft Supply Mix Directive – to be issued to the OPA once approved by Cabinet – that outlines the goals to be achieved through a new detailed long term plan or IPSP.

To help inform the development of the draft directive, the ministry sought public input through posting a series of questions on its website. Over 2,500 Ontarians provided their views and suggestions. The Ministry also met with key stakeholders as well as First Nation and Métis leaders and groups to obtain their ideas and views regarding future goals for the province's electricity system. In addition, the OPA, Hydro One, Ontario Power Generation, the Ontario Energy Board and the Independent Electricity System Operator contributed information and advice.

Purpose of Policy:

Under section 25.30(2) of the *Electricity Act, 1998*, the Minister of Energy has the authority to issue directives to the OPA for an Integrated Power System Plan that includes goals relating to:

a) the production of electricity from particular combinations of energy sources and generation technologies;
b) increases in generation capacity from alternative energy sources, renewable energy sources or other energy sources;
c) the phasing out of coal-fired generation facilities; and
d) development and implementation of conservation measures, programs and targets on a system-wide basis or in particular service areas.

Contact:

All comments on this proposal must be directed to:

Andrea Stoiko
Policy Coordinator
Ministry of Energy
Regulatory Affairs and Strategic Policy
880 Bay Street
Toronto Ontario
M7A 2C1
Phone: (416) 326-4571

To submit a comment online, click the submit button below:

Submit Comment

The Ministry is seeking public comment through the Environmental Registry on the following draft Supply Mix Directive:

Mr. Colin Andersen
Chief Executive Officer
Ontario Power Authority
1600-120 Adelaide Street West
Toronto, Ontario
M5H 1T1

Dear Mr. Andersen:

Re: Integrated Power System Plan

In my capacity as the Minister of Energy and pursuant to the authority granted to me under subsection 25.30(2) of the Electricity Act, 1998, I am providing the Ontario Power Authority (OPA) with direction for the preparation of an integrated power system plan (the "Plan"). This Directive replaces the supply mix Directive issued on June 13, 2006 and the supply mix Directive issued on September 17, 2008.

Pursuant to this Authority, I hereby direct the OPA to prepare a Plan to meet the government's goals as set out in this directive as follows:

Demand

In developing the Plan, the OPA shall use a medium electricity demand growth scenario. This scenario balances the expected growth in residential and commercial sectors with modest, post-recession growth in the industrial sector. Under this scenario, Ontario's demand would grow moderately (approximately 15 per cent) between 2010 and 2030, based on the projected increase in population and conservation as well as shifts in industrial and commercial needs.

It is feasible that technological changes could drive higher electricity demand growth through, for example, greater adoption of electric vehicles and the potential electrification of public transit. The Plan needs, therefore, to have the flexibility to accommodate the potential for a higher growth outcome.

Conservation

The OPA shall plan to achieve through Conservation and Demand Management (CDM) a peak demand reduction target of 7,100 megawatts (MW) and an energy savings target of 28 terawatt-hours (TWh) by the end of 2030. Further, the OPA shall plan to achieve interim CDM targets as follows: 4,550 MW and 13 TWh by the end of 2015; 5,840 MW and 21 TWh by the end of 2020; and 6,700 MW and 25 TWh by the end of 2025. These interim CDM targets are to serve as milestones to measure progress towards the overall 2030 CDM target.

The Plan shall seek to exceed and accelerate the achievement of these CDM targets if this can be done in a manner that is feasible and cost-effective. The targets are to be measured from a base year of 2005.

The above-noted targets shall also include electricity savings forecasted through the implementation of codes, standards, regulations and other initiatives that are progressive and reasonable based on OPA analysis.

Consistent with my directive to the Ontario Energy Board (OEB) dated March 31, 2010, the definition of CDM should be inclusive of load reduction from initiatives such as geothermal heating and cooling, solar heating and fuel switching and customer-based generation for the purpose of load displacement. The definition should be exclusive of generation that is contracted-for under the OPA's Feed-in Tariff (FIT) and microFIT Programs and other generation that is separately metered for the purpose of injecting electricity into the transmission system or a distribution system.

