

Resource Insight, Inc.

Review of Nova Scotia Power's 2020 Integrated Resource Plan

Prepared for the Nova Scotia Consumer Advocate

John D. Wilson and Paul Chernick

January 20, 2021

Table of Contents

I. Introduction	1
II. Summary.....	2
III. Action Plan	3
A. Near-Term Resource Procurement	4
B. Integrate Transmission Development, Reliability Measures, and Procurement.....	6
C. Mersey Hydro Reinvestment Evaluation.....	9
IV. Areas for Further Improvement.....	10
A. Long-term Electrification Investment Strategy	10
B. Proposed Operational Dispatch Study	12
C. Value of Greenhouse Gas Reductions	13
D. Evergreen IRP Process	13

I. Introduction

Resource Insight, Inc. was engaged by the Nova Scotia Consumer Advocate to provide expert review of Nova Scotia Power’s 2020 Integrated Resource Plan.¹ We reviewed all public materials related to the IRP, participated in stakeholder meetings, and participated in several smaller discussions with NS Power staff.

We concur with Bates White² and Synapse Energy Economics,³ consultants to the Nova Scotia Utility and Review Board Counsel, that NS Power allowed for extensive stakeholder input and, most important, took account of much of the feedback it received from stakeholders, resulting in many improvements to the final report. NS Power also engaged credible consultants and its staff demonstrated technical excellence in resolving challenging issues. The Board may wish to recognize that Nova Scotia Power’s level of engagement and efforts to resolving issues raised by stakeholders is well above average for the utility industry.

The extensive planning effort by Nova Scotia Power created a credible plan with multiple pathways to substantially reduce carbon emissions over the next two decades. Consideration of the impact of electrification – a shift towards electricity as the primary energy resource in most economic sectors – demonstrates that the level of utility costs over the coming decades is the degree of electrification. The Board should take proactive steps to ensure collaboration with NS Power, provincial, and federal officials on electrification programs and policies.

The pace of greenhouse gas emission reductions also merits careful consideration by the Board. Although the IRP suggests that most resource plan alternatives lead to roughly the same electric rates, earlier reductions in greenhouse gases will elevate rates more quickly. The Board should look for

¹ Nova Scotia Power, *2020 Integrated Resource Plan* (November 27, 2020), NSUARB Dockets M0829 and M08059. (Hereafter, “IRP.”)

² Bates White, *Comments on Nova Scotia Power, Inc.’s Final Integrated Resource Plan Report* (December 23, 2020), NSUARB Dockets M0829 and M08059, p. 4. (Hereafter, “Bates White.”)

³ Synapse Energy Economics, Inc., *Analysis of Nova Scotia Power’s 2020 Integrated Resource Plan* (December 23, 2020), NSUARB Dockets M0829 and M08059, p. 1. (Hereafter, “Synapse.”)

least-cost options to reduce greenhouse gas emissions quickly in order to mitigate impacts on customer electric rates.

A third major driver of costs and rates is the efficiency of execution. For example, sensitivity analyses show that different levels of sustaining capital costs, for example, can affect the overall cost of the plan by about \$600 million.⁴ The Board administers a comprehensive approach to oversight of capital costs through its Annual Capital Expenditures (ACE) plan review and of operating costs through its Fuel Adjustment Mechanism (FAM) review. These effective oversight processes help hold NS Power accountable to its customers for reliable, efficient electric service.

II. Summary

One of the outcomes of the IRP process is an understanding by several participants, such as Bates White, Synapse, Efficiency One, and Resource Insight, that a number of improvements to NS Power's planning and procurement process that are justified. Our recommendations are that the Board should:

- Encourage NS Power to add a near-term all-source request for proposals (RFP) to its Action Plan, including an opportunity for up to 700 MW of wind by 2025, as well as all other resources such as battery storage. (Page 4)
- Ensure that NS Power is integrating transmission development, reliability measures, and procurement in order to ensure that appropriate investment decisions are made in a coordinated fashion. (Page 6)
- Prior to considering any major investment request for Mersey hydro, require that NS Power conduct further modeling using updated data from resource procurement and transmission development. (Page 9)
- Recognize that electrification programs will offer benefits to participants, such as cost savings for other fuels, and to Nova Scotia at large by reducing the pressure for carbon reductions in other sectors. (Page 11)
- Support NS Power's proposed operational dispatch study in the FAM Audit proceeding to further resolve technical concerns with IRP modeling and analysis. (Page 12)

⁴ IRP, Appendix E, pp. 67, 69.

