M12661

**NOVA SCOTIA ENERGY BOARD**

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| **IN THE MATTER OF:** | ***The Public Utilities Act*** |
| **– and –** | |
| **IN THE MATTER OF:** | **An Application by Nova Scotia Power Incorporated for approval of an Extra Large Industrial Dispatchable Above-the-Line Tariff applicable to Port Hawkesbury Paper** |

# REPLY EVIDENCE

# OF

# PORT HAWKESBURY PAPER LP

July 8, 2026

**Q. Are you the same Bevan Lock and John Esaiw who previously filed evidence in this proceeding?**

A. Yes we are.

**Q. What is the purpose of your Reply Evidence.**

A Our Reply Evidence addresses various issues raised by Intervenor and Board staff consultants in their evidence and by NS Power in their responses to information requests.

**Q. At page 23 of Bates White Evidence, lines 19-23, Bates White states, "We are unconvinced that PHP would ever have incentive to levelize its load. PHP itself explains that its load is dependent on its business activity, it is subject to seasonal fluctuations, and can spike up to consume as high as 25% of the power in Nova Scotia at any given time. It is unrealistic to expect levelized load at PHP when its energy consumption is "closely tied to the order book for paper" and which is generally higher demand in winter and summer months (and lower demand in spring and fall months)."Do you agree with Bates White?**

A. No we do not agree. PHP like all other energy intensive industrial producers, and for that matter energy generators, continuously seek the most efficient running regimes as possible; less idle production time given constant manning and other fixed costs is always desired. Other significant incentives for running flat include protection of PHP large synchronous motors. Assets like these are best kept running continuously because starting them causes very high electrical currents and mechanical stresses that can shorten equipment life. Continuous operation also reduces thermal cycling, improves reliability, and can help maintain the plant's power factor.

While sales of the "supercalendered" type paper that had historically dominated PHP's orderbook tended to be seasonal (e.g. seasonal catalogues), new product development of paper used in educational workbooks and greater sales in regularly printed monthly products like high-end magazines has changed PHP's paper demand profile significantly. Like any other cost conscious enterprise, PHP needs to pursue an operating model that maximizes continuous production,

minimizes idle time and spreads fixed labour and operating costs over the greatest possible output. Continuous operation is also critical to protecting our major assets such as large synchronous motors, which are subject to significant electrical and mechanical stress during start-up events, while evolving market demand—including growth in educational papers and regularly produced magazine grades—has created a more consistent year-round production requirement that further supports steady operations.

The notion that PHP "can spike up to consume" higher percentages of grid energy is not a PHP related phenomenon. This happens seasonally when loads in Nova Scotia are very low in shoulder months and PHP loads become a higher percentage of that total provincial load. This is a naturally occurring phenomenon and is not caused by PHP load spiking.

**Q. At page 15 of Bates White's Evidence, Bates White states, "More significantly, NSPI applied a project output for Goose Harbour that assumes a facility installed capacity of 130.5MW, while the reported planned facility capacity is 168MW, the maximum amount accommodated under the PPA and PSA. Goose Harbour's planned capacity is thus approximately 29% greater than represented in the COSS and, under the reasonable assumption that expected output scales with capacity, the energy from Goose Harbour would be 653 GWh rather than the modelled 507 GWh."**

**At page 33 of Bates White's Evidence, Bates White states, "As discussed above, the 653 GWH of output from Goose Harbour is a reasonable estimate of potential generation from the full 168 MW facility, and in fact is conservative, since that is a P90 level that is expected to be exceeded 9 years out of 10. The PSA anticipates that PHP load fall below 625 GWh, as that is the established threshold below which the Sales Agreement Fee increases from $2.00/MWh to $4.00/MWh. Thus, there is a very plausible scenario in which PHP would have annual net load of zero under the ELID tariff, and would pay no Energy Charge at all, and cover none of the embedded costs reflected in the Energy Charge." Please explain why a facility installed capacity of 130.5 MW was forecast for 2027?**

