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April 26, 2017

Doreen Friis, Regulatory Affairs Officer/Clerk
Nova Scotia Utility and Review Board
1601 Lower Water Street
Halifax NS B3J 3P6

Dear Ms. Friis:

Re: NSPI's Ten Year System Outlook – M07540

Your letter of February 9, 2017 invited interested parties to provide comments to the Board within two weeks of the Technical Conference. My comments are provided below.

NSPI's Position

NSPI is of the view that its existing thermal fleet of generators should be maintained until the end of their useful lives. The only exception to this is Lingan 2, which NSPI proposes to retire when power and energy is available from Newfoundland. NSPI's position is based on several considerations:

- a) Firm load is expected to grow at 1% per annum and the thermal units are needed to meet firm demand and maintain a 20% reserve margin.
- b) No new supply (other than some smaller third party units that are currently under development) is required over the next ten years (or more) as long as the thermal units are maintained.
- c) Despite the expectation that some thermal units will operate at very low capacity factors, maintaining the existing units is more economic than replacing any of them with new supply.
- d) Firm capacity available from wind is limited to 17% of the nameplate capacity of wind that is designated NRIS. No firm capacity is available from wind designated ERIS.
- e) Wind requires significant load following which can be supplied from the existing thermal units, even though most of these units were not designed to follow load to the degree expected over the coming years. The magnitude of this load following can be up to the full nameplate capacity of the wind on the system (approximately 600 MW).
- f) Retaining the thermal units offers flexibility. This is important in light of changing federal environmental requirements, a joint study (that is still in the early stages) by the Atlantic provinces and the federal government with respect to

potential transmission or other projects that could have regional environmental benefits, and the province's commitment to the implementation of a cap and trade system in 2018.

Given its view, NSPI proposes to spend approximately \$400 million over the next ten years to maintain its thermal fleet (see Figure 11 of the 2016 10-Year System Outlook Report).

Some Questions

A number of questions arise with respect to NSPI's view. At a high level, the question is whether NSPI's plan to maintain all of its thermal units is the most advantageous plan from a customer perspective. At a more detailed level, the following questions need further investigation:

- a) What is driving NSPI's firm demand growth, and can that demand be moderated using Demand Response (DR) DSM programs? If so, at what costs?
- b) Are NSPI's limits on the firm capacity available from wind appropriate?
- c) Given the expected low capacity factors expected for some thermal units, could their contribution to energy, demand, load following, etc. be more economically supplied from other sources (such as out-of-province purchases, new generation)?
- d) Are NSPI's forecasts of the sustaining capital required to retain the thermal units appropriate?
- e) What are the operating realities with respect to renewable sources of generation, what options are there to address these, and what are the costs of those options?

These questions have been under review since the 2014 IRP. Limited discussion of them was provided in the 2015 System Outlook Report, the 2016 System Outlook Report, and at the April 17 Technical Conference.

Potential Further Exploration

To investigate the above questions further and to explore more fully whether their potential answers should influence NSPI's current plans, at least two options are open to the Board:

- a) Direct NSPI to conduct another IRP update.
- b) Have Synapse work with NSPI to explore specific questions and the effects that answers different from NSPI's current positions might have on current plans.

With respect to the first option, it has now been three years since the IRP was last updated, and there have been a number of changes during that time. These include, but are not limited to, the delay of the Maritime Link, more certainty around DSM levels and costs in the near term, new initiatives with respect to environmental concerns in both the short and long term, and technological developments with respect to renewables and storage. This option typically takes about a year to complete.

With respect to the second option, this would be more focused to deal with specific questions such as those outlined above, designed to determine whether potential alternatives to NSPI's plan (such as operating with fewer coal plants and reducing the capital spending required to keep them operating) may provide better value for customers. This option could likely be completed in less than six months, and can be considered as a screening exercise. If no option is identified that is potentially better than the NSPI plan, no further action would be required. If, however, alternatives that are more attractive are identified, then additional action (such as adjustments to NSPI's plan in the near term, or further work through a full IRP) may be required.

I would recommend the second option.

Yours truly,

A handwritten signature in dark ink, appearing to read "Mel Whalen", with a stylized, flowing script.

Mel Whalen, P. Eng.
President