- Direct NS Power to incorporate a CO₂ shadow price into its future IRP modeling. (Page 13)
- Encourage NS Power to engage with those stakeholders who have been most active in the IRP process to better define an “evergreen IRP process,” and to bring the outcome to the Board for its comment or direction. (Page 13)

III. Action Plan

We concur with a substantial portion of the Action Plan, including the electrification strategy (Item 2), treatment of plant retirements (Items 3a-3c), demand response (Item 4), and DSM avoided cost calculation methods (Item 5).⁵

Nonetheless, NS Power’s Action Plan does not fully optimize the ongoing system transformation that NS Power has laid out. The major decisions to be made in the next few years relate to (1) additional resource procurement, (2) investments in transmission and wind integration strategies, and (3) whether or not to redevelop the Mersey hydro facilities.

We recommend that the Board encourage NS Power to develop a more definitive strategy in each of these three areas, in order to ensure that appropriate investment decisions are made in a coordinated fashion. Furthermore, we recommend that as part of the “Evergreen” approach to resource planning,⁶ NS Power should conduct an updated IRP modeling analysis as part of any major strategy updates in these three areas prior to submitting any related capital investment applications. In the case of Mersey, the normal ACE Plan Economic Analysis Model should not be considered sufficient considering that the decision of Mersey life extension is a close call economically.

⁵ As discussed below, NS Power should net avoided transmission and distribution costs from DSM costs based on methods developed in the DSM advisory group. RII also concurs with EfficiencyOne that the DSMAG is a logical venue for completing the determination of avoided costs for DSM planning and that the DSM Rate and Bill Impact Analysis model is the appropriate tool for the evaluation of rate impacts due to levels of demand response and DSM.

⁶ IRP, p. 115.

A. Near-Term Resource Procurement The Board should encourage NS Power to add a near-term all-source request for proposals (RFP) to its Action Plan, including an opportunity for up to 700 MW of wind by 2025,⁷ to be conditioned on price and performance thresholds, and evaluated in coordination with transmission and system inertia solutions as discussed below.⁸ Our recommendation is supported by Bates White and Synapse.⁹

The Final IRP Report did not adopt our recommendation, and favors a much smaller, wind-only procurement. This approach is too cautious, as it excludes the potential near-term savings opportunity from a larger procurement that would be merited if bid prices are lower than assumed in the IRP's base case. NS Power should not merely "solicit Nova Scotia-based market pricing information" but should pursue potential near-term opportunities to reduce system costs.¹⁰

NS Power has maintained a lower, near-term procurement cap even though "NS Power agrees that the modeling indicates that the low wind pricing has a larger impact on expansion decisions than the reliability inertia constraint."¹¹ We believe this finding is as robust as the support for the Reliability Tie and should have received equal emphasis.

Simply soliciting "Nova Scotia-based market pricing information" is insufficient; it is our understanding that NS Power considered such

⁷ Model cases 2.1C.WIND-1 and WIND-2 suggested 631 MW and 676 MW of wind in 2025, respectively. In addition to new wind, the RFP should also be open to repowering of wind resources currently under contract to NS Power.

⁸ We disagree with NS Power's statement that "The IRP scope does not include findings or recommendations on specific procurement approaches." IRP, Appendix K, p. 237. The IRP would be deficient if it failed to identify how NS Power expected to proceed with near-term actions in a manner that is specific enough for the Board to hold it accountable should it fail to act accordingly.

The overall design of near-term resource procurements will determine the outcomes for customers that result from this IRP. We recommend an all-source procurement in which no resource technology is excluded. The identified goal should be to fulfill the load forecast and unit retirement forecast of NS Power in a manner that reduces costs and maintains (or improves) reliability. As discussed later in these comments, these objectives should be co-optimized with transmission and reliability development.

⁹ Bates White, p. 26; Synapse, p. 14.

¹⁰ The IRP states that NS Power will, "Initiate a wind procurement strategy, targeting 50-100 MW new installed capacity by 2025 and up to 350 MW by 2030. This strategy will solicit Nova Scotia-based market pricing information which will inform the selected wind capacity profile and timing, informed by the IRP wind sensitivities." IRP, p. 113.

¹¹ IRP, Appendix K, p. 237.

information in adopting its IRP pricing assumptions. Since NS Power agrees that new installed capacity by 2025 is desirable, engaging in a solicitation with the stated intent (but not requirement) to procure up to 700 MW of wind by 2025, depending on pricing and other considerations, is a no-lose proposition for NS Power customers.

