M12665

NOVA SCOTIA ENERGY BOARD

IN THE MATTER OF: The ***PUBLIC UTILITIES ACT***

-and-

IN THE MATTER OF: A public hearing for **NOVA SCOTIA POWER INCORPORATED'S** Fuel Adjustment Mechanism (FAM) Audit for 2024/2025 by Bates White Economic Consulting, LLC

INFORMATION REQUESTS - REDACTED

To: **Vincent Musco**
Board Counsel Consultant
Bates White Economic Consulting
1300 Eye Street NW, Suite 600
By Email: vincent.musco@bateswhite.com

From: The Consumer Advocate

Responses Due: **Tuesday, November 17, 2026**

Copies: 1 electronic copy (PDF searchable)

Contact Person: **David J. Roberts**
Consumer Advocate
Pink Larkin
1463 South Park Street
Halifax, NS B3J 3S9
Tel: (902) 423-7777
Email: droberts@pinklarkin.com

Request IR-1:
Please identify each instance where the FAM Audit states that the cyber event required a material change in job duties. For each instance, please state whether you are aware of any increased cost or deferral of ongoing projects that occurred as a result of the change. Where possible, quantify the cost that increased or the cost that occurred during a period of project deferral. Note that this question is being addressed to both Bates White and Nova Scotia Power. If only one party provides some or all of the responses, the other party should state whether it is in agreement with some or all of the responses. If one of the parties is not able to express its opinion for any response, it should explain why.

Request IR-2:
The FAM Audit states:

> Wind and hydroelectric monthly production is estimated outside of PLEXOS, based on historical information and entered into PLEXOS. Monthly wind energy production profiles are based on averages of the last three years' production data for each telemetered wind project or based on the geographically nearest telemetered wind site. The hourly wind generation profiles are based on the previous year hourly wind profile coincident with the hourly load profile and input into PLEXOS together with monthly energy and peak generation forecast information for each wind generator. Hydroelectric production estimates for each unit use a 23-year rolling average, adjusting the average for unit additions, decommissioning, and extended unavailability for inspections and maintenance. Historical monthly hydro system energy averages are qualified in PLEXOS by the daily and weekly production restrictions representing water flow restrictions and reservoir capabilities including, riparian flows, fish ladder flows, required reservoir levels, etc. The run of river systems are modeled as fixed output profiles to represent the non-dispatchable nature of such systems. As we have pointed out in the past, the use of historical hydroelectric production data to forecast production from these resources assumes a certain regularity in Nova Scotia weather patterns which may not hold true over the long term. (p. 57)

In Exhibit N-4, CA RIR-2, M11533, Bates White stated that, "It is standard practice for utilities to consider weather conditions in short-term operational forecasts; weather can strongly impact customer demand, and can also dictate energy supplied from renewable energy sources such as wind or solar."

This question considers whether the use of historical data *only* in PLEXOS for fuel and purchased power forecasting as compared to the use of either forecast or recent data when making decisions about fuel procurement (e.g., coal or HFO deliveries), unit commitment, and maintenance schedules in an annual and quarterly planning context (FAM Audit, p. 57).

For further context, a recent scientific journal article suggests that certain weather forecast models "show promise in capturing large-scale modes of variability that are important for seasonal and subseasonal forecasting." Pia Leminski, Enzo Pinheiro, and Taha B. M. J. Ouarda, Ensemble of

Artificial Neural Networks for Seasonal Forecasting of Wind Speed in Eastern Canada, *Energies* 2025, 18(11), 2975; https://doi.org/10.3390/en18112975.

(a) Please confirm that NS Power relied exclusively on historical information to produce monthly wind and hydroelectric production. (See also Exhibit N-4, CA RIR-3(a), M11533.) If not confirmed, please clarify in detail.

(b) During periods of wind or hydroelectric drought that may have occurred during the audit period, did NS Power make any adjustments to these monthly forecasts? If not, how are hydroelectric production restrictions forecast without taking existing reservoir conditions and anticipated rainfall into consideration?

(c) With respect to short-term operational dispatch planning, did NS Power consider weather conditions in its forecast of wind, solar and hydroelectric generation during the audit period? If so, over what timescale and for what specific purposes?

(d) Are you aware of any enhancement in related capabilities that has occurred since the audit period or that may be planned (or under consideration) by NS Power or IESO Nova Scotia? If so, please describe.

