**NON-CONFIDENTIAL**

**Request IR-1:**

**In its recent General Rate Application, NS Power used annual DSM costs of about $39 million. The E1 2023-2025 DSM Plan proposes annual expenditures of about $58 million, which is nearly 50% higher. Please explain NS Power's agreement to support such a significant increase.**

Response IR-1:

The underlying assumptions for NS Power's General Rate Application were developed in advance of the development and presentation of E1's proposed 2023-2025 DSM Plan.

NS Power used the final year cost the 2020-2022 DSM Plan as the basis for its assumptions of DSM for the 2022-2024 GRA Test Period. NS Power appreciated that the NSUARB could approve a higher amount DSM amount for the 2023-2035 DSM Supply Agreement than was approved for the 2020-2022 DSM Supply Agreement. NS Power identified this in the GRA at page 11, lines 7 to 20, in Section 12.5.1 and also in Section 12.8.[1] For the purposes of the GRA, NS Power included the approved DSM budget for 2022 in its forecasts. As part of the GRA, NS Power is proposing the re-instatement of a DSM rider, similar to the one which was in effect prior to January 1, 2015. Once the DSM amounts for 2023 and 2034 are approved by the NSUARB, the 2023 and 2024 values will be adjusted accordingly.

NS Power has indicated its support for the E1 DSM Application based on the 2020 IRP DSM amounts, the focus of the E1 programs on traditionally underserved customers (First Nations and low-income) and increases to demand response efforts. NS Power also engaged in discussions with customer representatives and E1 respecting the proposed E1 DSM spend.

[1] NS Power 2022 GRA, January 27, 2022

**Request IR-2:**

**In its application, E1 noted that it has allotted over $10 million for low income energy efficiency initiatives in an effort to reach about 17-22% of its total investment for those programs. However, NS Power/Emera has previously committed to contributing $37 million over a 10-year period to low income initiatives. Please provide the status of that program along with the amount of annual expenditures to date.**

Response IR-2:

As part of the 2015 DSM Settlement Agreement approved by the NSUARB with respect to the DSM Plan for 2015, NS Power committed to making a charitable donation of approximately $3.4 million per year over a ten year period to fund efficiency upgrades for homes of low income consumers which are electrically heated. The program is not funded by customers and not included in NS Power's revenue requirement. Effective January 1, 2020, the HomeWarming program has been operated and administered by EfficiencyOne for a three-year term. Please refer to the table below for a summary of the annual amounts contributed to the program.

| Year | Amount of Contribution |
|---|---|
| 2015 | $3,443,000 |
| 2016 | $3,443,000 |
| 2017 | $3,537,360 |
| 2018 | $3,608,107.20 |
| 2019 | $3,680,269.36 |
| 2020 | $3,753,874.00 |
| 2021 | $3,828,951.48 |
| 2022 | $3,905,530.52* |
| **Total** | **$29,182,092.60** |

*Assumes payments to end of 2022 calendar year. Payments to date for 2022 are $1,952,765.26.

**Request IR-3:**

**Does NS Power accept E1's comparative analysis of DSM lifetime unit costs against annual fuel costs as presented in Table 8 on page 51 of 65? If not please explain.**

Response IR-3:

The anticipated lifetime cost of DSM measures included in the 2023-2025 DSM Resource Plan is $0.035/kWh[1] which, in NS Power's view, is a more appropriate comparator over the short term.

[1] See Section 7.1.1 (page 34 of 65) in E1's Application (M10473)

**Request IR-4:**

**E1 has allotted significant annual spending in its 2023-2025 DSM Plan for Demand Response (DR) pilot programming with an objective of achieving 17.9 MW of peak demand reduction.**

**(a) Does NS Power agree with E1's statement on p. 59 of 65 that "the current benefits as examined through the DSM Plan development process have indicated that the utility costs for DR programming outweigh the benefits"?**

**(b) Please identify and explain NS Power's DR priorities.**

Response IR-4:

(a) During the 2020 Integrated Resource Plan (IRP), NS Power assessed the value of Demand Response (DR) program options in aggregate, meaning the value of the DR resource was evaluated by assessing all DR program components (e.g. Direct Load Control, Critical Peak Pricing and BNI Curtailment) identified in the EfficiencyOne (E1) Potential Study and included in the 2020 IRP as one program. This analysis demonstrated that the DR program as evaluated in the 2020 IRP was selected as an economic resource option relative to available alternatives to meet firm capacity requirements. This was incorporated into IRP Finding 3e and IRP Action Plan Item 4. NS Power continues to support the development of DR programs in Nova Scotia and will work with E1 to ensure that value from potential programs is appropriately captured in economic analyses.

