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Dear Ms. Wallace:

M12861 – Nova Scotia Power Inc. 2026 Load Forecast Report

In accordance with the Nova Scotia Wholesale and Renewable to Retail Electricity Market Rules, Nova Scotia Power Inc. (NS Power) is required to file its annual 10-year energy and demand forecast with the Nova Scotia Energy Board by the end of April each year. On April 21, 2026, NS Power requested an extension to the filing deadline, which was subsequently approved by the Board. NS Power thereafter submitted its 2026 Load Forecast Report on May 15, 2026. The Independent Energy System Operator of Nova Scotia (IESO) filed a letter with the Board on May 15, 2026, indicating that discussions between NS Power and the IESO will continue regarding the most appropriate reporting approach for future editions of the Load Forecast Report.

On May 20, 2026, the Board issued an Order establishing the timeline for a paper hearing process and approved a requested Confidentiality Undertaking for this proceeding. Notices of Intervention were received from the Industrial Group (IG), Independent Energy System Operator of Nova Scotia (IESO), Renewall Energy Inc. (REI), Consumer Advocate (CA), Port Hawkesbury Paper (PHP), Eastward Energy (EE), Solar Nova Scotia (SNS), Nova Scotia Department of Energy (DOE), EfficiencyOne (EOne), and Small Business Advocate (SBA). Synapse Energy Economics Inc. (Synapse) was engaged to review the NS Power filing on behalf of Board Counsel.

On July 7, 2026, NS Power filed responses to Information Requests (IRs) received from the CA, EOne, SBA, SNS, Synapse and Board staff. Evidence was filed by Synapse and the CA's consultant John Wilson of Grid Strategies. Submissions were made by the SBA. No other intervenors filed evidence or submissions. NS Power filed its Rebuttal Evidence on September 8, 2026.

2026 Load Forecast

The 2026 Load Forecast Report provides NS Power's forecast of energy and peak demand requirements for the period 2026 to 2036, incorporating assumptions related to electricity

sales, weather conditions, demand-side management (DSM) initiatives, economic indicators, and other relevant forecasting inputs.

Prior to filing the Report, NS Power hosted a stakeholder session with the CA, SBA, IG, EOne, IESO and Board staff. The presentation reviewed changes to the 2026 Load Forecast which focused on the inputs used by the model. After the stakeholder session, NS Power updated the Load Forecast to reflect the DSM and Demand Response figures as presented in EOne's 2027-2031 Plan application in matter M12780 and the rate changes for 2026 and 2027 as approved in NS Power's General Rate Application (GRA) M12451.

Load Forecast Report

NS Power continued to employ two distinct methodologies for load forecasting. The first method uses Statistically Adjusted End-Use (SAE) models to project the energy demands from the residential and small commercial customer classes. The SAE model incorporates projections of end-use energy intensity, which are combined with an econometric forecast for the industrial sector and customer-specific forecasts for large customers. This integrated approach produces the Net System Requirement (NSR) forecast, representing the province-wide energy forecast. The second method accounts for the impacts of DSM initiatives. Under this approach, projected DSM program savings are deducted from the SAE forecast to generate the final load forecast.

The 2026 forecast predicted an overall increase of 522 GWh (22.2%) in the net system requirement (NSR) over the forecasted 10-year period. The increased NSR is the result of lower solar generation installations estimates and higher estimates for Electric Vehicle (EV) adoption. This is a reversal from the 2025 Report, which estimated the NSR would decline from 2025 to 2035. The change of course is due to greater electric vehicle (EV) sales and fewer solar panel installation.

The 2026 Report forecasts that the system peak will increase annually by 1.1%, on average, for the 2026 - 2036 period. The projected 2036 system peak is forecasted at 22% (498 MW) higher than the actual system peak realised in 2025. NS Power attributes the growth of system peak to customer growth, increased electrification of heating and greater EV adoption.

The 2026 forecast adjusted NS Power's peak model to account for conditions that caused this year's peak. On January 25, 2026, NS Power experienced its highest recorded peak of 2,459 MW. However, this event wasn't characterised by extreme cold temperatures. Instead, it coincided with a prolonged cold spell which NS Power was able to identify using a 24-hour lagged peak temperature analysis. NS Power discovered that by incorporating a 24-hour lag temperature in the peak model, its predictability is improved. The formula still uses a 12-hour lag, which is given greater weight due to its explanatory strength. NS Power tested different hour lag temperatures however they did not improve upon the 12 and 24-hour lag.

