Nova Scotia Energy Board

NSPML Application to Review the Holdback Mechanism

February 3, 2026

Table of Contents

1.0 INTRODUCTION

NSP Maritime Link Inc. (NSPML) brings this Application to request the end of the holdback mechanism (Holdback) in accordance with the parameters set by the Nova Scotia Energy Board (Energy Board or NSEB) in Matter 11009.[1]

In its October 2023 Decision in that matter, the Board ordered that the Holdback would continue until (i) at least 90% of the NS Block[2] (excluding Make-up Energy) is received during each of twelve consecutive months (with flexibility to account for Good Utility Practice (as defined in Concentric Evidence, Attachment 1, A24) outages and/or exceptional circumstances) and (ii) the net outstanding balance of undelivered energy is less than 10% of the NS Block annual contracted amount.

As described below, NSPML submits the first condition was achieved in the first twelve months following Newfoundland and Labrador Hydro's (NLH) commissioning of the Labrador-Island Link (LIL), that being May 2023 through April 2024 (Compliance Period). The second condition was achieved in March 2024 when the outstanding balance dropped below the 10 percent threshold. A detailed summary of energy deliveries and the associated

[1] NSPML Application respecting the Disposition of the Holdback for 2022 and 2023 (M11009), Decision, January 31, 2024.

[2] The NS Block means both the Base NS Block, being 0.986 TWh of Energy delivered annually during peak hours, and Supplemental Energy, presently being 240 GWh of Energy delivered during off-peak hours every winter period (November through March and ending March 2026) for the first five years of the 35-year term of the NS Block.

Within this application, NSPML uses the following additional terminology:

- "Undelivered Energy" or "Deferred Energy" means any part of the Base NS Block or Supplemental Energy not delivered when initially required pursuant to the Energy & Capacity Agreement, which amount of energy is added to the balance of Undelivered Energy.
- "Make-up Energy" means Undelivered Energy when delivered, which amount of energy is subtracted from the balance of Undelivered Energy.
- "Contract Amount" refers to the amount of Base NS Block and Supplemental Energy required to be delivered in any given period pursuant to the Energy & Capacity Agreement.
- "Purchased Energy" means any energy purchased by NS Power from NLH in addition to the NS Block, including pursuant to the Energy Access Agreement.

percentages for comparison to the Board-directed conditions for the applicable period is included as Appendix A.

NSPML submits that the concerns that warranted the Board's implementing the Holdback have been fully resolved. In its Decision first implementing the Holdback, the Board stated:

> [31] The Board has determined it is appropriate to continue a form of holdback to provide some continued protection to ratepayers. …
>
> [32] The fact that today's customers are paying for the Maritime Link but not receiving anything close to the full benefit has caused intergenerational equity concerns. This holdback, in some small way, may ameliorate those concerns to the extent an imbalance continues.[3]

For context, at the time of the applicable hearing (November 2021), NLH had delivered only 19 percent of the contracted NS Block amount since the start of its delivery obligation on August 15, 2021 via the Acceleration Agreement.

In its October 4, 2023, Decision in M11009, the Board added:

> [83] … The prior holdbacks were imposed by the Board to address the "imbalance" between NSPML and ratepayers, who were facing annual cost assessments to pay for the Maritime Link but had to pay for replacement energy costs due to poor energy deliveries. …
>
> [84] … while energy deliveries have improved significantly very recently, the Board continues to be cautious in the face of what has previously been described as NSPML's "unbridled optimism". Further, deliveries over the Maritime Link should be consistent over an appropriate period, not just over a few months.

NSPML is proud that it completed Nova Scotia's portion of the Lower Churchill Project (LCP) on time and on budget, and of the Maritime Link's achievement of world class availability levels since shortly after completion in 2018. While no one was satisfied with the LIL's performance from 2018 through 2022 and the impact of that underperformance on the delivery of the NS Block, Nova Scotians have been receiving the significant benefits of the Maritime Link since LIL commissioning in April 2023.

[3] 22 NSUARB 18, M10206, Decision, February 9, 2022, paragraphs 31-32.

NSPML understands the initial rationale for the Holdback given the disappointing early energy deliveries (despite the Maritime Link being fully available to receive deliveries) and the corresponding need for Nova Scotians to purchase replacement energy while also paying NSPML's assessments. However, since the LIL's commissioning in April 2023, NLH has been delivering the NS Block consistent with the negotiated terms of the Energy & Capacity Agreement (ECA). The energy delivered over the Maritime Link in 2023 through 2025 has served approximately 19 percent of NS Power's customer sales, having an estimated value in the 2023/2024 period of ~$495 million[4] (exceeding NSPML's assessment costs of ~$325 million over the same period by over $165 million), with the added benefit of the energy being renewable. Continuation of the Holdback could result in disallowances despite there being no continuing harm to customers, which the Holdback was implemented to address.[5]

NSPML therefore requests that:

- the Board deem the Holdback to have ended effective May 1, 2024; and

- the Board order that all Holdback amounts retained after May 1, 2024, be distributed to NSPML as set out in Appendix B and with updated WACC consideration to the date of the Board's Decision.

[4] As per the Maritime Link Benefits Reports for Q4 2023 and Q4 2024. 2025 benefit figures were not available at the time of filing.