(b) Since completing the 2020 IRP, NS Power has been focused on the largest DR components evaluated in the 2020 IRP, Direct Load Control (DLC) and Critical Peak Pricing (CPP). These measures can provide on-demand customer load reduction in response to system conditions and offset firm generation capacity requirements. NS Power and E1 have been progressing two DLC pilot projects: residential water heater DR pilot and commercial load management (pilot to study the DR potential of aggregating and controlling various loads

for commercial customers). In addition, a two-year CPP pilot was initiated and made available to Domestic, Small General and General Demand rate classes.

**Request IR-5:**

**Currently E1 only has two Performance Targets to satisfy at the end of its 3-year plan. Those are cumulative (3-year) annual energy savings and cumulative (3-year) annual peak demand savings. As the recipient of the DSM initiatives, does NS Power agree that those are the only targets which should be evaluated? If not, please identify any additional targets.**

Response IR-5:

NS Power is supportive of the Standardized Filing Framework that was developed as part of the 2016-2018 DSM proceeding, as described in the E1 Application in Section 11 and in more detail in Section 9.7 of Appendix A. The Standardized Filing Framework requires Annual and Quarterly reporting on DSM performance and targets and provides the NSUARB recourse should E1's performance falls below 90 percent of the targets. While the targets may be for the duration of the 3-year Supply Agreement, the tracking metrics, evaluation and NSUARB conducted verification are done either quarterly or annually and give stakeholders the opportunity to identify concerns in relation to DSM performance.

**Request IR-6:**

**The Public Utilities Act requires that NS Power undertake cost-effective electricity efficiency and conservation activities that are reasonably available in an effort to reduce costs for its customers.**

**(a) Please describe all such activities, separate from the E1 DSM Plans, that were undertaken by NS Power over the past five years regarding its own facilities and assets**

**(b) Please also provide the estimated energy, demand, and cost savings associated with those activities.**

**(c) Please describe all future internal electricity efficiency and conservation activities planned over the next five years and quantify energy, demand, and cost savings expected from those activities.**

Response IR-6:

Section 79I (1) and (2) of the *Public Utilities Act* (Nova Scotia) (PUA) provides as follows:

> 79I (1) On and after the Implementation Date, Nova Scotia Power Incorporated shall undertake cost-effective electricity efficiency and conservation activities that are reasonably available in an effort to reduce costs for its customers.
> (2) Nova Scotia Power Incorporated **shall meet its obligation pursuant to subsection (1)**
> (a) **by entering into an agreement with a franchise holder for the supply of electricity efficiency and conservation activities, if there is a franchise holder, that is approved by the Board pursuant to Section 79L**; or
> (b) where there is no franchise holder, in the manner approved by the Board, subject to any terms or conditions considered appropriate by the Board.
> [emphasis added]

The Minister granted the electricity efficiency and conservation franchise to EfficiencyOne (E1). As such, under s. 79(2)(a), NS Power meets its obligations under section 79I(1) by entering into DSM Supply Agreements with E1 that are approved by the NSUARB.

(a) Please refer to Attachment 1 for a listing of NS Power's capital projects undertaken over the last 5 years. Please note that this list is not exhaustive; there may be other efficiency projects not included. These projects include facility and lighting upgrades, HVAC system upgrades and other investments that have improved the efficiency and overall performance of NS Power's generating plants, facilities and other assets. For some projects, such as facility upgrades or improvements, efficiency improvements are just one element of the overall project. In addition to the projects in Attachment 1, when upgrading older distribution and transmission lines, repairing damaged conductor, or upgrading the conductor due to load growth, NS Power utilizes a few standard conductor sizes to reduce inventory while also reducing line losses and improving system voltage, which results in increased efficiency in the delivery of cost-effective electricity for customers.