Table 1- Annual Forecast versus Actual compares NS Power's previous forecasted growth in NSR and System Peak Demand to the actual amounts realised. It is clear from the results in the table that NS Power's NSR forecast is accurate. System peak, however, is more difficult to predict.



Table 1 - Annual Forecast versus Actual

Report Year	One-year NSR Change ¹		One-year System Peak Demand Change ²	
	Forecast	Actual	Forecast	Actual
2026	0.9%		9.6%	
2025	2.5%	1.3%	15.1%	8.6%
2024	3.2%	1.8%	-3.7%	-14.9%
2023	1.4%	0.0%	1.8%	10.8%
2022	2.2%	2.1%	10.0%	12.6%
2021	2.9%	1.7%	8.6%	-4.0%
2020	-0.3%	-3.1%	8.9%	-0.5%
2019	0.7%	-1.5%	7.2%	-0.6%

The Load Forecast Report is a fundamental input to NS Power's planning, budgeting and operational activities, informing generation, planning, capital program development, fuel procurement and customers' rates. Accordingly, the accuracy and reliability of the Load Forecast is critical to ensuring that energy and demand needs are appropriately assessed and that NS Power's planning is grounded in sound and supportable evidence. Given its significance, the Board has previously identified concerns regarding the accuracy, consistency and overall rigour of NS Power's forecasting methodologies.

In NS Power's 2025 Load Forecast Report in Matter M12349, NS Power agreed with many of the recommendations made by intervenors. The Board directed NS Power to proceed with implementing recommendations it had agreed to in the 2026 Report as well as:

- To monitor if adjustments are needed to account for housing completions;
- Report findings from the continued investigation of the unexplained variance between forecast and actual NSR for the residential sector;
- Monitor the adjustments made to the forecast in response to government policy changes that encourage or discourage electrification and the adoption of technologies that will affect load; and
- Compare the Conference Board of Canada (now Signal49) economic forecast against those produced by Canada's five major banks.

The Board also encouraged NS Power to compare the Conference Board of Canada's manufacturing employment projections against Statistics Canada's Labour Productivity values to ensure that the macroeconomic indicators are aligned. NS Power investigated these measures and reported on their findings in the 2026 Report.

For the 2026 Load Forecast, NS Power relied on monthly billed sales data from January 2016 through December 2024. Due to the impacts of the 2025 cyber incident on customer billing data, 2025 billed sales data was not available for use in the forecast's regression model. Instead, to address this limitation, NS Power estimated monthly billed sales for each customer class by allocating 2025 actual total sales according to the monthly billing profile observed in 2024. This approach ensured consistency between total annual energy sales and preserving historical seasonal patterns in energy usage.

¹ Based on Table A1 in each annual report starting with prior year actual

² Based on Figure 3 in 2026 & 2025 and Table A2 in 2021, 2022 and 2024 Load Forecast reports and in Table A3 in each annual report from 2019 to 2020 and 2023



NS Power revised its 2025 peak model inputs due to the impacts of the cybersecurity incident, which resulted in incomplete hourly load data for large customers. To address this limitation, the contribution of non-PHP large customers to the monthly system peak was estimated using historical data from 2015 to 2024. Specifically, the non-PHP large customer load at each monthly system peak hour was calculated and averaged by month across the 10-year period. As hourly load data for PHP was available for 2025, actual PHP load was removed from hourly system load data, consistent with the methodology applied in previous forecasts.

NS Power reviewed several forecast inputs that it determined were inaccurate, including Signal49's projections for housing completions, manufacturing employment and manufacturing Gross Domestic Product (GDP). NS Power considered the Signal49 forecast decline in housing completions to be overly pessimistic and therefore adjusted the outlook to reflect a moderated year over year decrease. In addition, the manufacturing employment variable was revised to incorporate employment in manufacturing and other primary industries and utilities, reflecting their relationship to provincial industrial activity. NS Power further enhanced the model by introducing a composite variable that combines manufacturing GDP and manufacturing employment. According to NS Power, these modifications improved the statistical significance of the model.

NS Power revised its EV forecast based on higher-than-expected EV sales in 2025. Previously, it was anticipated that the end of EV rebates in May 2025 would have cooled their adoption. The revised forecast estimates that there will be almost 250,000 EVs in Nova Scotia by 2036 compared to the previous forecast of 225,000. The result of NS Power's analysis was a modification to the EV forecast sales input leading to an overall increase in the forecast period compared to the 2025 report. NS Power clarified that the increase in EV adoption is not a return to the previous EV forecast due to the cancellation of sales mandate and changes to the federal government's sales targets for zero emissions vehicles (ZEVs).