[5] NSPML does not believe that this is the intent of the Energy Board and that it is (and has been) the Company's obligation to bring this application to terminate the mechanism.

2.0 BACKGROUND

In 2010, Emera and Nalcor (now Newfoundland & Labrador Hydro) announced the Term Sheet for development of the Lower Churchill Project Phase 1 and the Maritime Link. In 2013 NS Power applied to the Board for approval of construction of the Maritime Link, pursuant to the *Maritime Link Act.* In a Decision issued on July 22, 2013, the Board approved the Maritime Link as the lowest long-term cost renewable alternative.

NSPML completed the Maritime Link on time and on budget and placed it into service on January 15, 2018. The Board approved NSPML's first assessment in September 2017.[6] In a subsequent Decision dated February 9, 2022, the Board confirmed the prudent construction of the Maritime Link, where the Board stated the following in its Decision regarding NSPML's Final Cost Application:

> The planning and development of the ML Project was a significant endeavor. There have been numerous examples across North America of substantial cost overruns and construction delays of energy mega-projects. The completion of the ML Project on time and on budget was a commendable achievement attributed to NSPML's actions throughout all phases of the project. While there continue to be delivery delays of the NS Block, NS ratepayers will benefit from NSPML's development of the ML Project, including its continuing efforts with Nalcor as they both strive to secure an important source of renewable energy for Nova Scotians and our neighbors in Newfoundland and Labrador. Subject to the findings in other sections of this Decision, the Board finds that the capital costs associated with the ML Project were prudently incurred. NSPML is entitled to recover its prudent and proper costs. As such, the Board approves the prudently incurred capital cost of the ML Project. [7]

As expected with a complex capital project, availability levels for the Maritime Link were lower in the first few years after commissioning, with monopole availability of 81 percent

[6] NSPML Interim Assessment 2017 (M07718), Decision.

[7] M10206, NSPML Application for final approval of the Maritime Link Project Costs & 2022 Assessment Decision, paragraphs 199-200; page 75.

in 2018 and 92 percent in 2019, but with a high level of performance (availability) since 2020, averaging over 99 percent monopole availability.

Unlike NSPML's experience in commissioning the Maritime Link, NSPML's arms-length partner in the overall Lower Churchill Falls Project, Newfoundland & Labrador Hydro (NLH), experienced significant delays and cost overruns. Nova Scotians were contractually protected from these cost overruns and also remain entitled to the full 35 years of the NS Block as contracted for in the ECA. Although this protection remained in place, Nova Scotians were still affected by NLH's delays by initially paying for both the annual Maritime Link assessed costs and the cost to purchase energy to replace the delayed NS Block deliveries.[8] During this early period, the actual energy availability from NLH was well below expectations.

Recognizing the impact of the delays to customers, NSPML negotiated an August 2021 start to the NS Block through the Acceleration Agreement. At that time, the physical components of the Lower Churchill Project were complete and, while flows were occurring over the LIL at that time, an updated version of LIL software was required to enable higher and more consistent delivery levels. Information available at that time had NLH completing software installation, testing and commissioning leading into the 2021/2022 winter period.

Unfortunately, progress with the LIL software by NLH's contractor (General Electric) continued to fall far below expectations, with NLH remaining challenged for some time prior to successful commissioning of the LIL in April 2023. As a result, delivery levels at the time the present Holdback was implemented by the Board were only 19 percent of the contractual NS Block amount and, due to the low and inconsistent pattern of deliveries, NS Power could not rely on deliveries over the Maritime Link for system planning purposes.

[8] Note that the recent $500 million Guarantee from the Federal Government, which enabled NSPML to raise low-cost debt which was allocated to the FAM balance and spread the impact of the FAM balance over most of the remaining ECA term, providing a level of mitigation to the effects of the delayed start in delivery of the NS Block.

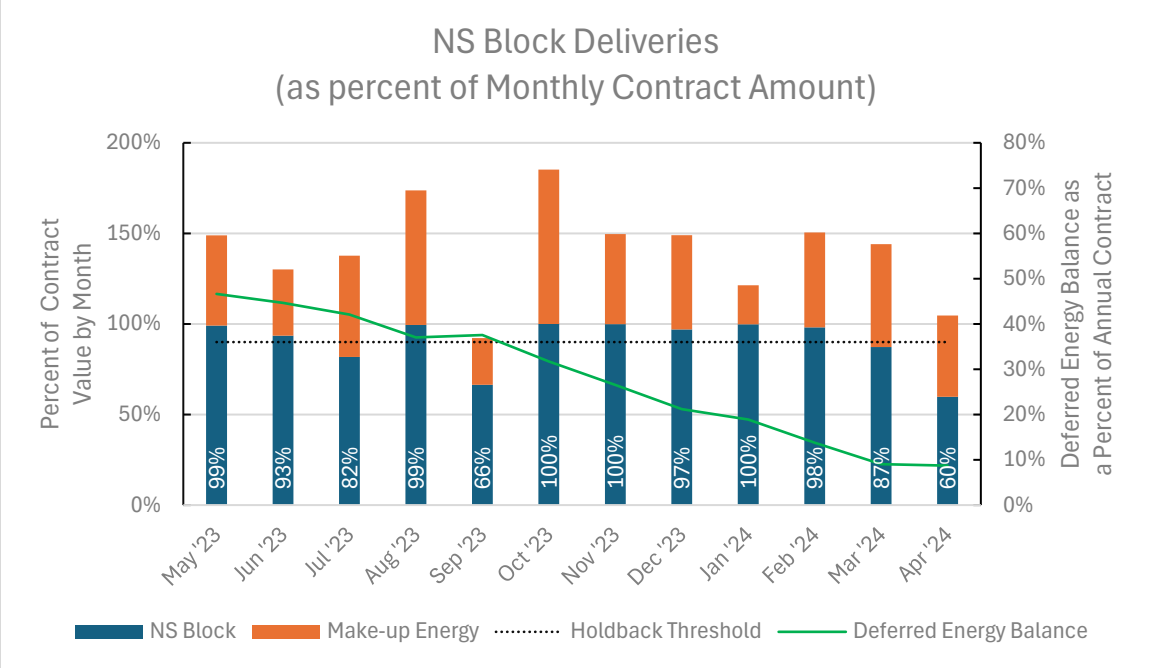
NSPML acknowledges that the pattern and amounts of energy and capacity availability from NLH during the months immediately following the Acceleration Agreement were not consistent with what customers would have reasonably expected when the ECA and the other formal agreements were executed.