(e) Considering the concepts discussed in the referenced scientific journal article, are you aware of any commercially-available products that could provide useful seasonal (e.g., monthly) forecasts of wind and hydroelectric production? If so, please discuss these products and the potential relevance to future use in Nova Scotia.

(f) Considering the planned growth in wind resources through 2030, would it be advisable for NS Power or IESO Nova Scotia to consider changes to the practices discussed in this question? If so, please elaborate.

Request IR-3:

The FAM audit describes NSPI's single largest contingency as 168 MW, Point Aconi's net output. (p. 60). According to the IESO NS 2026 10-Year Outlook report, there are two requests for load interconnection with facility peak demand in excess of 168 MW (230 MW and 325 MW). (Exhibit N-4, NSEB RIR-15)

(a) In your opinion, is it likely that interconnection of these facilities would result in an increase of the single largest contingency for operating reserve purposes, at least for Regulation-Down purposes? Explain your response.

(b) If the Regulation-Down requirement is increased, what would be likely changes to:

i. Operational practices?

ii. System planning needs?

(c) Do you believe that either NS Power or IESO Nova Scotia needs to begin planning for this possibility in advance of a signed contract (or its equivalent) indicating a customer commitment to take service?

Request IR-4:
On p. 103 of the FAM Audit, a meeting to discuss safety issues is described as occurring on December 6, prior to three of the four safety violations mentioned.

(a) Why is a mistake in hauling ash instead of coal considered a "safety violation" rather than failing to meet some other category of contract requirement?

(b) Considering that ash hauling was not part of this company's contract (see p. 115), did NS Power determine how its staff allowed the truck to load ash and take any remedial steps with NS Power staff or practices?

(c) Considering that the ash hauling incident was the only cited event that occurred before December 6, were there other indications that prompted NS Power to schedule the December 6 meeting?

Request IR-5: Request IR-1:
On p. 112, Bates White states that the track between PTMT and Trenton is on land owned by Nova Scotia Lands. Who owns the track and is there a payment to Nova Scotia Lands for use of the land?

Request IR-6: Request IR-1:
On p. 127, there is a discussion of the E-Crane.

(a) When was the E-Crane last used?

(b) Please confirm that the E-Crane is not expected to be used in the future. If not confirmed, please explain under what conditions it may be placed back into active service.

(c) If part (b) is confirmed, please explain why this asset has not been retired and decommissioned.

Request IR-7:
On p. 127, there is a discussion of the settling ponds at the International Pier.

(a) Please identify all recent events where coal fines were not adequately settled out during heavy rain events, including the FAM audit period but extending back further several years to the extent that this issue was not reviewed during previous FAM audits.

(b) Please explain the environmental consequences of inadequate settling of coal fines.

(c) Please identify each of the events referenced in your response to part (a) that resulted in any regulatory action (inspection, compliance penalty, etc.), describe the action, provide any resulting costs to NS Power, and identify whether those costs were booked to FAM.

Request IR-8:
NS Power's reply evidence accepts a number of Bates White's recommendations. For those where NS Power considers the recommendation complete, please state whether Bates White concurs and, where it does not, identify what information is necessary to confirm NS Power's view.

Request IR-9:
In Exhibit N-4, CA RIR-4, M11533, Bates White stated that "NSPI's small, run-of-river, hydro resources are non-dispatchable." However, in Exhibit N-10, CA RIR-2, M11533, NS Power described dispatchability of its hydro system and various considerations.

(a) Please provide an explanation of and data from any tests that Bates White performed to determine whether the hydroelectric history provided an accurate daily and weekly production estimate that properly informed decisions on dispatch of these systems.

(b) Please explain why Bates White did not include any discussion or recommendations addressing this topic in this audit report.

Request IR-10:
Regarding Conclusion III-8, it appears that what Bates White is suggesting is that (i) given the cyber event, any bias to forecasts to ensure daily reliability can be considered prudent and, thus, (ii) any determination that NS Power should be responsible for excess start-up costs should be considered in the context of the Board's determination of NS Power's responsibility for costs related to the cyber event.

(a) Please confirm that this is a reasonable interpretation of Conclusion III-8. If not confirmed, please clarify.

(b) Please identify any external factors that NS Power is aware of that could have significantly affected MAPE and forecast accuracy generally from April 25, 2025 to the end of the audit period.

(c) Please provide total start-up and shut-down costs, by month, for the audit period.

(d) To the extent that Bates White is able to do so, please estimate the impact of any external factors identified in response to part (b) on the costs provided in part (c).