NS Power revised its solar generation forecast to reflect a slowdown in residential solar panel installations experienced in 2025. NS Power also noted that the Canada Greener Homes financing program ended in October 2025, and therefore a downward revision to forecast installations is reasonable. However, growth in commercial installations is anticipated to continue due to the continued investment tax credits and accelerated capital cost allowance incentives.

The Heat Pump forecast was again revised due to a 5% decline in expected customer installations in 2025. NS Power attributed the decline to decreased financial incentives. Consequently, the forecast for new heat pump installations was reduced by about 20%. In addition, the expected conversion to heat pump hot water heaters, by people who install heat pumps, was reduced slightly due to the lower number of heat pump installations in the forecast.

In the 2023 decision, the Board did not accept NS Power's explanation that the large variance between forecast and actual NSR in 2022 was attributable to the COVID-19 Pandemic and heat pump installations. NS Power re-evaluated the drivers of the unexplained/other variance and subsequently reported that increased heating load associated with heat pump adoption had been a contributing factor. The Report states that it removed the variable for the 2025 and subsequent forecast years.

As illustrated in the application's Figure 42: Comparison of Forecast to Actuals, the unexplained variance was negative for 2025. Due to billing issues resulting from



NS Power's cybersecurity incident, two sales metrics were reported: billed and accrued. NS Power attributed the "other variance" estimate of -41 GWh primarily to an overestimation of heat pump installations, customer growth and the decline of employees working from home.

The load model's price data was updated to reflect the changes in rates for 2026 and 2027 following NS Power's 2026 General Rate Application filing. For 2028 and 2029, rates were assumed to increase by 5% annually, followed by annual increases of 2% for the remainder of the forecast period. The forecast models incorporate a price elasticity of demand of -0.15 to capture the expected reduction in electricity consumption resulting from higher rates. As part of the sensitivity analysis presented in Appendix D, the price elasticity was increased in magnitude to -0.30. The results indicate material reductions in both forecast energy requirements and peak demand in 2026 and 2036, demonstrating the forecast's sensitivity to changes in customer price responsiveness.

Appendix D also evaluated the potential impacts of the proposed hydrogen production facilities on NS Power's energy requirements and peak demand. Under the sensitivity analysis, it is assumed that the facilities would be largely self-supplied for their energy requirements, with NS Power providing only top-up energy when needed. While the analysis indicates that the effects on energy requirements and peak demand could be substantial, the hydrogen sector remains in the early stages of development, and significant uncertainty persists regarding the timing, scale and operational characteristics of these facilities.

The Commercial SAE framework develops separate forecasts for the Small General and General rate classes. Monthly sales are modelled as a function of weather-sensitive loads, as well as other electricity uses. The Small General rate class forecast combines a monthly average use model with a separate customer forecast, while the General rate class is forecast at the aggregate sales level. End-use demand is estimated using intensity projections that capture long-term consumption trends and are linked to economic activity, electricity prices and weather conditions. Sector specific employment data is added to calibrate end-use intensity estimates to reflect the characteristics of Nova Scotia's commercial sector more accurately. However, Large General Service uses a combination of customer survey and historical sales information to determine their energy requirements over a three-year period.

General Demand sales are forecast to decline in 2026 and 2027 as customers transition to Renewable to Retail (RtR) service. However, NS Power projected that sales will recover during the 2030s, driven by increased electricity demand from heating and cooling systems and through EV adoption. Relative to the previous forecast, General Demand sales are projected to be higher, primarily due to lower levels of solar panel installations, increased EV load and reduced DSM impacts over the 2027 to 2031 period. Large General Service growth in this class is expected due to institutional, hospital and defence spending. The forecast anticipates a decrease by 2036 resulting from DSM activities and migration to the RtR market.

The Small and Medium Industrial forecasts were developed using econometric models that associate electricity sales to measure industrial economic activity. Manufacturing GDP serves as the primary driver in the Small Industrial model, whereas the Medium Industrial model uses a weighted combination of manufacturing GDP and employment. The employment variable was expanded to include manufacturing and other primary industries and utilities to better capture economic activity. Both models are estimated using monthly sales data, providing consistency with the forecasting methodology used for the residential and commercial classes. Small Industrial sales are projected to be stable with



modest changes caused by RtR migration. Changes to modelling have improved the Medium Industrial forecast, which anticipates sales to slightly decline as a result of RtR migration.