As a direct result of NLH's delivery performance prior to commissioning of the LIL, NSPML had been assessed over $30 million in Holdback-related disallowances and NS Power was assessed a $10 million penalty relating to Nova Scotia's Renewable Energy Standards (which is under appeal). To reiterate, these items pertain to a period when NLH's asset and delivery performance was below reasonable expectations. NSPML reaffirms that this has not been the case since NLH's commissioning of the LIL.

3.0 NS BLOCK DELIVERIES FOLLOWING LIL COMMISSIONING

With the LIL's strong performance since its commissioning in April 2023 and the continuing strong availability of the Maritime Link, customers are receiving the full benefits of the Maritime Link investment.[9] Accordingly, NSPML submits it is appropriate to end the Holdback as of May 1, 2024, and for delivery and asset performance to be overseen through traditional regulatory tools, including the Fuel Adjustment Mechanism (FAM) audit for the ECA and EAA obligations and NSPML's cost assessment process.

During the Compliance Period, customers received strong deliveries of the Base NS Block, along with seeing a consistent decline in the Deferred Energy balance:



[9] Please see Appendix A and C for further detail.

Specifically:

- Deliveries of Base NS Block and Make-up Energy exceeded 90 percent of Contract Amounts every month and were over 100 percent in every month but September 2023 which fell short due to a planned outage in advance of the winter period[10]. Over the entire period, customers received NS Block energy equal to 140% of the contracted NS Block amount. That figure climbs to more than 170% once Purchased Energy is factored in.

- Base NS Block deliveries during the critical winter period (November to March) were 96% of the Contract Amount, and more than 140% when including Make-up Energy deliveries. These figures *include* the impact of planned and system operator coordinated outages in March 2024.

- The net balance of Deferred Energy dropped below 10% in March 2024 and was essentially eliminated in June 2024.[11]

- With strong delivery levels, NS Power incorporated the NS Block into system planning process prior to LIL commissioning in April 2023 and in the same manner as other generation sources.

In terms of utilization for system planning purposes, the LIL had (and continues to have) a high reliability level when available for service (i.e. outside planned outage periods). Specifically, the LIL's equivalent Forced Outage Rate (eqFOR) has been below 3% since

[10] Of note is that the September outage was a planned and regionally coordinated outage taken at the end of September (redeliveries occurred in early October). Similar outages are expected to be scheduled annually in advance of winter months.

[11] See Appendix A for Deferred Energy balance amounts. A relatively small amount of Supplemental Block Make-up Energy (~7,950MWh) remained owing at that time due to Supplemental Block redeliveries only occurring during the 5-month winter period. These small amounts were made-up in November 2024 when Supplemental Block deliveries recommenced.

its commissioning in April 2023.[12] This performance level is consistent with similar assets around the world.[13] The LIL's <3% eqFOR is also consistent with the average Derating Adjusted Forced Outage Rate (DAFOR) of NS Power's thermal generation fleet in 2022 and 2023.[14]

Furthermore, the Maritime Link Benefit Reports show material financial benefits to Nova Scotians, materially exceeding NSPML annual cost Assessment amounts.[15] The estimated Maritime Link economic value (net of annual assessment costs) was more than $90 million in 2022, $45 million in 2023 and $125 million in 2024.[16]

[12] Please refer to Newfoundland & Labrador Hydro's July, 4, 2024, October 3, 2024 and January 10, 2025 Reliability and Resource Adequacy Study Review – Labrador Island Link Update(s) filed with Newfoundland & Labrador's Public Utilities Board.

[13] CIGRE Report "A Survey of the Reliability of HVDC Systems Throughout the World During 2019-2020" as presented during CIGRE Session 2022.

[14] NS Power FAM Annual Report, A-6 (M11589)

[15] See Appendix A, Chart 3 for comparison of ML benefits as reported in the Maritime Link Benefit Reports compared to the ML Annual Assessment Costs. It should be noted that the ECA does not reference the value of energy to be delivered, but rather only the quantity of renewable energy and the timely redelivery of Undelivered Energy.