(e) Conclusion III-12 does not attribute any portion of the variance between forecast and actual fuel costs to the cyber event. Is that Bates White's finding?

Request IR-11:
Regarding Figure IV-10

(a) Please provide actual solid fuel deliveries, by month.

(b) Please explain the factors that drove the *scheduling* of solid fuel deliveries, including the extent to which NS Power considered its forecast solid fuel price and recent actual

deviations from that price. For example, if NS Power forecast the solid fuel price to drop significantly in a particular month, would it schedule deliveries to rebuild inventory after the price drop?

(c) Does Bates White have any concerns about the scheduling of solid fuel deliveries during the audit period?

(d) Does Bates White have any concerns regarding the quality of the solid fuel price forecast during the audit period?

Request IR-12:
Regarding Figures IV-16 and IV-17, both figures show [redacted] Please comment on this, discuss any concerns that Bates White may have or its reasons for not having concerns, and comment on whether the [redacted]. In your response, please also consider the comments about index-priced bids (p. 96), providing a comprehensive overview of NS Power's risk management strategy, its execution, and the relative cost-effectiveness of alternative methods of risk management for solid fuel procurement.

Request IR-13:
Please describe the source for the quote at the end of the paragraph beginning "Additional LSH Cargo in 2024" (p. 93). If this document is non-confidential, please either indicate where it may be obtained or attach it to the response.

Request IR-14:
On p. 109-110, Bates White discusses some "poor practices" related to the cost to scrap steel railcars. This discussion does not consider the decision to enter into a lease in 2010 (Figure IV-26) that required NS Power to return the railcars 16 years later "in the same condition as when delivered" (p. 106).

(a) Please provide Bates White's opinion as to whether it is reasonable for customers to pay for the cost to scrap steel railcars considering the likelihood that 29-year old railcars (44 years – 15 years) would develop structural integrity issues (p. 107) within 16 years.

(b) Considering the response to part (a), does Bates White maintain that it is reasonable for customers to pay for the cost to scrap the railcars?

(c) Conclusion IV-26 references two cost numbers. Please provide further clarification on what each of these cost numbers represents, and identify the cost actually recorded in FAM costs.

Request IR-15:
On p. 148-149, the FAM Audit describes impacts of a coal blend error on various data, including heat rates. Did this error potentially affect heat rates used for dispatch decisions and, if so, what information would Bates White require to calculate any cost impacts?

Request IR-16:
Regarding the biomass fuel handling issue beginning on October 30, 2024 (p. 170), Bates White explains that after the event, NS Power implemented "a revised storage configuration that uses smaller and lower height biomass fuel storage piles, rather than fewer larger piles, in order to improve ventilation and reduce compaction in the piles" (p. 171).

(a) Were the larger storage piles a long-term practice prior to October 2024? If so, what changed to cause the hot spots? If not, how did this practice develop?

(b) Does Bates White believe that the larger storage piles were a reasonable practice?

Request IR-17:
Regarding NS Power's rejection of Recommendation VI-6:

(a) Please confirm that Bates White's understanding is that the deficit occurred as a result of PHP bark deliveries to the piles that feed the boiler rather than to the yard. If not confirmed, please explain.

(b) If PHP delivers bark in excess of operational requirements, does Bates White expect that NS Power would adjust its delivery of bark to the piles that feed the boiler?

(c) If the answer to part (b) is yes, does Bates White expect that this would address the concerns about increased fuel handling costs and yard congestion?

(d) Please provide Bates White's response to the concern about "elevated risk of spontaneous combustion."

(e) Does Bates White agree that there is any merit to NS Power's concerns with the recommendation? If so, would those be resolved by a "collar" approach, in which a certain amount of bark deficits are allowed, and beyond which the "enhancement" recommended by Bates White would be applied?

Request IR-18:
Please provide Bates White's opinion on NS Power's response to Recommendation VII-2.

Request IR-19:
The FAM Audit, discussing a forced outage at Point Tupper, states:

> NSPI concluded itself in the Root Cause Analysis that "less than ideal moisture management in the operating environmental for these motors" was present. NSPI also noted that "[c]abinet heaters were not fully functional on either motor at the time of failure," and that while "[t]he operating environment is challenging, but there are opportunities to improve moisture management." (p. 279)

Please provide Bates White's opinion as to the reasonableness of NS Power's practices and decisions with respect to the "operating environment." In your response, please discuss any

authoritative reference standards, such as NS Power maintenance schedules, operating guidance, OEM guidance, etc. that are known to Bates White and is of potential relevance.

