

BRIEFING NOTE – ONTARIO SOCIETY OF PROFESSIONAL ENGINEERS’ INTERRUPTIBLE ELECTRICITY MARKET PROPOSAL

ISSUE:

- The Ontario Society of Professional Engineers (OSPE) is proposing a limited interruptible electricity market to enable a fuel switching program.

KEY INFORMATION:

- An interruptible retail electricity market is a pricing plan under which, in return for lower rates, consumers allow the utility to temporarily cut off supply so that it can maintain service for remaining consumers. This interruption in demand typically occurs during periods of high demand (i.e., summer).
 - An interruptible electricity market improves the efficiency of the market, and is used in other industries (i.e., natural gas delivery).
 - It is most beneficial during periods when there is significant surplus generation. Surplus electricity has little value and can be sold at low prices with limited opportunity cost.
 - A reduction in the surplus would lead to more interruptions.
- Under OSPE’s proposal, small and medium-sized businesses would have the option to purchase interruptible electricity for their hot water systems at the wholesale price (currently about one cent per kilowatt hour in most hours). An interruptible electricity market can be implemented and administered in numerous ways:
 - Consumers would continue to be supplied by the same Local Delivery Company (LDC) or the Independent Electricity System Operator (IESO).
 - The new interruptible market could operate in parallel with the existing market constructs including the Regulated Price Plan (RPP). Consumers would have the ability to opt-in to the newly available pricing plan. As proposed by OSPE, the program would not be available to Industrial Conservation Initiative (ICI) consumers.
 - Electricity retailers could be allowed to offer interruptible plans. It is not clear that this would be viable on a large scale unless Global Adjustment (GA) could be assigned to retailers.

- It should be noted that an interruptible electricity market would likely have significant administrative complexity and would be most beneficial if surplus persists over the medium and long-term. The benefits would vary depending on consumer class:
 - Non-residential Class B consumers would be eligible for the interruptible rate; however, the capital investment required in new equipment to enable fuel-switching may lessen the appeal. OSPE asserts that an “inexpensive” piece of technology is all that is required to retrofit water heaters to dual-fuel.
 - The proposal requires a disparity between natural gas and electricity prices to be effective. Currently natural gas prices are very low, however increases in the commodity price or carbon price could make the proposal more attractive.
 - Class A consumers (i.e., industrial and large commercial) would have been the most likely to participate in an “interruptible” electricity market. However, the current marginal price paid for electricity by ICI participants in off-peak hours is already low under the existing market structure.

BACKGROUND:

OSPE’s Interruptible Retail Electricity Market Proposal

- OSPE claims that its proposal would allow all electricity consumers to:
 - Lower their overall energy bills using low cost surplus zero-emission electricity when it is available and switch back to natural gas when it is not available;
 - Contribute to the government’s climate change goals to reduce greenhouse gas (GHG) emissions at no incremental cost;
 - Create favourable market conditions for new technologies to be commercialized (e.g., zero emission hydrogen technologies); and
 - Use the energy savings to stimulate economic activity in Ontario.

Considerations:

- A market for interruptible electricity benefits from a continual surplus of electricity. While Ontario currently has surplus electricity in many hours, IESO’s 2016 Ontario Planning Outlook (OPO) forecasts that surplus will decline over the next several years, potentially limiting the size of an interruptible offering and the related benefits.
- At present, interruptible electricity is purchased only by a handful of large industrial consumers as dispatchable consumers bidding into the wholesale electricity market.

Natural gas utilities also offer large volume interruptible rates that are priced lower than uninterruptible rates.

- Buying electricity that can be interrupted would require consumers to invest in alternative energy sources and technologies that enable switching to other fuel sources when electricity is not available. This could include some combination of:
 - Storage;
 - Smart controllers to, when necessary, automatically and seamlessly switch from one source to another with no disruption to the customer; and
 - Dual fuel appliances/heating systems.
- There would be significant administrative complexity involved with an interruptible electricity market. The precise impacts would depend on how the proposal is implemented. For example, it would likely result in higher administrative, settlement and billing workloads for LDCs, the IESO and the Ontario Energy Board (OEB). In addition, there would need to be rules in place to govern the ability of consumers to go back and forth between the RPP and the interruptible market.
- In his November 2016 remarks at the Empire Club, the Minister of Energy noted the government's commitment to enabling "...alternative pricing plans for customers of various circumstances." An interruptible rate offering would be consistent with this statement.
- The IESO is best positioned to evaluate the viability of an interruptible electricity market with Market Renewal and to provide a more detailed analysis of OSPE's proposal, if required.

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