[16] Economic value information relating to 2025 was not available at the time of filing.

4.0 BOARD REQUIREMENTS FOR TERMINATION OF HOLDBACK MECHANISM

4.1 Requirements for Ending the Holdback

In the Board's Decision of January 31, 2024, the Board stated that NSPML may apply to end the Holdback once the following conditions are met:

a) at least 90% of the NS Block, measured in MWh (excluding Make-up Energy), is received during each of 12 consecutive months; and

b) the net outstanding balance of Undelivered Energy is less than 10% of the contracted annual amount of the NS Block.[17]

The Board further stated that NSPML may "apply to the Board for relief if it considers that Good Utility Practice or exceptional circumstances caused it to fail to meet the consecutive 12-month requirement."[18]

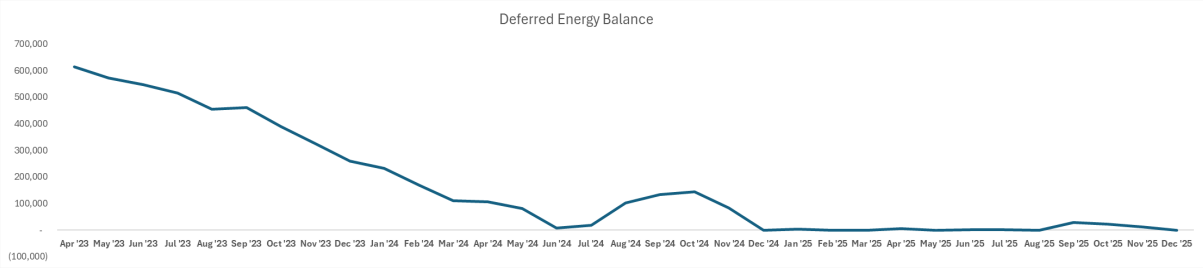
Support for cessation of the Holdback is set out in Concentric's Evidence (Attachment 1) to this application, which is summarized in part as follows:

a) **Outstanding Deferred Energy Below 10% Threshold:** At the end of March 2024, the net outstanding Deferred Energy balance fell below the 10% threshold, at approximately 111,000 MWh owing. As of June 22, 2024, all outstanding Base

[17] M11009, Process respecting disposition of the Holdback for 2022 and 2023, Decision, January 31, 2024, paragraph 18.

[18] M11009, Decision respecting the disposition of the Holdback for 2022 and 2023, page 45, item #6.

NS Block Deferred Energy had been redelivered.[19] The following chart illustrates Deferred Energy from April 2023 through December 2025[20]:



b) **Meeting the 12-Month Performance Threshold:** Subject to Board relief for planned outages and the impact of an extreme weather event, the 12-month delivery performance threshold was met for the period of May 2023 through April 2024. Delivery amounts during this period are represented in the chart in Section 3.0 above, with a table of the delivery amounts set out in Appendix A.

Planned outages were post LIL commissioning and impacted achievement of the 90 percent threshold in July and September 2023 and March of 2024 when combined with an extreme weather event[21]. These planned outages occurred at times where the regional system operators agreed the assets were not required to ensure reliable service. Consistent with Good Utility Practice, the outages were intentionally planned to be taken in lower load periods. There were no customer outages in the region relating to these outages.

[19] A relatively small amount of Supplemental Make-up Energy (~7,950MWh) remained owing at that time due to Supplemental redeliveries only occurring during the 5-month winter period. These small amounts were made-up in November 2024 when Supplemental deliveries recommenced.

[20] Figures are provided in Appendix A and Appendix C.

[21] As referenced above, March 2024 fell below the Board's monthly delivery threshold due to a combination of planned and unplanned outages in the month. Consideration for either type of outages (planned or unplanned) would result in achievement of the 90% threshold.

The month of April 2024 fell short due to extreme weather conditions (specifically icing), causing damage to electrode wings on NLH transmission facilities that had otherwise been in service since 2018.

Except for September 2023 where the winter readiness outage was taken at the end of the month, total NS Block deliveries (i.e. Base NS Block, Supplemental Energy, and Make-up Energy) in all months during the Compliance Period exceeded the NS Block Contract Amount, while the small deficit in September 2023 (~6,000 MWh or an 8% shortfall) was made up in the first few days of October 2023 — a month that saw NS Block deliveries in excess of 185% of the Contract Amount and 275% when including Purchased Energy. The outages and redeliveries were all in accordance with the ECA, which does not include a monthly delivery requirement.

c) **Outage Expectations:** As set out in Concentric's evidence at pages 15-21, normal operations will entail planned outages each year (more in early years after commissioning and in primary maintenance cycle years) that will impact delivery functions. Outages are normal operating practice for maintaining complex assets. Importantly, the outages are regionally coordinated and carried out at times of the year when the associated capacity and energy are not required for reliability purposes and are typically at times when load and associated replacement energy costs are lower. Failure to account for such outages means the Holdback will likely continue for the complete term of the ECA, notwithstanding customers receiving deliveries in accordance with contracted requirements.

d) **Strong Delivery Levels:** For the 12-month Compliance Period, 100% of the NS Block was received. For additional context, NS Block deliveries were more than 140% of the NS Block Contract Amount, with winter deliveries being slightly higher at 142%. Total deliveries, including Purchased Energy, served approximately 19% of NS Power load requirements with total delivery levels

(including Purchased Energy) representing over 170% of NS Block contractual amounts.[22]

e) **Energy Re-Delivery in Accordance with Contract:** Aside from a small shortfall in September 2023 (~6,500 MWh) resulting from a planned maintenance outage by NLH on the LIL conducted at the end of September, monthly NS Block deliveries have exceeded contracted NS Block amounts. September's shortfall was remedied in the first few days of October. This means that shortfalls are being redelivered on a timely basis and in accordance with the commercial agreements.