Nuclear

The OPA shall continue to plan for nuclear generation to account for approximately 50 per cent of total Ontario electricity generation. To this end, the Plan shall provide for the refurbishment of 10,000 MW of existing nuclear capacity at the Bruce Nuclear Generating Station and the Darlington Nuclear Generating Station as well as the procurement of two new nuclear generating units (about 2,000 MW) at the Darlington site. The Government will pursue this procurement where it can be achieved in a cost-effective manner.

Nuclear refurbishment is a complex task and Ontario will need a coordinated plan for refurbishment that takes into account various considerations. To this end, the OPA shall continue to work with Ontario Power Generation (OPG), Bruce Power, and the Ministry of Energy to ensure that the Plan includes an updated coordinated refurbishment schedule.

Coal phase-out and potential conversion

Since 2003, Ontario has shut down eight coal-fired generating units, including the recent closures of two units each at OPG's Nanticoke and Lambton Generating Stations. The shutdown of two additional units at the Nanticoke Generating Station will take place before the end of 2011.

The Government's commitment to replace all coal-fired generation by the end of 2014 will be met. The OPA shall work with the Independent Electricity System Operator (IESO) and OPG to determine opportunities for advancing the closure of additional units.

The Government has directed the OPA to negotiate with OPG for a contract for biomass fuelled generation from the 215 MW Atikokan Generating Station in Northwestern Ontario. It is expected that this plant could be operating on biomass by 2013.

Two units at OPG's Thunder Bay Generating Station are to be converted to run on natural gas over the period leading up to 2014. Opportunities to co-fire with biomass will continue to be examined.

In developing the Plan, the OPA shall assess the conversion of some or all of the remaining units at Lambton and Nanticoke to natural gas under a range of different scenarios for nuclear generation and system peaking requirements. The government will make a decision on conversion of some or all of these units in 2012. This decision will be made once planning work on continued operation of the operating units at the Pickering Nuclear Generating Station and the refurbishment of the remaining units at the Bruce and Darlington nuclear generating stations is further advanced, providing better information on the availability of nuclear capacity.

In order to plan properly for the possibility of conversion, the government anticipates that planning and approval work for the natural gas pipeline infrastructure required to Nanticoke will begin soon.

Renewables - Hydroelectric Resources

New hydroelectric developments are underway by OPG, including the Niagara Tunnel and the 440 MW Lower Mattagami redevelopment as well as additional private sector developments. The Plan shall allow for future hydroelectric development where it is cost-effective to build and to connect to the transmission system.

The Plan shall provide for installed hydroelectric capacity to reach 9,000 MW by 2018. The OPA shall continue to explore cost-effective opportunities for further hydroelectric development and maximize existing hydroelectric resources. Additional cost-effective hydroelectric resources should be developed if they are identified. It is expected that the Plan shall provide for hydroelectric generation to account for approximately 20-25 per cent of total Ontario electricity generation.

Renewables other than hydroelectric (wind, solar, bio-energy)

The June 2006 supply mix directive required that the OPA plan to use the existing base of 7,850 MW of renewable energy (hydroelectric generation) and to double this capacity to 15,700 MW by 2025 including hydroelectric, wind, solar, and bio-energy.

Since then, there have been a number of renewable energy procurements through initiatives such as the Renewable Energy Supply (RES) programs (RES I, II and III), the Renewable Energy Standard Offer Program and the FIT Program. As a result of these successful procurements, as well as the Green Energy Investment Agreement, the additional renewable capacity expected to come into service is greater than the levels envisaged in 2006. Based on forecast assessments of what the system can accommodate, the OPA shall plan for 10,700 MW of renewable energy capacity, excluding hydroelectric, by 2018.

The government will look for opportunities to incorporate additional capacity from renewables into the Plan taking in to consideration the cost-effectiveness for Ontario electricity consumers, planned transmission additions, and electricity demand growth.

It is expected that the Plan shall provide for renewables, excluding hydroelectric, to account for approximately 10-15 per cent of total Ontario electricity generation by 2018.

