

2019 DSM Plan Application, 2017 Annual Progress Report
and 2017 Evaluation Reports (NSUARB M08604)
NSPI Responses to CA Information Requests

NON-CONFIDENTIAL

Request IR-1:

Please provide a detailed description of all peak demand reductions (projects, studies and investigations) undertaken by NSPI over the last five years.

Response IR-1:

NS Power has undertaken the following work over the last five years related to peak demand reduction:

Power Shift Atlantic (CI 40103) – This was a pilot project (2010-2015) that focused on shifting load in response to forecast and actual wind generation through direct utility control of hot water heaters and electric thermal storage heaters.

Intelligent Feeder project (CI 49787) – This is an ongoing pilot project exploring the use of lithium ion batteries at both the residential and distribution levels to assess the value of storage for customers and for the grid and the effect of this technology on peak demand. One of the use cases is feeder-level time shifting and peak shaving/valley filling. Feeder data from line sensors and reclosers, along with generation data from a nearby wind site inform the battery charging and discharging cycles.

Locational DSM report (M07815) – This is an ongoing study undertaken jointly by NS Power and E1 examining the potential of location based DSM initiatives to reduce peak loading at the substation level, which could reduce transmission and distribution capital investments.

Large Industrial Interruptible Pilot (M07179) – This pilot project was undertaken between 2013 and 2015 to add telemetry to large industrial interruptible customers in order to include their load in NS Power's 10 minute reserve. This allows for fewer customer interruptions during system peak events.

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- 1 Annual report on impact of RTP rate – This is a report submitted to the UARB on an annual
2 basis and evaluates, among other things, the impact of the RTP rate on system peak reduction.
3
4 Advanced Meter Infrastructure application (CI 47124) – this capital application remains before
5 the UARB. The project economic analysis includes a forecast peak reduction enabled by AMI in
6 combination with a potential Critical Peak Pricing program.

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Request IR-2:

EfficiencyOne indicates that exploring demand reduction and developing and implementing pilot activities will be done in conjunction with Nova Scotia Power. Please describe the demand reduction projects and studies NSPI contemplates for 2019.

Response IR-2:

NS Power has experienced firm peak growth over the past several years. Enhanced demand reduction programs would help reduce fuel costs in the near-term and over the longer term help to avoid the addition of peaking generators or assist in the retirement of coal fired capacity if determined to be required under new federal coal regulations. NS Power and E1 plan to work together to determine the activities to be undertaken in 2019 that best evaluate opportunities to achieve demand reduction. Some examples of potential demand reduction pilot activities or studies to be explored with E1 for 2019 include:

- Water heater timers
- Electric thermal storage
- Battery storage
- Pricing initiatives