NSPML submits it has met the Board's threshold requirements to end the Holdback as of May 1, 2024.

The Holdback was implemented to address the imbalance created by customers having to pay for the Maritime Link while not receiving the corollary benefit of reliable NS Block deliveries. That imbalance has not existed since LIL commissioning, and customers are today receiving the full value of the Maritime Link, including full NS Block deliveries along with the growing availability of market-priced energy. Make-up Energy is consistently being delivered shortly after its accumulation, as per the original commercial agreements. Moreover, the value of the energy delivered has exceeded the Maritime Link assessment costs, creating a net benefit for Nova Scotia customers in addition to the environmental and other benefits to the Province. Given the substantial improvement in performance and corresponding value to customers, it is appropriate to terminate the Holdback as of May 1, 2024.

[22] Delivery levels in 2023 and 2024 were ~1.9 TWh, increasing to ~2.1 TWh in 2025. The Base NS Block is ~1.0 TWh per annum for the 35-year term of the ECA, while the Supplemental Energy (ending March 2026) is estimated at ~0.24 TWh. Energy Access Agreement offers of 1.2 TWh average of energy commenced September 2022.

4.2 Relief for Planned and Unplanned Outages

As noted in Concentric's evidence, planned as well as unplanned outages are expected and necessary for maintaining complex assets in accordance with Good Utility Practice.

The Board's Decision regarding the Holdback permitted NSPML to apply for relief in limited circumstances when the 12 consecutive months of 90% delivery of the NS Block was not met:

> NSPML may apply to the Board for relief if it considers that good utility practice or exceptional circumstances caused it to fail to meet the consecutive 12-month requirement. If the Board is satisfied that good utility practice or exceptional circumstances existed, it may provide relief and may attach any terms and conditions it deems appropriate at that time. NSPML may only make an application for such relief if it reasonably believes that, if the relief is granted, the effect will be to immediately terminate the monthly holdback mechanism[23].

Per the Board's direction as restated above, NSPML seeks relief for the planned maintenance outages that occurred in July and September 2023 and March 2024[24] as they were planned and based on Good Utility Practice. NSPML also seeks relief for the shortfall in April 2024, based on exceptional circumstances. These LIL related outages are summarized in the table below:

Outage	Days Affected	Summary of LIL Outages
July 2023	5 days	*Good Utility Practice*: Preparation for software update, correction of identified deficiencies, and to test SCADA indication points.
September 2023	10 days	*Good Utility Practice*: Annual planned outage for routine maintenance.

[23] M11009, Process to review disposition of the holdback funds, Order, February 5, 2024, paragraph 9.

[24] For the month of March, relief for either the planned maintenance outage or the impact of the extreme weather event would result in the month of March meeting the 90 percent threshold.

March 2024	2 days	*Good Utility Practice*: Repair of damage from icing and deration due to inclement weather to preserve system reliability.[25]
March/April 2024	13 days	*Exceptional Circumstances - Extreme Weather*: Icing damage caused a bipole outage, requiring repair.
April 2024	1 day	*Good Utility Practice*: Planned three-day outage (April 30 - May 2) to correct deficiency respecting cable switching.

Further detail on these requested relief periods is outlined below and in Concentric's evidence at pages 21 to 23.

- **July 2023:** The July planned outage was referenced in NSPML's Rebuttal Evidence (M11009) filed on June 15, 2023, regarding the Holdback:

> NLH made an outage request in early June for a weeklong Labrador Island Link (LIL) Bipole outage to occur early July 2023 to facilitate important work on the LIL. The work includes software backup/validation efforts relating to the final software updates designed to remedy non-critical software punch list items, to verify several Supervisory Control and Data Acquisition (SCADA) points to enable greater LIL visibility and control at the NLSO Energy Control Center, and to test the electrode line fault locator. All of these items serve to improve the reliability of the LIL.
>
> As mentioned above, this outage is being coordinated amongst the respective system operators. Having this outage take place during the summer months is preferred due to the lower peak demands in both NL and NS compared to the Fall / Winter season. Completion of this scope of work is, despite potential holdback ramifications, supported by NSPML as being in accordance with good utility practice and the timing has been chosen to have minimal impact on Nova Scotia customers and is in accordance with the 30-day outage coordination period previously established by the system operators for outages affecting the delivery of the NS Block, including planned LIL Bipole outages.

[25] Absent the extreme weather event that impacted March 30 and 31, March would have exceeded the 90 percent threshold set by the Board.

The July outage was planned, consistent with Good Utility Practice, and not related to asset commissioning activities (which were completed in April 2023).