In addition to wind, it is also critical to test the market for firm imports and gas peakers. Most scenarios suggest that NS Power will find it economical to procure about 165 MW of firm imports, with some striking exceptions, while various scenarios include a wide range of near-term gas peaker procurements. In the Low Wind Cost scenario, NS Power's modeling suggests procuring 365 MW of firm imports in 2026 and relatively small amounts of gas peakers. Yet in the Low Wind & Battery Cost scenario, those firm imports are replaced by 400 MW of new gas CTs. These indications of divergent results, depending on resource cost assumptions, demonstrate that a series of single-source procurements is not advisable because the most economical mix of resources will depend on actual bids of competing and complementary resources.

If the resources that bid into the RFP have more advantageous cost and performance than NS Power's baseline assumptions,¹² then NS Power will not only have the necessary market pricing information, but the opportunity to act on that information immediately to the benefit of its customers. The appropriate level and pricing of any acquisitions can be confirmed through further Plexos modeling of the bids, reflecting the necessary wind integration strategy, as discussed below.

In contrast to wind, the modeling results suggest that price is not the main determinant of the role of battery storage resources. While battery resources should be eligible for the all-source procurement, NS Power's primary focus for this technology should be to understand better the value that battery resources may have for the system in the near term.¹³ Case 2.1C suggests that only relatively modest battery resources are economic at current price levels.

¹² It is unlikely that NS Power will receive uncompetitive proposals. NS Power's commendable transparency during the IRP process should provide potential bidders with a clear indication as to the approximate price ceiling and unit performance guarantees required for success in any solicitation.

¹³ Although the IRP modeling did not indicate that compressed air energy storage would be economical for the NS Power system, Hydrostor argues that the cost and performance assumptions used in the model constrained the opportunity for a more favorable review. IRP, Appendix K, p. 214. An all-source procurement would provide Hydrostor and any other competing developers of such resources the opportunity to define the costs and performance characteristics of such technologies for further evaluation.

That sensitivity results a tradeoff between imported power and battery resources. Thus, even though battery storage is unlikely to make up a large share of NS Power's portfolio in the near term, it should be included in the all-source procurement process because successful battery storage bids could influence the relative value of other resources, including transmission.

One additional point that should be addressed in the evaluation of bids in any procurement is the value of greenhouse gas emissions. We discuss this point further below.

**B. Integrate
Transmission
Development,
Reliability
Measures,
and
Procurement**

We find that NS Power's Action Plan lacks a clear process for integrating its work on the Regional Interconnection Strategy with the development of new generation resources. The IRP findings focus on what appear to be the viable options, but the analysis does not establish the optimal combination of transmission upgrades and other changes to the resource mix .

One concern is that the Action Plan promotes development of transmission projects whose timing and capabilities may be influenced by the deployment of new practices and technologies to address similar reliability concerns. Another concern is that NS Power's preference for a single-resource procurement process, discussed above, may not interact effectively with the reliability-related investments. The Board should ensure that NS Power is effectively integrating these complex and expensive projects on at least two levels.

1) Integrate Transmission Development with Reliability Practices and Resources

First, NS Power's transmission development process should be integrated with its plans to deepen analysis of wind integration and other reliability practices and resources. To integrate these two activities, NS Power's transmission planning and procurement processes must remain flexible, and the options should be evaluated against each other as technical findings and cost estimates are refined.

The IRP did not reach a conclusive finding as to the optimal strategy for wind integration. In part, this is because NS Power's analysis mainly emphasized its concern about maintaining adequate system inertia during unusual (and probably avoidable) operating conditions. The IRP acknowledges that

additional system stability studies are required, and that they should be completed in advance of commissioning the Reliability Tie.¹⁴

Another reason for the lack of a conclusive wind integration strategies is that NS Power did not evaluate the role of operating practices. Operating practices, such as use of planned curtailments and application of fast frequency response, can be used to could facilitate higher levels of wind integration. The IRP did consider how wind integration might be aided by new resources, such as a combination of lower battery prices and synchronous condensers, but these analyses do not appear conclusive.¹⁵

Nor did the IRP reach a conclusive finding as to the optimal timing for completion of the Reliability Tie (or the Regional Interconnection). As part of the development process, NS Power should develop cost estimates for various potential capabilities and in-service dates for the Reliability Tie, covering the range from the earliest feasible date to 2032.