Request IR-20:
The FAM Audit, discussing a forced outage at Point Tupper, states that the "cause of these events was air ingress into heat exchangers." (p. 279) Please provide Bates White's opinion as to the reasonableness of NS Power's practices and decisions with respect to the development of the air ingress. In your response, please discuss any authoritative reference standards, such as NS Power maintenance schedules, operating guidance, OEM guidance, etc. that is known to Bates White and is of potential relevance.

Request IR-21:
The FAM Audit, discussing a forced outage at Port Hawksbury Biomass, identifies both FAM costs due to the event and the cost of repairs to the broken Rod in Recommendation X-6.

(a) How long does Bates White believe the outage would have lasted if the spare Rod could have been located quickly?

(b) How long did the repairs to the broken Rod take from when the decision was made to undertake temporary repairs?

(c) Please provide Bates White's opinion as to the reasonableness of NS Power's practices and decisions with respect to the failure to locate the spare Rod, the length of time taken to repair the Rod, and any other factors that Bates White considers relevant to the reasonableness of FAM customers bearing costs for this event.

Request IR-22:
The FAM Audit, discussing the "increased reliance on overtime labour," appears to suggest that NS Power should hire more employees so that it will be able to achieve its planned regular labour targets for OM&G expenses and avoid the need to rely on more costly overtime labour.

(a) Please confirm or correct this understanding.

(b) Has Bates White reached any view as to whether the 5.9 percent increase in headcount during the audit period made progress towards addressing the concern noted in the two audit periods? If so, is that increase likely to achieve an optimal (or near-optimal) balance?

Request IR-23:
The FAM Audit, discussing the South Canoe litigation, concludes that, "We find that NSPI has been fully responsive to this recommendation, though its original estimation of the damages associated with the South Canoe outages understated the true cost of replacement energy." (p. 305)

(a) Please provide a table that summarizes the (i) settlement amount, (ii) estimate that NS Power utilized to inform its position during settlement, and (iii) estimate that NS Power now finds to be correct. Please break down each by appropriate categories, as applicable, including capital, OM&G, FAM costs, etc.

(b) Does Bates White believe that if NS Power had used its most recent damage estimate during the negotiations, the outcome may have been materially different?

(c) Does NS Power have a reasonable justification for the difference between its original and final estimates?

(d) Please state whether or not NS Power has provided a full analysis of each category of damages that adversely affected FAM customer costs, a comparison of that analysis to the damages it was able to recover from Nordex, and identification of the contractual issues that prevented NS Power from obtaining recovery of full damages, if any.

(e) In Bates White's opinion, did NS Power pursue remedies in a diligent and prudent manner?

(f) In Bates White's opinion, was the South Canoe contract language adequate in protecting the financial interests of NS Power's customers? If your response is not an unequivocal "yes," please include in your explanation your best estimate of the financial consequences to NS Power's customers that the Board should consider in evaluating the consequences of any deficiencies in contract language that you identify.

Request IR-24:
The FAM Audit states,

> We find that even though fuel costs and heat rates in the marginal cost calculation are imprecise or incorrect, the OBPS adjustment makes the [PT Biomass] unit economic in most hours. (p. 329)

(a) As the OBPS adjustment changes (under the current regulatory schedule), when does Bates White expect the OBPS adjustment will no longer "make the unit economic in most hours"?

(b) When the OBPS adjustment is no longer generally determinative of unit dispatch, does Bates White expect the Economic Dispatch and Outage Coordination Solutions to address the imprecise or incorrect marginal cost calculation issue?

(c) If Bates White's answer to part (b) is that the software solutions will not satisfactorily address the issue, please explain why Bates White did not make a recommendation to address this issue. If Bates White has a recommendation, please provide it.

(d) Can Bates White provide a range of potential savings that could be obtained if there was no OBPS adjustment and NS Power could provide precise, correct marginal costs for the unit?

Request IR-25:
The FAM Audit discusses the gains and losses on financial hedge contracts during the audit period (p. 426). Understanding that the choice to financially hedge is a policy decision based on an interest in fuel and rate stability, please provide Bates White's opinion as to how those gains and losses

compare to the impacts on fuel and rate stability. It may be reasonable to place this in a longer-term context if data are available and, if Bates White is able to place this in context in comparison to other utility systems' policy choices and outcomes, please do so.

Request IR-26:
In the 2022/2023 Board Decision, the Board directed NS Power to provide the actual net benefits of its hedging program by month during the audit period and that the FAM Audit review these costs (Board Decision, M11533, para. 210).