A. The PHP Wind System Impact Study (SIS) was initially completed for the 130.5 MW of installed capacity for the site. Following this, PHP Wind applied for another SIS that is not yet completed, that would take the total capacity up to 168 MW. Until the second SIS is approved, PHP cannot assume that 168 MW of energy are available to the grid, thus the 130.5 MW level

from the approved SIS is being used. Any levels above the 130.5 MW are intended to be curtailed until such time as the SIS for 168 MW is approved. The P90 level for wind calculated for 168 MW with an approved SIS would be far below that calculated by Bates White. It is not a one to one ratio of additional MW of installed wind capacity equals the exact same higher ratio of wind production. The P90 analysis for the 168 MW Goose Harbour wind project is calculated to be 528 GWh, which is significantly less than the 653 GWh Bates White put forth, and is less than a 4% increase in expected generation at a P90 level from total capacity of 168 MW.

**Q. Is Bates White's assumption that expected output scales with capacity reasonable for the Goose Harbour facility?**

A. No it is not. Wind production estimates are not calculated in the same manner as other types of power generation. Layouts of the wind sites, wind patterns, wake effects, hub heights, blade angles, terrain, geography, interconnection limitations and other considerations all contribute to wind power forecasts. In the current "interconnection" constrained Goose Harbour Lake case, all generation capacity from the 24 turbines will be active from day one (i.e. when all 24 turbines are installed and become operational). It is only during the few peak wind periods in a year when the sum of all 24 turbines output exceeds in real-time the 130.5 MW total farm connection limitation that generation will be constrained; hence expected output will not scale linearly with a future scaling up of the interconnection MW level.

**Q. Why is the P90 generally utilized in respect of wind power projects?**

A. The P90 level of wind production is used as a standard for financial calculations. This level is crucial for lenders to ensure that the project can service its debt even in a bad wind year. By sizing the loan to the P90 production level, lenders can have confidence that the project will generate enough revenue to cover debt payments with a margin to spare. This approach is particularly important in the wind energy sector, where the project's revenue is highly dependent on wind conditions, which are inherently variable.

**Q. Using the forecast load of 774,000 MWh which PHP had provided to NS Power, and the P90 value for 168 MW of 528,000 MWH yields what net load to be served by NS Power.**

A. 246,000 MWh.

**Q. At pages 16-17 of Bates White Evidence, Bates White states, "While we think the P50 level is more appropriate in principle with respect to setting the ELID Energy Charge, we do not believe moving to a P50 level (at the 168 MW capacity level) would be justified in advance of actual operational performance at the Goose Harbour facility." Do you agree with Bates White?**

A. While we do not necessarily agree it is more appropriate in principle to use a P50 output level in the COSS for the reasons stated above, as noted at page 28 of the Evidence of Mr. Fitzhenry and Mr. Gorman, "Aligning the tariff with current usage assumptions ensures that energy cost allocations and revenues accurately reflect PHP's actual cost of service."

**Q. At page 17 of Bates White Evidence, Bates White states, "We recommend that NSPI be required to update the COSS model to better reflect likely PHP net load, capturing both updates to expected PHP gross load and, most importantly, the likely output from Goose Harbour at a facility capacity of 168 MW." Do you agree.**

A. While we currently only have SIS approval to place 130.5 MW on the system, since this could rise to 168 MW if our second requested SIS is approved, we could support the use of the 168 MW P90 value for determining the likely future output from Goose Harbour.

**Q At page 35 of Bates White Evidence, Bates White states, "In addition to correcting the Energy Charge rates, we recommend that a true-up mechanism be created to address substantial deviations of PHP net load from expectations – including the extreme but plausible scenario in which PHP's annual net load subject to the tariff is zero." Do you agree with Bates White.**

A. No we do not. Bates White's comments are apparently premised on their incorrect determination that at 168 MW the Goose Harbour facility could generate 653,000 MWh per year and yield a net load of 121,000 MWh per year. Using the correct value for the 168 MW yields a net MWh usage from NS Power more than double Bates Whites assumption. If the most recent forecast usage of PHP is used together with the P90 value for 168 MW of Goose Harbour production a true-up mechanism should not be required.