Optimally, the Reliability Tie, new operating practices, and new reliability resources will be employed in some combination. One approach could be to sequence their deployment. In the early stages of expanded wind development, NS Power might rely on improved operating practices that could result in periodic curtailment of wind generation or limits on purchases or wheeling of power through Nova Scotia in low-load periods. Subsequent installation of the Reliability Tie¹⁶ and other new resources could then increase NS Power's operating flexibility in later years and enable fuller use of the energy produced by wind turbines.

¹⁴ This analysis should be coordinated with further Plexos modeling since, as NS Power acknowledges, some of the IRP results do not demonstrate the expected relationship between the reliability tie's contribution to inertia and the IRP's preferred in-service dates for transmission. In response to our comments, NS Power acknowledged that the Limited Reliability Tie Inertia sensitivity resulted in advancing the build of the Reliability Tie by 2 years. Since this sensitivity assumes that the Reliability Tie provides less benefit at the same cost, acceleration of the transmission in-service date is counter-intuitive and may indicate some problem with the modeling approach. IRP, Appendix K, p. 238.

¹⁵ It is worth noting that the synchronous condensers were selected by the model in only one scenario, the No Reliability Tie sensitivity. This could indicate that synchronous condensers are a poor economic fit for the NS Power system, but the cost difference between the sensitivity and base case was relatively small. This technology solution has been frequently adopted by other utilities, and thus should not be discarded prematurely. With further study, NS Power may identify a role for synchronous condensers in combination with measures not studied in the IRP.

¹⁶ A later in-service date for the Reliability Tie could be desirable since NS Power would be able to defer costs until the impacts of the electrification strategy are manifest, minimizing customer bill impacts.

2) Integrate Transmission and Reliability Development with Procurement

The second level of integration is to bring together the transmission and reliability development with the all-source procurement process. NS Power should be seeking to co-optimize generation resources, grid investments, and operating practices.

Ideally, the Reliability Tie, new operating practices, and new reliability resources would be cost out through an RFP or via engineering estimates by potential suppliers. However, it may be advisable to use less refined cost estimates for purposes of narrowing options and making decisions regarding procurements from the all-source RFP. The timing of these activities will need to be coordinated to balance the need to move forward with some procurements against the time required to develop a full understanding of transmission and wind integration options.

3) Potential Benefits of Integrated Deployment

NS Power states that the Reliability Tie may provide other benefits, such as reserves, load following, or non-firm import capability,¹⁷ and its modeling suggests that the inertia it provides reduces the need to keep steam units online at minimum load. Our comparison of several relevant model runs finds that requiring fewer unit commitments for reliability purposes results in a shift from domestic thermal generation to less-expensive imported energy.

Thus, the integrated deployment approach we recommend may find that NS Power can retire steam plants sooner and acquire more wind resources, while reducing costs to customers. NS Power comments that "...it is likely that inertia and reserve constraints have an influence on retirement pace..."¹⁸ If the inertia constraints can be satisfied by a combination of operating limits, additional battery storage (which would be particularly attractive if battery prices are lower than assumed in the IRP), and perhaps synchronous condensers, NS Power could develop operating experience demonstrating that the system can be operated reliably with fewer thermal units online, leading to earlier retirements and reduced costs.

These direct and indirect effects of the Reliability Tie should be further explored, with initial findings refined with the data from the all-source RFP.

¹⁷ IRP, p. 75.

¹⁸ IRP, Appendix K, p. 239.

If the Reliability Tie allows imports of energy and ancillary services, as NS Power has suggested, potential providers of such resources should be encouraged to participate in the RFP. NS Power would then be able to jointly compare the cost and benefits of the transmission and imported resources, for various potential completion dates for the Reliability Tie.

Planning for the Regional Interconnection should be handled similarly. since the near-term resource acquisitions should be less sensitive to the exact date and cost estimate for these transmission assets, NS Power should not need to review as many in-service date options and accompanying cost estimates as for the Reliability Tie. In light of some of the sensitivity results, the potential in-service dates for this project should be expanded to cover 2028–2040. It would be reasonable to conduct an RFP for an in-service date of 2028, and then use that bid information to develop informed estimates of costs for later in-service dates.