(b) NS Power does not track this information. NS Power's capital projects are justified in accordance with the NSUARB-approved Capital Expenditure Justification Criteria

(c) Please refer to Attachment 1 for a listing of NS Power's capital projects planned for 2022, with some of these projects planned to carry over into future years. Some of the projects will recur every year over the next five years (heat rate projects for example). NS Power does not track energy, demand and cost savings from each of these activities.

Pursuit of internal efficiency in the operation of its facilities and assets is inherent in NS Power's asset management strategies in pursuit of lowest cost operations for customers. The ACE Plan forecast has anticipated efficiency projects within its 5-year forecast, though specific efficiency projects beyond 2022 are not scoped at this time. As projects are identified and scoped, they are included in ACE Plans and capital approval applications and are justified in accordance with the Board-approved CEJC.

**Historical Projects 2017-2021**

| Project Number | Project Description |
|---|---|
| 11744-P001-032 | FAC - Property Improvements |
| 16139-P001-616 | Metro Region- Property Improvement |
| 33863-S005-301 | LIN-Heat Rate Routine |
| 33865-S005-371 | POA-Heat Rate Routine |
| 33867-S005-351 | POT-Heat Rate Routine |
| 33869-S005-341 | TRE-Heat Rate Routine |
| 33871-S005-311 | TUC-Heat Rate Routine |
| 40320-D454 | LED Street Light Conversion |
| 43240-SE87 | POA HVAC Equipment Replacement 2015 |
| 47615-SG36 | PHB - HVAC System Upgrades |
| 48019-H744 | HYD - WRC Common Facility Repairs |
| 48774-H764 | HYD - Milton Shop HVAC Upgrade |
| 48913-H765 | HYD - Tusket Facility Repairs |
| 48914-H770 | HYD - Malay Falls Facility Refurb |
| 49651-P161 | TUC Office Block Facility Upgrade |
| 49942 | HYD - Tidewater Facility Repairs |
| 49943-H811 | HYD - Ruth Falls Facility Refurb |
| C0001303 | PHB - HVAC System Upgrades 2018 |
| C0010328 | TRE HVAC Upgrades |
| C0010334 | TRE LED Lighting Upgrade |
| C0010838 | MCC - HVAC Replacement |
| C0020311 | TRE LED Lighting Upgrade 2020 |
| C0021583 | TUC3 Turbine Insulation Replacement |
| C0026682 | EOC Facility Upgrades |
| C0030062 | LIN3 HIP Insulation Replacement |
| C0030122 | LIN4 HIP Insulation Replacement |
| C0030422 | ICP Facility Lighting Upgrades |
| C0031104 | TRE LED Lighting Upgrades 2021 |
| C0031126 | POT - Facility Upgrades |

**Future Projects 2022 and beyond**

| Project Number | Project Description |
|---|---|
| 11744-P001-032 | FAC - Property Improvements |
| 16139-P001-616 | Metro Region- Property Improvement |
| 33863-S005-301 | LIN-Heat Rate Routine |
| 33865-S005-371 | POA-Heat Rate Routine |
| 33867-S005-351 | POT-Heat Rate Routine |
| 33869-S005-341 | TRE-Heat Rate Routine |
| 33871-S005-311 | TUC-Heat Rate Routine |
| 48913-H765 | HYD - Tusket Facility Repairs |
| 48914-H770 | HYD - Malay Falls Facility Refurb |
| C0010838 | MCC - HVAC Replacement |
| C0026682 | EOC Facility Upgrades |
| C0030062 | LIN3 HIP Insulation Replacement |
| C0035847 | LIN Plant Lighting Upgrade 2022 |
| C0036388 | LIN3 Auxiliary Air Upgrades 2022 |
| C0040891 | POA Plant Lighting Upgrade 2022 |
| C0041311 | TRE HVAC Upgrades 2022 |
| C0041312 | TRE LED Lighting 2022 |
| C0041349 | TRE6 Burner Impeller Replacement |
| C0041691 | POT Plant Lighting Upgrade 2022 |
| C0041728 | POT - Facility Upgrades 2022 |
| C0041728 | POT - Facility Upgrades 2022 |