As noted in the NS Power 2026 Load Forecast Report at pages 76-77 (filed in M12861) the Large Industrial, Large Industrial Interruptible and other tariffed customers, as well as PHP, have their load forecasted "using a combination of customer survey and historical sales information. Customers are surveyed regularly to gather their electricity requirements over the next three-year period." Our understanding is that no true-up mechanism is applied in these tariffs if those other industrial customers actual load deviates from forecast.

Furthermore, as noted by NS Power at page 6 of its Application and in response to IG IR-5(a) NS Power has proposed that "the PHP 3CP figure employed for Tariff costing and pricing would also be applied for billing purposes **essentially making the demand cost recovery a fixed charge**".

**Q. At page 29 of Bates White's Evidence, Bates White states, "Our conclusion is that the PSA treatment of Goose Harbour output has significant potential to undermine the premised treatment of PHP as an ATL customer under the ELID." Do you agree.**

A. No we do not. We have spent the greater part of the last 3 years working with NS Power to develop an ATL tariff where we pay the average price of fuel used to serve our load (versus marginal costs) and provide a significant portion of our charges towards the system's fixed costs. The Goose Harbour facility was developed to mirror a behind the meter project and provide a specified additional administrative charge to NS Power. Importantly, in exchange for such treatment, NS Power retains pursuant to section 2.1(e) of the Power Sales Agreement ("PSA") all of the renewable energy attributes related to the energy purchased by NS Power under the Power Purchase Agreement ("PPA"). It is made clear by the terms of the PSA that only the energy in excess of the energy purchased under the Ministerial approved PSA is subject to regulated NS Power tariffs.[1]

**Q. At page 28 of Bates White's Evidence, Bates White states, "We do not recommend that the Board approve the DR credit as proposed. To be reasonable, at least two things must be true: (1) any payments to PHP from FAM customers under the DR credit must be demonstrably tied to PHP deciding to shift load due to energy prices and (2) that FAM customers not be at risk of providing any compensation to PHP in hours where no load-**

[1] See section 2.1(b) and (c) and the definition of Tariff Energy in the PSA.

**shifting activity due to energy prices occurred." Can you comment on this based on your historic load shifting.**

A. Certainly. Our prior and current practice under the ELIADC is to follow NS Power's directions when technically possible, with the exception of when for commercial purposes we have decided to run through their request, in which case we are responsible for any additional costs incurred. PHP follows MW dispatch schedules, not interpreting price signals and "deciding to shift load", that are the result of its electricity consumption timing being directly integrated within NS Power's economic dispatch optimization tools. Essentially our goal has been to follow NSPI's schedule such as to reduce our energy consumption in high cost periods and utilize more energy in lower cost periods. This has been, and will continue under the ELID to be, why we would shift our load. If we fail to shift our load from time to time to lower cost hours under the ELID we will simply reduce the potential for a larger credit.

**Q. Continuing on page 28 of Bates White Evidence, Bates White went on to state that, "It may be that, with additional elaboration, revisions, reporting requirements, and verifiability guardrails, the mechanism may achieve these objectives, but as proposed, it is our view that the DR credit is too vague, uncertain, unverifiable, and at risk of failing to match rider payments to load-shifting service to be recommendable for approval." Can you comment on Bates White's statement in this regard.**

A Yes we can. As noted above, PHP's intent is to shift load when instructed by NS Power in order to follow dispatch to optimize the system, ie. to avoid higher cost hours and take advantage of lower cost hours, so the objectives noted by Bates White will be met. To the extent further requirements could be put in place in this regard, we directly asked Bates White in PHP IR-2 for them to provide their "suggested additional elaboration, revisions, reporting requirements and verifiability guardrails that would satisfy [their] concerns". In reply Bates White referred to their response to BW-IG-IR-7(b) where they simply reiterated their exact language from their evidence and stated that "We have not put forth an alternative tariff mechanism." But they also did not put forth any recommendations at all on how to address their stated concerns, despite being specifically asked to do so by PHP. As such, although PHP believes Bates White's stated concerns are addressed by PHP's confirmation of how it would intend to act if the ADC mechanism is approved under the ELID, PHP is unable to comment further on Bates White's stated concerns as they failed to elaborate or provide any suggestions as to how to further address their concerns.

