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Re: EBR 011-9614 – Policy Proposal Notice: Conservation First: A Renewed Vision for Conservation in Ontario

The Ontario Society of Professional Engineers (OSPE), the advocacy and member services body for Ontario's engineers, is pleased to make this submission regarding conservation and demand management in energy planning.

OSPE supports the government's commitment to a balanced approach for an affordable, reliable and sustainable electricity system. To that end, OSPE is recommending the following key strategic adjustments to the province's conservation and demand management framework.

Reduce escalating rates

Ontario's overall electricity grid utilization/capacity factor has been falling and is now about 63 per cent based on IESO hourly demand data. This drop is driven by reduced night time demand and increased day time air conditioning demand.

Ontario currently charges customers under the Regulated Price Plan more for base load energy and less for incremental peak load energy than the cost to produce them. This pricing approach discourages higher grid utilization factors. A voluntary "opt-in" electricity price plan that *prices base load and incremental peak energy closer to the cost of production* would create the business case for private investments in demand side solutions to flattening the daily demand profile (See Reference 1). This would result in both customer cost savings and supply cost savings from improved utilization of existing assets, thereby increasing affordability and reducing pressure on escalating rates.

Our current conservation programs are too focused on reducing demand regardless of the impact on the grid utilization factor. Reducing demand during a period when we have excess supply, as

we have now, drives up electricity rates faster. The rising rates discourage badly needed investments in Ontario.

OSPE recommends conservation programs be modified to place greater emphasis on improving the grid utilization factor by focusing on reducing daily peak loads and critical peak loads (the hottest and coldest days in the year). We should reduce the emphasis on lowering night time load until there is a deficiency of base load supply. Once there is an outcomes focus and opt-in revised base/peak price plan as recommended (see below), then the market will respond with integrated solutions offerings to better meet customer needs and specific situations. Currently, the alphabet soup of programs is very difficult for customers to grasp (i.e. CDM, DR, CESOP, etc.).

Enable robust electrical system solutions

The outlook in Ontario for the foreseeable future is one of overall low load growth for electricity. However, there are locations where load growth will continue, from urban intensification in *Places to Grow Act* communities in southern Ontario to mining ore extraction and refining developments in northwestern Ontario. There is an opportunity to address load growth at the source to relieve stress on the large electricity infrastructure via Community Energy Planning. This will deliver smaller scale solutions that will minimize social friction, that are more integrated instead of electricity only, and that have the ability to attract private investment to reduce pressure on the rate base.

Current Regional Energy Planning tends to have a bias towards large, electricity only, rate base funded solutions (See Reference 2). Municipalities/communities tend to prefer small scale, integrated energy solutions (i.e. thermal, electricity, water), and funded by private sector investment, such as:

- Conservation and demand reduction that leads to energy productivity and economic benefit.
- New district energy systems (i.e. Markham, Toronto, Hamilton, Guelph).
- Behind the meter/load displacement combined heat and power (CHP) (i.e. campuses for academic, health care, government and industrial uses.

Smaller scale integrated solutions to address load growth at the source tend to also reduce vulnerability to low probability high impact events (See Reference 3). An example is the July 8, 2013 flood that brought down the Manby Transformer Station in west end Toronto, resulting in rotating power outages. The need for smaller scale local solutions will become more important as more of the population chooses to live in high-rise buildings which are uninhabitable without a continuous electrical supply.

Strategically, conservation is of highest value in constrained areas for peak demand reduction. Dramatically increased participation can be had from simplified programs that stimulate performance-based solutions based on more effective price signals (base load and peak rates closer to the cost of production), instead of incentive programs with stop-and-go uncertainty that focus on prescriptive equipment replacement efforts. With simplified programs based on effective price signals, a wider array of innovative solutions will emerge, including: load

displacement, load management cooperatives, district energy systems with CHP and energy storage.

Continue to support innovation and commercialization

The new conservation and demand management framework the government proposes seeks to leverage provincial investment in order to spur innovation. OSPE is pleased the government has supported innovative research and development of new technology development in Ontario. By virtue of Ontario Power Authority conservation and demand-management programs being mostly equipment replacement programs, these focus on technology instead of outcomes. There is a need to focus on outcomes to unleash innovation in demand-side solutions, beyond prescriptive equipment replacement. Continued government support of research and development and early stage commercialization is important to ensure new technologies are successful. We have no choice but to innovate our way into the future. OSPE encourages the government to implement a voluntary "opt-in" price plan that will facilitate later stage commercialization of many of the products that are being developed here in Ontario. If properly designed, a voluntary "opt-in" electricity price plan can enable later stage commercialization of the best products without government subsidies or the need to pick technology winners.

Engineers and engineering analysis are key ingredients in the development of affordable, reliable and sustainable energy solutions. OSPE appreciates the opportunity to provide engineering input and looks forward to continue to engage in meaningful dialogue.

Yours sincerely,

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