This planned outage served to prepare for the deployment of updates of LIL software, which has always been planned to arrive post commissioning, to correct emerging deficiencies with the electrode line fault locator, and to test SCADA indication points and allow greater operator visibility and control of the LIL. All of these serve to enhance asset reliability, were prudently coordinated with system operators, and necessary. Such work is also consistent with Maritime Link outages undertaken post-commissioning of that asset (by comparison, more than 370 software updates have been completed at the ML since commissioning in 2018).

Absent the 5-day July planned outage, Base NS Block delivery levels (excluding Make-up Energy) exceeded 97%, with most of the remaining 3% shortfall resulting from the wildfires in Quebec and Labrador that impacted regional operations.

- **September 2023:** The September outage was initially referenced in NSPML's March 23, 2023, Holdback application (M11009). This was a planned outage that can be expected to occur on an annual basis, as is typical with any utility asset. In the month of September 2023, there were 10 days of LIL bipole outages relating to regularly scheduled planned maintenance of Pole 1, Pole 2, and bipole area assets. This maintenance included valve inspections, converter transformer testing and inspection, 2- and 5-year preventative maintenance activities (PMs) on disconnect switches, filter inspections, and 4-year disconnect switch PMs at transition compounds. In coordination with this planned outage, NLH also took the opportunity to complete some of the non-critical LIL punch list items. These outages were coordinated by regional system operators for over a year prior to execution.

  The Maritime Link monopole outage work in September was for regularly scheduled planned maintenance of Pole 1 and Pole 2 assets and timed to occur in conjunction

with NLH's LIL planned outage. The Maritime Link maintenance included Insulated Gate Bipolar Transistor and Gate Unit replacements and circuit breaker, voltage divider, and capacitor testing and inspections. Opportunistic punch list and warranty related work was also completed by the Original Equipment Manufacturer (OEM) on the Maritime Link during this period.

These outages limited the amount of Make-up Energy that could be reliably integrated by NS Power. Absent the impact of the planned outages, NS Block delivery (absent Make-up Energy) in September was more than 99%.

- **March 2024:** The March 2024 outages were planned in accordance with NS Power's minimum 30-day outage coordination period requirements. The LIL took a planned two-day bipole outage from March 26 to 27 to facilitate corrective maintenance repairs on a variety of systems including Optical Ground Wire (OPGW) damaged in an ice storm on the island of Newfoundland, electromagnetic interference mitigations on several DC current transformers, and installation of ground potential rise mitigations that have affected the cable switching sequence and have left the overload capability of the LIL out of service.

  Also, on March 11 and 12, 2024 the Maritime Link was de-rated by the Nova Scotia Power System Operator due to inclement weather in Newfoundland that could have resulted in a reliability impact to Nova Scotia customers. The Maritime Link was only approved for operation up to 170 MW during this period. Although this limited the ability for the full Supplemental Energy amount to be imported off-peak and limited the amount of Make-up Energy that could have been delivered during the period, it was necessary to ensure reliability of supply for NS Power's customers.

  Absent the impact of either the planned outage or the impact of the ice event (see April below), NS Block delivery (absent Make-up Energy) was greater than the 90%

threshold. Absent the impact of both, NS Block delivery (absent Make-up Energy) was greater than 99%.

- **April 2024:** Both poles of the LIL tripped offline on March 30, 2024, because of extraordinary damage caused by a significant ice accumulation event which saw ice accumulation and wind speeds nearly double the maximum capacity of the lines[26] (figures 1,2 & 3 below).

Figure 1

Figure 2

Figure 3

In an area of southern Labrador, both electrode line conductors were severed and the tower wings supporting them, as well as the Optical Ground Wire (OPGW), were damaged. NLH acted quickly and restored the LIL to service in monopole metallic return configuration on Monday April 8, 2024.

[26] Details provided by NLH indicate the estimated amount of ice on the lines was 100-125 mm of radial ice with a density of approximately 0.6 g/cm^3. This estimate comes from a sample of ice that fell from the OPGW which was weighed and measured. Due to the remoteness of the area, the closest location, Blanc Sablon (approximately 21 km from the nearest failed structure) recorded a maximum wind speed the day of the failures at 73 km/h and the wind speed at the approximate time of the failures was 64 km/h. This section of line is designed for maximum of 50 mm of radial glaze ice, maximum wind of 120 km/h and a combined wind and ice load of 25 mm of radial glaze ice with 60 km/h wind. The unbalanced ice design for the tangent towers is 70% of maximum ice back span and 100% maximum ice ahead span (or vice-versa), one wire at a time.

Separately, on April 30, 2024, a planned bipole outage was taken to correct a software deficiency relating to cable switching.

Absent the impact of the icing event and an unrelated planned outage on April 30th, NS Block delivery (absent Make-up Energy) was ~98%.

Given that the outages were planned and executed in accordance with Good Utility Practice for July and September 2023 and March 2024 and given the extreme ice event that affected the LIL in March and April 2024, NSPML seeks relief for the noted months with respect to the condition to receive 90% of the NS Block for 12 consecutive months. Adjusting for the impact of the noted events, deliveries in the remaining days of those months were in the 97% to 99% of contracted volumes.

5.0 FUTURE ASSET MANAGEMENT EXPECTATIONS

As previously stated, NSPML submits that the evidence of energy deliveries support cessation of the Holdback as of May 1, 2024. NSPML also submits that the Compliance Period is (and has been) reflective of future performance.