C. Mersey Hydro Reinvestment Evaluation The Board recognized the importance of evaluating the continued operation of NS Power's hydroelectric facilities in the IRP process in the 2020 Annual Capital Expenditure Plan review.¹⁹ NS Power also committed to IRP review in support of the Mersey Redevelopment project, with an anticipated total budget of \$160 million, anticipated to be submitted later this year.²⁰

It is our understanding that NS Power intends to use the results of its modeling for the 2.1C.Mersey case to provide key inputs into the replacement energy cost for hydro generation used in the Company's economic analysis model. This sensitivity appears to indicate that customers would experience a slightly higher cost (\$44 million) to retain Mersey through 2045, even with a \$227 million cost to decommission Mersey.²¹

Although redevelopment of Mersey hydro does not provide customer benefits during the planning period, NS Power noted that customers could benefit in the long run. The end-effects calculation shows an economic advantage to retaining Mersey beyond 2045, assuming that the redevelopment project could provide a very long-lived asset, on the order of a hundred years. We are not convinced that extrapolating the 2045 revenue requirement indefinitely is realistic. Mersey might require additional capital projects, or even further

¹⁹ NSUARB, *Decision Approving Nova Scotia Power's Annual Capital Expenditure Plan for 2020*, Matter No. M09499 (June 25, 2020), p. 15.

²⁰ NS Power, *2021 Annual Capital Expenditure Plan*, Matter No. M09920, p. 38.

²¹ IRP, Appendix E, p. 59.

redevelopment investment. Furthermore, the end effects calculation does not take into account the likelihood that Mersey would eventually be decommissioned. Additional consideration of Mersey's long-term costs is thus warranted.

The IRP is not the venue for making a decision on the potential redevelopment of Mersey hydro. NS Power has appropriately committed to providing additional economic analysis in its forthcoming application.

That analysis should consider additional cases, such as lower wind costs. The IRP sensitivity analysis was conducted using the base case assumptions for the cost of wind. The evaluation of any capital applications for Mersey system refurbishment must include a better understanding of wind and transmission development costs.²² As discussed above, NS Power's base case assumptions may substantially overstate the cost of wind – a lower cost of wind would make the Mersey system less beneficial to the system.

Prior to considering any major investment request for Mersey hydro, the Board should require that NS Power conduct further modeling using updated data from resource procurement and transmission development. Given the significance of this decision, NS Power should not rely on the relatively simplistic Economic Analysis Model. Waiting for further data may introduce delay into the capital application process. Given the uncertain value of the redevelopment project, such a delay may avoid a poorly made decision.

IV. Areas for Further Improvement

- A. Long-term Electrification Investment Strategy** NS Power is to be commended for making electrification a central part of its IRP. The IRP provides appropriate policy, business, and analytic support for its Action Plan for electrification.
- Looking beyond the scope of the Action Plan, it is reasonable to assume that higher levels of electrification will require NS Power to make even more substantial investments. These investment costs are likely to come in two areas, full electrification programs (transportation and building, and potentially other sectors), and T&D investments.

²² We are not yet convinced that Mersey merits a 95% ELCC value.

1) Longer-term electrification program costs

Electrification is a key part of most greenhouse gas reduction strategies. We expect (and NS Power appears to agree) that some program funding would be required to achieve the higher levels of electrification studied in the IRP. For example, we understand that the Halifax Municipality has ambitious goals with respect to electrification. Ratepayers are likely to bear the costs of those programs, but those programs have not yet been designed or costs developed.

NS Power found that, “Increased electricity sales due to electrification can help to reduce upward pressure on electricity rates while facilitating carbon reductions in other sectors.”²³ In considering this effect, NS Power estimated an “order of magnitude level of annual investment before upward pressure on rates is evident.”²⁴ In simple terms, NS Power might be able to invest up to \$10.8 million annually in electrification programs without rate increases being a likely consequence.

While upward pressure on rates is an important consideration, NS Power recognizes that electrification may also have significant benefits to participants – such as cost savings for other fuels – and to Nova Scotia at large by reducing the pressure for carbon reductions in other sectors.²⁵ While such an evaluation is beyond the scope of this IRP, the Board should recognize that these benefits exist as it begins to consider its approach to electrification.

2) Transmission and Distribution Requirements

Another area of significant costs related to electrification will be T&D costs. While the Action Plan indicates that NS Power will “address electrification impacts on the T&D system,” much more is needed over the near term. One significant shortcoming of this IRP analysis is that it lacked a meaningful way to estimate the costs of additional T&D required to fulfill the varying levels of electrification.²⁶

The costs of expanding the T&D system to accommodate load growth is a topic of discussion in the DSMAG, where considerable effort has been expended to develop an improved estimate of the T&D costs avoided by DSM

²³ IRP, p. 104.

²⁴ IRP, p. 96.

²⁵ IRP, p. 95.