Natural gas

Natural gas will continue to play a strategic role in Ontario's supply mix by complementing intermittent supply from sources such as wind and solar, meeting local and system requirements, and ensuring that adequate capacity is available as nuclear plants are modernized. The OPA shall continue to plan on natural gas usage for these strategic purposes.

The 2007 Integrated Power System Plan submitted to the OEB included a forecasted need for three additional gas plants in the Province, including one in the Kitchener-Waterloo-Cambridge area and one in the southwest GTA. Due to changes in demand along with the addition of approximately 8,400 MW of new supply since 2003, the outlook has changed and two of the proposed plants, including the proposed plant in Oakville, are no longer required. A transmission solution to maintain reliable supply in the southwest GTA will be required.

As indicated in the 2007 Plan, procurement of a natural gas-fired plant in the Kitchener-Waterloo-Cambridge area is still necessary to ensure adequate regional electricity supply.

Transmission

The government recognizes the need to pace transmission upgrades and the importance of striking a balance between a clean economy and limiting ratepayer cost burdens. Long-term planning for transmission should allow for the expansion of the system to include renewables in order to foster a cleaner economy and should also be able to adjust if conditions change.

The Plan shall include the five priority transmission investment projects identified by the OPA for system reliability and renewables incorporation out to 2018. For the purposes of preparing the Plan, the OPA shall assume these projects will proceed. These priority projects are:
i. Series compensation in Southwestern Ontario;
ii. Upgrading existing lines west of London;
iii. New transmission line West of London;
iv. Enhance the East West tie along the east shore of Lake Superior through a new line; and
v. New line to Pickle Lake.

In addition to this, the OPA shall identify longer-term cost-effective transmission and distribution solutions through ongoing decision processes – integrated planning and economic tests – and maximize use of the existing system.

The OPA shall develop a plan for remote community connections beyond Pickle Lake, including consideration for the relevant cost contributions from benefiting parties, such as the federal government. This plan may also consider the possibility of interim off-diesel solutions as appropriate.

Smart Grid

The OPA shall give planning consideration to the Smart Grid developments that are taking place in Ontario. The OPA should also ensure that distribution level investment associated with smart grid and renewable connections is considered in the context of the Plan.

Reliability and Operability

The Plan shall consider potential electricity storage, the availability of imports from other jurisdictions and other methods in order to meet Ontario's reliability and operability requirements throughout the duration of the Plan.

The economics of storage technologies will depend on the differential between peak and off-peak costs, the capital and operating costs of the storage facility and the relative costs of other peak managing options. Examination of storage opportunities should include a determination as to whether the customer and system benefits exceed the development and operating costs of the storage system.

Impacts of the Plan on Electricity Consumers

The government recognizes that electricity investments are important for individual and business consumers from a variety of perspectives, including cost. The OPA shall develop the Plan mindful of total bill impacts and the impact that the costs associated with the choices it makes within the Plan has on electricity rates generally.

Consultation

Ontario's Aboriginal peoples play an important role in the development of Ontario's electricity system. The Government will retain responsibility for addressing Aboriginal economic opportunities in the energy sector. The Government expects the OPA to carry out the procedural aspects of any Crown duty to consult First Nation and Métis communities in developing the Plan.

Regulatory Observance

The Plan shall comply with Ontario Regulation 424/04, and all other applicable statutory and regulatory requirements, as amended from time to time.

Sincerely,

Brad Duguid
Minister

Other Information:

To view Ontario's Long-Term Energy Plan, please visit:

http://www.mei.gov.on.ca/en/energy/

Public Consultation:

This proposal has been posted for a 45 day public review and comment period starting November 23, 2010. If you have any questions, or would like to submit your comments, please do so by January 07, 2011 to the individual listed under "Contact". Additionally, you may submit your comments on-line.

All comments received prior to January 07, 2011 will be considered as part of the decision-making process by the Ministry of Energy if they are submitted in writing or electronically using the form provided in this notice and reference EBR Registry number 011-1701.

Please Note: All comments and submissions received will become part of the public record. You will not receive a formal response to your comment, however, relevant comments received as part of the public participation process for this proposal will be considered by the decision maker for this proposal.