(a) Please identify where in the audit report the actual net benefits are presented. If not presented, please provide them.

(b) Please identify or provide your review of the data referred to in part (a).

Request IR-27:
Please describe the circumstances and process for changes to the CBL energy charge as presented in Figure XV-1 (p. 444).

(a) Please reconcile this figure with Bates White's discussion of the CBL energy charge on p. 11 of its submission (June 10, 2025) in the ELIADC tariff extension matter (M12184).

Request IR-28:
The FAM Audit discusses the use of forward replacement cost in PortOps (p. 461, 469). Bates White's evidence in the ELID matter states:

> However, NSPI has specifically veered away from using forward replacement costs to conduct hypothetical system cost calculations in recent years, including in determining load-shifting benefits provided by PHP under the ELIADC Tariff due to concerns that use of forward replacement fuel pricing "overstates the cost of the actual fuel consumed." It is unclear why NSPI has proposed to use forward replacement pricing when calculating the DR credit for PHP despite its prior concerns. (M12661, Exhibit N-20, p. 26-27)

(a) Please describe "forward replacement cost."

(b) Please explain any distinction between "forward replacement costs" as previously used in the calculation of actual total incremental cost to serve (p. 444) and its use in PortOps as referenced above.

(c) Please describe how NS Power used forward replacement cost during the audit period.

(d) Please explain what material errors can occur if forward replacement cost overstates the cost of the actual fuel concerned.

(e) Please explain how the use of forward replacement cost affects the cost for each PDN deviation and whether you believe a different cost may have been more suitable.

(f) Please explain the statement, "Regarding (vi) we disagree that a comparison to actual accounting costs is necessary because the cost and benefits of deviations are separate and distinct from the core ADC benefit calculation." (p. 469)

(g) Please explain the implications of the following statement for the proposed ELID rate schedule: "Due to the lack of quantification, we find that no load shifting benefits have been established for real-time ADC and that real time load deviations could have resulted in net costs." (p. 469)

(h) Please comment on the degree to which the ELID addresses the intent of Recommendation XV-8.

Request IR-29:
Please provide Bates White's response to NS Power's reply to Recommendation XV-4, and address the following question:

(a) The FAM Audit states, "PHP's load as represented in PortOps is not fully dispatchable in every hour – i.e., from zero to maximum load – but is subject to various constraints based on defined operating modes ("OMs") for the PHP facility, including consideration of available pulp storage over time." (p. 442) In its reply evidence, NS Power states that, "the PortOps optimisation model does not explicitly model PHP transitioning through intermediate operating modes to reach the desired operating state." (Exhibit N-8, p. 22) Please address any inconsistencies between these two statements.

Request IR-30:
Please provide Bates White's response to NS Power's reply to Recommendation XV-5.

Request IR-31:
Please provide Bates White's response to NS Power's reply to Recommendation XV-6.

Request IR-32:
Please provide Bates White's response to NS Power's reply to Recommendation XV-7.

Request IR-33:
Please provide Bates White's response to NS Power's reply to Recommendation XV-8.

Request IR-34:
Considering that the ELIADC tariff is expected to expire at the end of 2026:

(a) Please comment on the importance of the Board directing NS Power to adopt Recommendations XV-4 through XV-8. Will adoption of those recommendations result in either (i) revisions to the FAM balance due from other customers or (ii) material improvements to the ELIADC successor tariff?

(b) The FAM Audit states that, "NSPI has attempted to satisfy 2022-2023 Audit Recommendation XV-1, but has determined it cannot." In light of this finding, does Bates

White consider it probable that the ELIADC rate schedule provided financial benefits to PHP at the expense of other FAM customers? Please explain your reasoning.

(c) If the answer to part (b) is anything other than an unequivocal "no," please provide Bates White's comments on how the Board might go about estimating any cost shift that may have occurred during the audit period. In your response, please identify which data Bates White has in its possession and which data it would require NS Power to develop or produce. Please also describe what level of uncertainty Bates White might expect to be associated with any resulting estimate.

Request IR-35:

NS Power's Reply Evidence states, "NS Power does not believe that hourly measurement of real time deviations provides a reliable indication of demand response performance." (Exhibit N-8, p. 24)

(a) Please provide Bates White's opinion on this statement, including whether it is consistent with standard evaluation practices for the performance of demand response programs.

(b) Please state what method(s) Bates White believes are reasonable and reliable for estimating demand response performance under the ELIADC rate schedule.