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## Memorandum

TO: STEVE PRONKO, NOVA SCOTIA UTILITY AND REVIEW BOARD  
FROM: DAVID WHITE AND ALICE NAPOLEON, SYNAPSE  
DATE: SEPTEMBER 26, 2017  
RE: COMMENTS REGARDING THE NSPI REPLY EVIDENCE OF SEPTEMBER 14, 2017 (M08087)

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### Introduction

The explanations provided in NSPI's September 14 reply evidence to our comments dated August 16, 2017 are helpful. They clarify a number of apparent discrepancies that were not at all clear in the filed forecast. The filed forecast emphasizes the end-use and statistical models, but NSPI made a number of further adjustments to those model results. For the residential sector, adjustments were made for housing stock growth, electric vehicles, and heat pumps. Particularly concerning are the electrification growth adjustments to the commercial and industrial forecasts.

All of these points should be more clearly addressed in the forecast. Specifically, details on all of the components should be laid out, with related supporting information, in the forecast report. Overall, the 2017 load forecast appears to be reasonable for the near term, but has a number of longer term issues. We identify below a number of specific issues that need improvement and better documentation.

### Residential

NSPI's clarifications regarding the Residential energy and peak forecast calculations are appreciated. In regard to the energy growth, we have a few issues that need further consideration and should be better addressed:

1. New single-family customers account for about half of the energy growth. The assumption for new usage levels is quite high and does not change over the forecast period, as might be expected with improved standards and technologies.
2. NSPI uses a forecast adder for incremental heat pump load. We are concerned there may be some double counting with the residential usage levels.
3. NSPI acknowledged that changes in household size may contribute to future changes in energy intensity (page 6, line 22-27). We ask that this issue be specifically addressed in future load forecasts.



4. We acknowledge NSPI's comments on the usage for new customers and that "evaluation of these values is ongoing" (page 7). We ask that NSPI investigate sources of new information on this issue and include the results of this investigation in the next forecast report.
5. We acknowledge the explanation of the differences between the statistical model results and the load forecast values (pages 7-8). We ask that the nature of this difference be noted in the load forecast report.

### **Commercial and Industrial**

We acknowledge the clarification that the commercial and industrial forecasts include electrification growth programs targeting heating and ventilation that are modeled outside of the regression models (page 9). This represents a substantial portion of that load growth. Are there actual "electrification growth programs" that are promoting this (page 9, line 29)? That should be fully explained. This electrification effect and the assumptions behind it should be made explicit in the load forecast report.

### **Peak Forecast**

We acknowledge NSPI's more detailed explanation of the peak modeling methodology. The process is somewhat complex, as the aggregates consist of several load components from different sectors. A fuller explanation and justification for the specific allocations and adjustments would give us more confidence in the peak forecast.

We also agree that further data, for example from Advanced Metering Infrastructure, would allow the model to be improved. We look forward to such refinements. We also note that the DSM peak adjustment will be further "investigated and quantified in the 2018 forecast." (page 11, lines 23-24)

### **DSM Adjustments**

We note that the DSM energy load adjustments based on statistical calculations are roughly of the right order of magnitude, although some statistical measures are weak. We also raise the issue that if the DSM targets increase in the future, then an adjustment factor based on the historic DSM levels needs to be appropriately modified when applied to different future savings levels. For example, if the adjustment factor is based on historic DSM levels of 1 percent and the targets are doubled to 2 percent, the DSM adjustment reduction should be less for these greater savings levels. All this needs to be looked at carefully going forward.