Other industrial rate classes are forecasted using a combination of survey and historical sales data. The Report explains that while discussions with these customers reveal plans for new facilities and expansions, there is uncertainty in the timing and size of these changes. Near-term forecasts indicate a modest increase in demand that quickly levels out.

Intervenor Recommendations and Rebuttal

The CA's consultant, John Wilson of Grid Strategies, submitted several recommendations. He recommended that the Board direct NS Power to revise its forecast workbooks to present formulas in separate tables, with each factor supported by either a data source or an explanation for its selection. He did not agree with NS Power's residential hybrid heating forecast because he considers it to be unsupported by the evidence provided. Instead, Mr. Wilson said NS Power should adopt a forecast based on its proposed hybrid heat pump adoption rate and the per-customer peak demand and energy savings associated with the below -10°C temperature scenario. Mr. Wilson also recommended that NS Power accelerate its use of AMI data and other external data sources.

NS Power agreed to update the Calibration and StructuralVars tabs of Attachment 1 to identify the factors used in the formulas. NS Power considers adding this information in the 2027 Load Forecast Report would be more appropriate than providing it as a compliance filing. NS Power disagreed with most of Mr. Wilson's recommendations. NS Power's key responses are summarized below.

NS Power disagreed with the recommendation to adopt a forecast based on the proposed hybrid heat pump adoption rate and associated per-customer peak demand and energy savings assumptions. NS Power stated that the recommendation relied on a comparison of residential heating intensity for customers with and without heat pumps from the 2022-2026 Load Forecast Reports, but that the referenced values represent population average heating intensity for baseboards and heat pumps, rather than residential heating intensities. NS Power further explained that heat pump intensity must be considered in conjunction with heat pump saturation, as increasing saturation is expected to increase the average heat pump intensity.

In response to the recommendation to incorporate the AMI data into the forecast, NS Power indicated that AMI data was used where possible to validate hybrid heating assumptions in the 2026 Report. However, it maintained that fully integrating AMI data into the forecast would require a long-term validation of the effects of integrating the data into the existing model or developing a new model.

Mr. Wilson also recommended various revisions to several forecasting inputs including the forecasted Direct Load Control (DLC) energy and Business Non-Profit and Institutional customers (BNI) curtailment, the Time Varying Pricing (TVP) demand and the Heating and Cooling Degree Day (HDD/CDD) variables. NS Power stated that its DLC and BNI assumptions were informed by EOne's studies and reports and future load forecasts will reflect the findings of EOne's DSM Potential Study and the resulting IESO-NS Integrated Resource Plan (IRP). NS Power defended its revised TVP methodology, noting that it assumes a slower adoption rate. Finally, NS Power maintained that its approach to adjusting the projected HDD and CDD is appropriate, as the absence of dampening would eventually



result in HDD values declining to zero and CDD values increasing to encompass the entire year.

The SBA said that NS Power's Report was thorough and found the conclusions to be well supported. However, the SBA considers that the 10% reduction in housing completions is not supported and recommended NS Power provide a lower-housing sensitivity analysis and update the planned housing development forecasting in future reports. NS Power regards the adjustment to the new housing forecast to be in alignment with historical averages. If the new housing forecast was adjusted by 15% the overall forecast NSR would increase/decrease by 0.5%. However, NS Power agreed to provide a similar calculation of the impact of new housing estimates in future reports. Further NS Power confirmed that planned housing developments are tracked and the total will be updated in the 2027 Report.

Board Counsel Consultant Synapse acknowledged NS Power's continued improvement in its forecasting. Synapse's recommendations emphasize continued refinement and validation of NS Power's load forecasting methodology:

- Continue monitoring the impacts of trade policy and assess whether tariff related effects should be explicitly incorporated into future forecasts.
- Monitor actual housing completions, compare them against major bank forecasts and reassess housing assumptions as needed.
- Evaluate alternative modeling approaches for peak demand to better capture the effects of lagged temperature.
- Refine the hybrid heating assumptions by applying a more gradual participation growth rate, expanding eligibility with lower participation rates and treating commercial hybrid heating more conservatively in sensitivity analysis.
- Improve the transparency for heat pump efficiency metrics and heating intensity assumptions and adopt HSPF2 ratings for new heat pump installations.
- Strengthen the EV forecast by using a bottom-up method based on reputable data sources, explicitly modeling managed charging participation and excluding Plug-in Hybrid EV (PHEV) charging from DC fast-charging and workplace charging peak demand assumptions.
- Investigate the lower-than-expected 2025 solar installations, incorporate a broader historical dataset into growth projections and update solar forecasts and coincidence factors based on the latest data.
- Continue monitoring trends in customer adoption of standalone and solar paired battery storage systems.
- Enhance DSM forecasting by using vintage-based persistence models, separately estimating energy and peak savings, and incorporating cumulative DSM demand savings into peak demand forecasting.

