Blackburn Law

July 17, 2017

VIA EMAIL

Ms. Doreen Friis
Regulatory Affairs Officer/Clerk
Nova Scotia Utility and Review Board
1601 Lower Water Street, 3rd Floor
Halifax NS B3J 3S3

Dear Ms. Friis:

Re: M08059 – Generation Utilization and Optimization

Please accept these comments from the Small Business Advocate (SBA) regarding Synapse's Terms of Reference for the Thermal Fleet Study. The SBA is making these comments assuming that in 2018 there will be more dialog in this matter to review, debate and critique other analyses put forward as evidence by other stakeholders, including potentially NS Power.

The SBA believes that it is important for the stakeholders to agree on the role of this study. This includes establishing metrics Synapse intends to look at to determine the economics of continuing operation with yearly capital investments in the thermal generating units.

The SBA comments are discussed in four areas: Objectives - including Stakeholder Involvement and Metrics; Modeling and Analysis; Assumptions; and Resource Options.

1. Objectives

The SBA is very concerned that the Terms of Reference seem to have a limited scope and a very limited objective to minimize an undefined cost.

Metrics

The lack of visibility on metrics that will be developed is of concern to the SBA. Lifecycle or extended period economics is just one indicator. In the past Synapse has focused on long term revenue requirement minimization, but for SBA rate classes the long term is not the primary concern, due to the relatively short timelines for many companies. Therefore the SBA suggests the following additional metrics to be incorporated into the study:

1. Revenue Requirement Minimization - Primary
2. Annual Average Price of Electricity
3. Environmental / Emissions

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Stakeholder Involvement

The Terms of Reference provide a process and schedule that has points in time where Synapse would be informing the stakeholder group rather than showing how their input and feedback will be incorporated.

2. Modeling and Analysis

The SBA does not fully understand the methodology that this study is following well enough to endorse that the results will be informative. The SBA has identified the following concerns:

1. It is unclear whether this is going to be a probabilistic analysis or a scenario analysis. If a scenario analysis is used, the illustrative sets of assumptions do not provide a very plausible group of scenarios for the study to be most informative.
2. Does the Plexos analysis use annual carrying costs or just levelized carrying costs? If it used the levelized carrying costs, how are end effects captured?
3. Is this analysis going to treat the thermal generation as options on an individual unit basis? If not, why does this provide the most information for the Board?
4. Does the Plexos modeling include adjacent systems or just Nova Scotia? How far reaching is the modeling?
5. How does the study determine the amount of resources required for NSP, i.e. Resource Adequacy?
6. How are Behind the Meter Resources being addressed such as Solar PV?
7. What effect does Renewables to Retail have in the analysis?

3. Assumptions

The SBA does have some specific comments or questions regarding specific draft assumptions proposed by NSPI.

A. Carbon costs from regulation

a. The SBA is concerned about the assumption that high carbon costs occur with high fuel prices.

B. Fuel Price Forecasts

a. Why is the assumption made that there is CO2 emissions limits or costs established for the reference natural gas forecast and not in either of the high and low forecasts?
b. It appears that prices for coal, oil and natural gas are assumed to be highly correlated. Why?

C. Load Forecast

a. Why is the only load forecast uncertainty derived from changes in DSM program levels?

4. Resource Options

The SBA recognizes that the value of the existing fleet is dependent upon alternative resources. This means that the vetting of assumptions on different resources is important. We offer the following resource specific comments.

A. DSM Resources

ii. **Energy Efficiency**

1. Do assumptions derive from EfficiencyOne analyses?
2. Is the analysis using total costs of energy efficiency measures or just EfficiencyOne's cost?
3. This process should use substantial information from the DSM potential study. A DSM 'supply curve' should be created as output of the DSM potential study. Incremental blocks of increasing cost DSM can be used within the analysis.

iii. **Demand Response**

1. How is the potential amount of price responsive demand being determined and at what cost?
2. How does this overlap energy efficiency activities?

B. Wind Generation

1. How is the maximum potential for wind generation developed?
2. Are there options for wind that are coupled with transmission investment or energy storage or just stand alone?
3. What assumptions for interconnection costs?
4. Will a sensitivity be analyzed regarding the jump to 32% for capacity benefit from wind? Is this a function of the amount of wind in total?
5. Are wind resources being considered as utility owned or IPP owned and sold to utilities in a PPA?

C. Solar Photovoltaic

1. Are these options Behind the Meter ("BTM") or System Connected? What is the cost difference?
2. Does BTM have different financing costs?

D. Energy Storage

1. What types of energy storage?
2. Are these BTM or system connected or both?
3. What are the cost differences between BTM and system connected?

E. Import Options

1. How is additional imported energy being considered as a resource option?

The SBA appreciates the opportunity to provide these comments.

Yours very truly,

E. Nelson Blackburn, Q.C.
Small Business Advocate