²⁶ IRP, p. 96.

programs. Looking forward, one obvious way to manage the cost of electrification-driven T&D is to implement DSM programs that offset some or all of the additional load. To a very real extent, T&D and DSM programs will complement each other, and NS Power needs to identify meaningful tools to conduct the planning that optimizes that balance correctly.

**B. Proposed
Operational
Dispatch
Study**

A number of technical concerns that we had in the IRP process related to the alignment of the model with NS Power's current operating practices. These issues have also been raised in the FAM Audit proceeding. In response, NS Power has proposed to commission a study of industry standards, tools and best practices for economic dispatch.

NS Power identifies several justifications for this study. First, NS Power "acknowledges that there has been a requirement for manual intervention between the modelled economic solution and the realities of the system security constraints and changes in system conditions."²⁷ As the role of variable energy resources on the NS Power system increases, NS Power proposes to study how additional automation may assist in optimizing system dispatch to reflect the "multitude of near-real-time system constraints." NS Power proposes to "focus on near-term time frames and include day-ahead business processes for unit commitment and real-time processes for economic dispatch."²⁸

In addition to a general review of best practices, the study scope, as modified in response to our comments, is proposed to include:

- Tufts Cove gas purchase;
- Target levels for Wreck Cove;
- Use of the GenCost Dispatch Order;²⁹
- Review of current operating reserve provisions, considering the findings from the Integrated Resource Plan;
- Review of hydro capacity and energy optimization practices;
- Review of the design of operational constraints, including those that are or may soon be applied to emerging technologies; and

²⁷ NS Power, FAM Audit Reply Evidence, Matter No. M09548, p. 43 line 6 – p. 44 line 2.

²⁸ NS Power, Matter No. M09548, response to CA-IR-4(a).

²⁹ NS Power, FAM Audit Reply Evidence, Matter No. M09548, p. 43 lines 23-29.

- Examination of dynamic system inertia constraints and operating limits for existing and potential future levels of wind resources.³⁰

Third, NS Power will explore “opportunities for aligning operational dispatch practices and [procurement and resource] planning model studies.”³¹

In addition to resolving certain technical concerns that we had regarding the alignment of operational practice with planning models, the Board should support the proposed study as a constructive step towards ensuring better continued alignment between planning and operations.

**C. Value of
Greenhouse
Gas
Reductions**

The vast majority of the model results indicate that it will be cost-effective for NS Power to operate with lower CO₂ emissions than required by regulation and law. These emissions reductions have value, as recognized by NS Power’s adoption of a shadow price for CO₂ emissions in its dispatch practices.³² Optimization of the capacity and production cost forecasts depends on accurate representation of any costs or values that may occur in practice.

On the other hand, forecasting such a shadow price involves significant assumptions—even more subjective than those involved in fuel cost forecasts, for example. The market structure for valuing excess CO₂ emissions is still evolving, it will be difficult to construct a market-based forecast for that value. In its response to comments, NS Power commits to tracking and monitoring this issue.³³

The Board should direct NS Power to go further and incorporate a CO₂ shadow price into its future IRP modeling. Such a CO₂ value may well be material to the evaluation of bids in an all-source RFP, for example. This will better align the planning process with operational dispatch decisions.

**D. Evergreen IRP
Process**

The 2020 IRP is being completed six years after the previous IRP, which is clearly far too long between planning updates. NS Power suggests an evergreen IRP process, with “annual updates ... and as Action Plan items are

³⁰ NS Power, *2019-2019 FAM Audit NS Power Rebuttal*, Matter No. M09548, pp. 9-12.

³¹ NS Power, response to CA-IR-4(a)(i), Matter No. M09548.

³² Bates White, *Audit of Nova Scotia Power, Inc.’s Fuel Adjustment Mechanism for 2018-2019*, Exhibit N-1 Matter No. M09548 (August 21, 2020), p. 236.

³³ IRP, Appendix L, p. 87.

completed.”³⁴ The term “evergreen” suggests a frequent update process, with many small changes, rather than a long process cycle.

This is an interesting idea, and we look forward to its further development, including a description of the scope of the annual updates, the consultation process, and the nature of developments that would trigger more detailed or extensive review. For example, it is unclear what NS Power means by Action Plan items being completed, considering the ongoing scope of most of the Action Plan items.

The Board should encourage NS Power to engage with those stakeholders who have been most active in the IRP process to better define what an “evergreen IRP process” might look like. The outcome of this stakeholder engagement should be taken to the Board for its comment or direction.

³⁴ IRP, p. 115.