NS Power agreed with many of Synapse's recommendations. Specifically, NS Power agreed to continue monitoring:

- The impact of trade policy and will add the effects into future forecasts where appropriate.
- Housing completions and the forecasts provided by Canada's five major banks.
- Changes in forecast performance as new peak load observations are available and will consider the suitability of alternative modelling approaches.
- Solar installations and adjust coincidence factors and the growth rates based on trends.



- A material change in environmental policy that would change distributed solar growth rates.

NS Power agreed to update the forecast in the following ways:

- Update the End-Use Trend to include additional details about calibration.
- Engage a third-party consultant to provide an updated EV forecasting using a bottom-up approach in the 2027 Forecast.
- Remove the PHEV charging from Direct Current Fast Charging (DCFC) workplace L2 peak modeling.

NS Power only disagreed with two of Synapse's recommendations. First, Synapse recommended NS Power replace the 10-year DSM savings accumulation window with a persistence model and estimate embedded energy and peak savings separately in the peak forecast regression. NS Power considers that the persistence model would increase the model's complexity and data needs. Without evidence that the additional data would provide a more accurate forecast, the benefits are uncertain. The DSM savings used in the forecast come from EOne's annually reported savings and are not available at the level required by the persistence model. Additionally, NS Power tested using estimated embedded energy and peak savings in 2022 and found that the coefficient was not statistically valid. Second, NS Power stated that its hybrid heating assumptions were set using available data, including AMI and a study of actual heat pump load in Nova Scotia. Without an existing or planned hybrid heating program the current forecast is limited to existing market information. However, NS Power will incorporate relevant hybrid heating data from EOne's DSM Potential Study and IRP into the 2027 forecast.

Findings

In this forecast, NS Power estimated monthly billed sales for each customer class by allocating 2025 actual total sales according to the monthly billing profile observed in 2024. The Board finds that this was a reasonable approach. However, the Board expects NS Power to use the 2025 actuals in future Load Forecast Reports, if customers data is recovered.

The Board finds that NS Power's modelling of the impacts of hybrid heating was informative and provided a good exercise in comparing the outcomes of modelling approaches to assess the accuracy of assumptions. Although NS Power did have the capability to model hybrid commercial heating, the Board considers that a similar analysis for this customer class would be beneficial for the Load Forecast. The Board acknowledges that NS Power proposed to adjust the commercial model for future forecasts when a commercial hybrid heating program is established, and the Board directs it to do so.

NS Power agreed with several of the recommendations made by the intervenors. The Board directs NS Power to implement those recommendations it has accepted.

The Board finds that NS Power has enhanced its forecasting methodology through targeted adjustments reflecting evolving government policies and market changes that may influence electrification and the adoption of technologies affecting future load. The Board expects NS Power to continue monitoring the performance of these adjustments in future forecasts to ensure they remain reasonable, accurate and appropriately supported. The Board directs NS Power to continue:

- Comparing the economic forecast inputs with those prepared by Canada's five major banks and Statistics Canada to ensure near-term alignments;



- Monitoring to determine if forecast adjustments are warranted to reflect housing completions; and
- To monitor government policy and market changes that encourage or discourage electrification and the adoption of technologies that will affect load.

NS Power's examination of the Variance to Actual/Other variance provides valuable insights into the accuracy of the forecast and serves as a valuable measure when assessing modifications made to the model. Figure 42: Comparison of Forecast to Actuals shows an improvement from 2023, although significant differences in the two 2025 measures. The Board repeats its directive to report on the results of its ongoing investigation into the unexplained variance between forecast and actual NSR for the residential sector. The Board encourages NS Power to estimate what the other variance would have been in 2025 and for 2026, if the expected energy savings from Renewable to Retail were not in the model.

The Board is concerned with NS Power's characterization of incorporating AMI data into the Load Forecast as a long-term process and expects a timelier approach. As AMI data is used for billing purposes, it should provide a reliable source of customer energy usage. The Board acknowledges the need for appropriate validation and assessment, however describing the AMI integration as a long-term process raises questions about the ability of the forecasting model to effectively utilize AMI consumption data. The Board directs NS Power to provide in the 2027 Load Forecast Report a timeframe when it anticipates to fully integrate AMI data in the Load Forecast Report.

Yours very truly,



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