**Q. Together with Bates White's comments on the Dispatchability Rider ("DR") credit, Mr. Bowman on behalf of the Industrial Group suggests that there should be some form of benefit sharing of the savings determined under the Rider[2], and the InterGroup Consultants on behalf of the Consumer Advocate recommend that the Board should consider the reasonableness of the DR savings to be fully credited to PHP[3]. Can you please comment on these suggestions.**

A. As previously noted, PHP has been working with NS Power for the better part of 3 years on the development of an ATL embedded cost based tariff. The intention being for PHP to pay its COSS costs, including a significantly greater contribution to fixed costs than under the ELIADC, that reflects NS Power's cost to serve PHP in the same manner as with all other ATL customer classes. The ELID is such a tariff. Accordingly, if approved with the adjustments suggested by PHP, the ELID will be charging PHP its full cost of service, and as such any savings which PHP can achieve through the ADC mechanism should accrue solely to PHP. It is important to note that the ADC mechanism puts a significant strain on PHP's business as described in detail at page 5 of its Direct Evidence. To the extent that the ADC benefit does not provide a material forecast credit to PHP, PHP would need to determine whether to offer the service to NS Power as part of the ELID. PHP alone bears the operational and commercial costs of allowing NS Power to move its load in a manner that is far from ideal for the running of the PHP paper mill. While PHP understands that the ADC mechanism provides valuable reliability benefits to the system, any direct energy savings provided by its load shifting should accrue solely to PHP as an otherwise fully costed ATL customer.

**Q. Mr. Bowman recommends that there is no basis for providing PHP with a priority interruptible credit[4]. Do you have any comments on this recommendation.**

A. Yes we do. PHP has agreed to remain priority interruptible to assist the system and help shield other customers from interruption. Through the operation of the ADC and the priority interruptible feature of its current tariff PHP has assisted the system and protected other industrial customers from interruption. To the extent that a credit is not provided for priority interruption, PHP

[2] Pre-filed Testimony of Patrick Bowman, page 4.
[3] Pre-Filed Testimony of InterGroup Consultants, page 10.
[4] Supra footnote 2, page 15.

understands that it will no longer be called in advance of other large industrial customers being held as operating reserve, but rather that PHP would be called in rotation with such other customers putting those industrial customers at greater risk of interruption. This would be compounded if PHP foregoes the ADC feature of the proposed ELID tariff due to limited forecast benefit accruing to PHP.

**Q. In response to PHP IR-2, where NS Power was asked how judgement was to be used to determine the PHP coincident peak, NS Power stated in part that, "The use of judgement is required to establish a billing determinant that is representative of PHP's system usage and supports fair allocation of demand-related costs across above-the-line classes. Do you have any concerns with this response.**

A. Yes we do. The use of judgement will provide no ongoing certainty with respect to this key billing determinant, and is too nebulous for development of a cost-based rate. If PHP follows NS Power's dispatch, PHP will not be placing any demand on the system during the 3CPs other than that which NS Power has chosen to be appropriate at such times.

In this regard the 65 MW used by NS Power in its modelling was "based on PHP's historical demand at the time of system peak as dispatched by [NSPI]"[5] and as shown in Table 2 on page 15 of BAI's evidence this 65 MW was based on PHP's historic 3CPs for 2022 and 2023. Notably, however, in response to IG IR-30, NS Power provided the updated PHP historical 3CPs for 2024-2025, which using the same methodology as for the development of the 65 MW, shows an average updated 3CP demand for PHP of only 28 MW. As such, the 65 MW figure cannot be viewed as indicative of PHP's 3CP demand for the purpose of setting a rate applicable to PHP for 2027 or beyond.