Following the Compliance Period, NLH undertook planned outages that were appropriately scheduled outside of the higher demand winter period. Several of the outages went longer than originally anticipated as the result of issues identified during the outage that needed to be addressed. As with the planned outages during the Compliance Period, these outages were coordinated between System Operators to maintain reliable service and at times when replacement costs were generally lowest. Although the LIL had been performing reliably—and would have continued to perform reliably—in advance of these outages, the work scope was required to secure strong future performance, all in accordance with Good Utility Practice.

These outages were also primarily related to non-critical punch list items. In May 2024, a bipole outage was taken to troubleshoot, replace, and test DC current transformers that had been in service for approximately six years and were causing reliability concerns. In July, single pole outages were taken to troubleshoot intermittent system alarms and replace faulty equipment. A bipole outage was then taken at the end of July to install, verify, and test a converter station software update. The bipole outage continued for the month of August to implement software and test it. In September, a bipole outage required for software updating was completed early in the month and was subsequently followed by a planned annual maintenance shutdown of the LIL to complete various preventative maintenance activities. Individual pole outages and a bipole outage were required to complete this work safely, with the outage extending into early October as planned. A brief additional bipole outage was required later in October to complete testing on one of the three LIL marine cable transition sites.

All reports from NLH (and confirmed by NSPML) are that these outages were successful. Deliveries during the months of November and December 2024—the first two months of the critical winter period—were among the strongest to date. Moreover, the Deferred Energy that accumulated during these outages was entirely redelivered by December 25, 2024. Despite these outages, customers received 100% of the annual NS Block contract amount in 2024, plus ~ 260,000 MWh of Make-up energy that was owed as of the start of the year and 450,000 MWh of Purchased Energy.

For 2025, the LIL incurred a planned outage from April 13-19, 2025, to load an updated version of control and protection software; however, NLH subsequently reverted to the prior software as they experienced some issues with the updated software. NLH confirmed the prior software was working as intended and the LIL was returned to service by the end of the first week. NSPML also took a maintenance single pole outage on the Maritime Link (for a period of one day) inside the timeframe of the LIL outage; as such there was no interruption of the NS Block or Purchased Energy. This is an example of NSPML exercising operational efficiency and ensuring reliability and availability of the Maritime Link by coordinating maintenance and outages.

From September 21 through 30, the LIL was in bipole outage as part of NLH's planned annual maintenance outage in advance of the winter period.

These planned outages occurred at times when replacement costs were generally lower, as planned outages are typically taken when capacity and the associated energy is not needed due to lower seasonal loads. While not required or guaranteed by the ECA respecting Deferred Energy deliveries, in these circumstances the delivery of Deferred Energy happened in the traditionally higher load and higher cost winter months.[27]

[27] NSPML cannot guarantee that Deferred Energy will be delivered at a time and in circumstances where its value is higher than it would have been if the NS Block had been delivered with no variations. Since NSPML does not control the major factors that influence North American energy pricing, this is not something that can be guaranteed nor is such a guarantee included in the applicable contracts.

Taking all of this into account, NSPML submits that Nova Scotia customers should not be concerned by the planned outages in the non-winter months following the Compliance Period. To the contrary, and consistent with the pattern of deliveries since the commissioning of the LIL in April 2023, energy is being delivered consistently, reliably, and fully in accordance with the ECA (please see Appendix C for further detail). When planned outages are taken, they are required by and carried out in a manner consistent with Good Utility Practice and are scheduled in coordination with regional system operators for periods where customers are not detrimentally affected, and generally when replacement energy costs are comparatively lower. Any accumulated Deferred Energy is being delivered within a reasonable time following the outage such that the net balance of Deferred Energy remains consistently low.

It is also noteworthy that NSPML, NS Power, and NLH are fully aligned in terms of when non-critical planned outages should be scheduled—that being the non-peak load (or non-winter) period; given that these resources provide the greatest benefit to our respective customers during the winter period. Having the above-mentioned planned outages occur when they did and having the energy completely redelivered in November and December is a pattern we support now and for the remainder of the ECA — performing work in the lower demand periods to enhance the performance of the assets in the more critical winter period.

In terms of unplanned outages since the Compliance Period, there was a bipole icing-related outage on January 13, 2025, on NLH's above-ground transmission assets located near Muskrat Falls that lasted several hours before a monopole connection was reestablished to facilitate NS Block deliveries. The referenced outage impacted five cross arms and two tower tips, with full remediation of the damage carried out during daylight hours from January 15 to 19, upon which bipole functionality was reestablished. Deliveries continued to flow during the overnight periods with the above-mentioned damage, but for safety purposes flows were curtailed while daytime remediation work was performed. The regional system responded to the outage as designed and in the same manner as any other

asset trip. Redeliveries of shortfalls relating to this outage were completed in early February.

Finally, in terms of the Maritime Link, since commencement of construction NSPML has been managing its assets in accordance with Good Utility Practice, aligned to the obligations and requirements of the Board and the related commercial agreement obligation to NLH. Operational performance of the Maritime Link has been exceptional in terms of availability, safety performance and environmental stewardship. All of which has contributed to delivering exceptional customer value.

