



March 1, 2013

Kirsten Walli
Board Secretary
Ontario Energy Board
P.O. Box 2319
2300 Yonge Street, Suite 2700
Toronto, ON M4P 1E4

Subject: **Board File No.: EB-2013-0029**
Letter of Comment from OSPE

Dear Ms. Walli,

On behalf of the Ontario Society of Professional Engineers (OSPE), please find attached our Letter of Comment on the subject application. OSPE would appreciate the opportunity to make an oral presentation in support of the IESO Market Rule Amendments.

Thank you for considering the views of the professional engineering community. Professional engineers are directly involved in designing, constructing, operating and maintaining our province's energy infrastructure. We hope our comments are helpful to the Board, as it formulates a decision on this application.

Should you require any additional information please contact:

Paul Acchione, P. Eng.
Vice-Chair, OSPE Board of Directors
Chair – OSPE Energy Task Force
416-570-6070 (cell)
paulacchione@gmail.com

Yours truly,

A handwritten signature in black ink, appearing to read 'Nadine Miller', is written over a faint horizontal line.

Nadine Miller, M.Eng., P.Eng.
President & Chair

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cc:

Hon. Bob Chiarelli, Minister of Energy, Ministry of Energy

Paul Murphy, President and CEO, Independent Electricity System Operator

George Vegh, Counsel for Renewable Energy Supply Generators, McCarthy Tetrault LLP

Colin Andersen, M.A., CEO, Ontario Power Authority

Tom Mitchell, M. Eng., President and CEO, Ontario Power Generation

Duncan Hawthorne, MBA, President and CEO, Bruce Power

LETTER OF COMMENT

Re: EB-2013-0029: Application to Review Market Rule Amendments by the Renewable Energy Supply Generators

The Ontario Society of Professional Engineers (OSPE) supports the IESO Market Rule Amendments.

While some critics of the proposed rule amendments may argue that the new rules should only apply to new wind projects, OSPE wishes to point out that the grid is already under stress and not operating in an optimum way with only 1,700 MW of operating wind capacity. This fact is supported by unusual events over the past two years such as negative wholesale (HOEP) prices, power exports at below the cost of production, hydroelectric spill and nuclear unit shutdowns. The engineering changes needed to improve grid flexibility to reduce the need for wind dispatching will take years to implement.

OSPE recognizes that the IESO rule amendments may affect the investment returns of existing contract holders.

The key issue is whether the IESO rule amendments are required in the short term. OSPE believes that the IESO's analysis presented during the SE-91 stakeholder consultations has demonstrated that the IESO rule amendments are essential for continued reliable, economical and environmentally responsible operation of the electrical grid and those rule amendments should not be delayed. It is also important to note that if electrical load growth increases or engineering changes are made to improve grid flexibility, over time, wind dispatching will become less frequent under the IESO rule amendments.

OSPE respectfully suggests the contractual impact of the rule amendments be dealt with as a separate matter so that the IESO rule amendments can be implemented as soon as practicable.

Reasons for OSPE's Views:

OSPE recently undertook an independent analysis of wind generation and its impact on the Ontario electrical grid because of concerns about unusual events in the electricity market. These events included negative electricity wholesale prices, export of electricity at less than the cost of production, hydroelectric spill, and some nuclear unit shutdowns which appear to have been caused by surplus base load generation that could not be dispatched down. The growing amounts of wind generation in the Minister of Energy's Long Term Energy Plan suggested to us that the problems would grow much worse over time and potentially beyond the ability of IESO operators to manage the situation in a reliable, economical and environmentally responsible manner.

The OSPE study was completed and presented to the Minister of Energy, the Honourable Chris Bentley, on March 14, 2012 with copies provided to other electricity sector stakeholders and/or

their industry associations. The report was titled “*Wind and the Electrical Grid: Mitigating the Rise in Electricity Rates and Greenhouse Gas Emissions*” and is available at OSPE’s website via the following link: <http://www.ospe.on.ca/windreport>

Intermittent renewable energy, such as wind generated electricity, requires a suitable amount of grid flexibility to accommodate it. In other jurisdictions, the required grid flexibility is typically provided by a combination of electrical storage, fast manoeuvring fossil generating facilities, and/or demand management. The IESO operators must have the means to ensure a constant balance between supply and demand. The OSPE report concluded that the planned addition of wind generating capacity far exceeded the ability of the existing Ontario grid facilities to manage that magnitude of wind generation on a non-dispatch basis (i.e., a must-take basis). The Ontario electrical grid does not have sufficient storage, nuclear load following capability nor demand management capability for the IESO operators to maintain an effective supply-demand balance, if wind generation continues to be non-dispatching.

Engineering solutions to provide the required flexibility in the absence of wind dispatching will take many years and considerable additional cost to modify the existing grid facilities. In the interim period the only viable option available to the IESO operators under the current market rules is to require the frequent shutdown of nuclear units. Ontario’s nuclear units are not designed for daily shutdowns. Doing so will reduce the reliability of those units and drive up CO₂ emissions by a couple of million tons annually because natural gas will be needed to offset the loss of nuclear units for the two to three days needed to restart those units after each shutdown.

Given this state of affairs with growing intermittent supply, that requires increased flexibility, and limited short-term options for increasing the flexibility available from other forms of supply, OSPE believes it is important to proceed with the IESO rule amendments to provide the IESO operators with the required controllability. The integration of intermittent supply into market dispatch processes will facilitate an efficient evolution of the electrical system to provide the flexibility required over the long term. It is worth noting that other jurisdictions in the USA and Europe with significant amounts of wind generation have required intermittent renewable generation sources to be dispatchable in order to integrate them effectively into their grids. Also, in time, as more flexibility is designed into the grid there will be less wind dispatching under the IESO rule amendments.

In summary, OSPE believes the IESO market rule amendments are required to ensure continued reliable, economical and environmentally responsible operation of Ontario’s electrical grid.