**Q. Mr. Bowman states that "Given the lack of practical interruptibility of PHP loads at times of system constraint, there should be little to no credit via Interruptibility Rider ("IR") provided in the ELID tariff."[6] Do you have any comments on this statement?**

A. Yes we do. Mr. Bowman does not appear to understand the difference between the DR credit and IR credit. The DR credit is on account of NS Power's ability to move PHP's load

[5] Nova Scotia Power Application, page 6, lines 12-15.
[6] Ibid, page 14.

throughout the year on an hourly basis to reduce energy costs. While the ADC mechanism may be used during peak hours to bring PHP's load down prior to calling for an interruption, PHP maintains the right to ride through. If PHP does not bring its load down during an ADC call, then NS Power can call for an interruption as the IR credit is provided for the maintenance of system reliability not necessarily energy cost savings. These are two completely different mechanisms, designed for different reasons, each of which needs to be provided the appropriate credit[7].

If Mr. Bowman's suggestion that only a DR credit should be provided, than PHP would opt not to provide the ADC service (for which the benefit is only forecast) and become an Interruptible customer only (for which the IR credit is known in advance). As noted above, absent a forecast ADC value sufficient to incent PHP to hand control of its load over to NS Power, PHP would consider not providing the ADC service, and absent an appropriate priority interruptibility credit PHP would also forego its priority interruptible status. In those circumstances PHP understands that large industrial customers being held in operating reserve would be much more likely to be interrupted than if ADC and priority interruption were maintained.

**Q. Is the interruptible credit of $7.667 per kVA of interruptible service for 2027 proposed by NSPI cost based with respect to service to PHP.**

A. No it is not. NS Power has confirmed that it is simply "based on the provisions of the GRA settlement agreement"[8].

**Q. InterGroup on behalf of the Consumer Advocate suggests that the interruptible credit "was specified as part of the settlement agreement and in InterGroup's view should not be adjusted". Do you agree.**

**A.** No we do not. As noted by Ms. Whited on behalf of Board counsel on page 6 of her Evidence, "Although the Settlement Agreement provides an outline for the ELID tariff proposal, the agreement specifically states that settling parties can take any position within this ELID tariff filing. Thus, while the terms of the Settlement Agreement were approved by the Board, they are not requirements for the ELID tariff." PHP has outlined our position in fuller detail in our responses

[7] NSPI has explained the differences between the two mechanisms in detail in its response to Synapse IR-13.
[8] NSPI reply to PHP IR-4 (a,d-e).

to the Consumer Advocate's IR-6 to PHP. Furthermore, the Settlement Agreement specifically provided that PHP's commitment to taking service under the new tariff was subject to satisfactory conclusion of the resolution of the PHP ADC and tariff processes.

**Q. What would constitute a cost based interruptible credit for PHP?**

A. According to NS Power's response to PHP IR-4 (b) "had the credit been developed in accordance with [NSPI's] established practice for pricing of the interruptible credit ($13.107 per kVA demand coincident with system peak)" based on 57MW of interruptible demand (65MW-8MW firm) plus losses[9].

**Q. What would the impact be on PHP if the $7.667 per kVA credit was used in developing the tariff applicable to PHP for 2027?**

A. According to NS Power's response to PHP IR-4 (c) PHP would pay $4.2 million dollars more than if the cost based credit was applied.

**Q. At page 20 of Bates White's Evidence, Bates White provides its view on various reasons why PHP's incentive to respond to price signals is reduced under the ELID tariff as proposed. Can you please respond to these comments.**

A. In its evidence Bates White puts forward that PHP will have a greatly reduced incentive to respond to price signals. In the first instance, PHP has no visibility to price signals on the system, this is entirely NS Power's purview. PHP responds to supply availability, and PHP is dispatched to run when there are available MW on the system. When there are supply constraints PHP is dispatched down. This is entirely an NS Power driven process. This condition exists in the current form of tariff (ELIADC) and this condition is expected to remain for the ELID. PHP will still have no visibility to the pricing of energy being produced to supply its load in real time. PHP will be responding to dispatches. When Bates White states that "no matter the condition on the system or the cost of energy…." this ignores the fact that there will be multiple conditions on the system, at any given time, that will constrain PHPs ability to run, regardless of the price of energy on the system. PHP is not responding to price signals, and has no mechanism to do so.

[9] See NSPI Application page 8, at footnote 5.

Secondly the DR credit that Bates White references is a key component to PHP's desire to obtain service under the ELID. PHP understands that the more compliant it is with its dispatch under ELID, the more value the tariff has to PHP in the form of an annual benefit from following the dispatch. Should PHP choose to not follow dispatch it is essentially penalizing itself for non-optimal compliance and reducing the benefit, thus the compliance with dispatch under the ELID tariff is a self-policing mechanism for PHP. Bates White relies heavily in its argument that PHP can respond to, or choose not to respond to, hourly price signals. This is a false assumption for the operation of the ELID tariff. PHP will have no price signals provided to it by NS Power, nor the System Operator. PHP is well aware of the risk involved in taking service under this new tariff and the corresponding benefit that is calculated at year end. PHP views this risk as being the trade-off with going to an above-the-line rate that has higher cost fixed rates compared to marginal below-the-line rates. PHP is not aware of any other mechanism put forth by NS Power or Bates White that would be considered for the calculation of the annual dispatchable credit, and thus has accepted the proposed mechanism as part of the ELID tariff.

PHP is the most responsive industrial load facility in the province, by a wide margin. Bates White is correct that load shifting asserts wear and tear on PHP's equipment, and for this reason PHP is only willing to take the risk related to being dispatchable in exchange for a corresponding benefit that has the monetary value to compensate for this risk.

Finally, Bates White expresses a concern that the DR credit is "built upon a shaky premise". The assertion that PHP load is volatile and unpredictable is unfounded. PHP load for the most part is predictable from hour to hour, with occasional operation failures, much the same as a power generator. While the order book and annual demand forecast for electricity may be somewhat volatile, the real volatility that PHP is subject to is the constraints on the Nova Scotia system, especially in times of high seasonal load and greater demands on the system overall that determines the availability for energy that PHP has allocated to it by NS Power.

Bates White's calculation of PHP demand based on high and low demand years is flawed in that this conceptual amount calculated by Bates White is not "owed" to FAM. If PHP uses more energy in any given year, it currently pays all of the cost associated with the fuels consumed and additional fixed and variable costs. If PHP uses less energy, it still pays for all of the costs of fuel and related charges. Nothing is owed to FAM as PHP is simply paying for its related costs to be

on the system based on the volume of energy it consumes. PHP assumes other industrial consumers of energy in Nova Scotia have variability on their loads, and annual forecasts (if provided), yet there is no mention of these industries causing lack of compensation to FAM. It is unfair to characterize PHP load from year to year as being a gap in compensation to FAM.

Annual paper demand forecasts are a challenging nature of PHP's business. However, NS Power is not committing generation units to PHP as if it were a firm load. PHP has been a non-firm load, and treated as such in its dispatch. This will remain no different if PHP takes service under the ELID tariff with appropriate DR and interruption mechanisms. PHP will receive energy on the system if it is available, and will be dispatched down when energy is unavailable. Its annual energy forecast is directional only for NS Power. The NS Power Fuels team and the System Operator both work closely with PHP to support our day to day and month to month energy demand, however, PHP load is a best efforts exercise for NS Power to supply and from year to year NS Power is using PHPs' forecast as a target we collaboratively work to achieve.

**Q. Does this conclude your Reply Evidence?**

A. Yes it does.