6.0 RETURN OF OUTSTANDING HOLDBACK AMOUNTS

As of the end of 2025, there is approximately $15.3M in holdback funds relating to the post-Compliance Period. All but $1.1M are related to planned outages described in the Section 5.0. The remaining $1.1M relates to the bipole unplanned icing related outage for several hours in January 2025, prior to monopole connection being reestablished along with resumption of delivery of the NS Block. Corresponding, planned bipole outages were taken during the daytime hours over a five-day period later in July, with these outages being undertaken when regional energy loads could be served with alternate assets.

Although all monthly shortfalls since the Compliance period were redelivered in a timely manner and in accordance with the ECA, the lack of a functional holdback mitigation mechanism (as referenced in NSPML's June 2024 letter to the Board – please also see Section 7 below) has resulted in $15.3M in holdback amounts despite strong delivery levels (including timely redeliveries) and benefits materially exceeding costs since the start of 2023.

NSPML submits that, notwithstanding the Board's anticipated Decision regarding termination of the Holdback, funds held back since the Compliance Period should be provided to NSPML given deliveries during this period having been in accordance with the ECA and further supported by the additional information contained in this filing.

7.0 REQUEST FOR SEPARATE PROCESS IF HOLDBACK IS MAINTAINED

NSPML refers to a letter sent to the Board on June 28, 2024, in which it submitted that the existing mitigation mechanism is no longer applicable due to the elimination of the Undelivered Energy balance. At that time, NSPML indicated it might propose an alternate mitigation mechanism for consideration if the Board determined that it would be appropriate to continue some manner of Holdback.

After giving the matter careful consideration, if the Board determines that a Holdback should remain in place, NSPML proposes a separate process be created to assess what changes should be made to the existing holdback mitigation mechanism. The primary benefits of a separate process to develop an appropriate mitigation mechanism (if required) are as follows: (a) it would avoid a complex item that may not require consideration if the Board determines it appropriate to terminate the Holdback; (b) development of a mechanism would benefit from the Board's updated rationale for continuation of the Holdback; and (c) participants would have a better informed process, primarily via the initial interrogatory process.

Finally, if the Energy Board determines that it is appropriate to continue some form of Holdback, NSPML respectfully requests that the Energy Board take the following into consideration in the design of a continuing mechanism:

- The fact that any planned outage near the end of a calendar month is likely to result in a holdback disallowance despite the fact that the associated energy is subject to redelivery in accordance with the terms of the ECA and that such redelivery is what customers are entitled to under the Agreement.
- That given the scope of assets that can impact deliveries and the fact that planned outages should be expected as part of Good Utility Practice, there is a scenario where the Holdback lasts until the end of the ECA term, with the Company having to continually justify whether the outage is in line with Good Utility Practice or due to

exceptional circumstances - notwithstanding whether customers are receiving the collective contractual bargain.

- The Holdback measures impact in time periods that are not consistent with the terms of the ECA. Extensive negotiations resulted in remedies for shortfalls in delivery levels being the redelivery of those shortfall amounts in priority to any new transactions by NLH with third parties. As can be seen in delivery levels since NLH commissioned the LIL, redeliveries have been occurring in a timely basis – generally ranging from days to a couple of months[28]. However, although redeliveries have been on a timely basis, there is no contractual requirement to redeliver within the same calendar month where delivery shortfalls occurred, which is not surprising as outages can occur at any time and month end is not a relevant metric in the ECA nor for system operators when planning outages.
- Although there are many alternate remedies available in energy purchase and sale transactions, we are not aware of any contract where the purchaser would be compensated for costs relating to replacement energy and also receive the energy at a later date.
- Remedies under standard master energy trading agreements (i.e., ISDA, EEI, and NAESB) generally compensate for costs of replacing the energy; however, as per the terms of the ECA, the negotiated remedy was redelivery of the energy in priority to other new opportunities.
- In addition to considering the negotiated remedies for redeliveries when shortfalls occur, it would also be appropriate to consider contractual terms that support flexibility in delivery patterns (e.g., ability to potentially reprofile / modify deliveries per Schedule 5, Section 2 of the Amended and Restated ECA*)*.

[28] By this statement, NSPML is not representing that all redeliveries in the future will occur within a specific period of time, as timing of redeliveries is contingent upon a magnitude of factors including NS Power's ability to receive quantities of energy, hydrology levels, the outage period and timing, etc. What NSPML can represent, is that it will enforce the contractual requirements regarding redeliveries.

8.0 REQUEST FOR RELIEF

When the Board first implemented the Holdback, the Board found that "NS ratepayers [were] not getting what they bargained for" and that it was "appropriate, and just and reasonable, to take steps to ensure NSPML and NS Power achieve the promised benefit" of the Maritime Link.[29] The original Holdback had been set at $10 million per year, based upon NSPML and NS Power establishing that at least that value in Maritime Link benefits were achievable prior to commencement of the NS Block.

In its Decision approving the Maritime Link Project Costs and NSPML's 2022 Cost Assessment (M10206), the Board increased the Holdback to $2 million per month, to be released if NS Power received at least 90% of the Base NS Block and Supplemental Energy Contract Amount in the month. In reaffirming the purpose and intent of the Holdback, the Board stated:

> The fact that today's customers are paying for the Maritime Link but not receiving anything close to the full benefit has caused intergenerational equity concerns. This holdback, in some small way, may ameliorate those concerns to the extent an imbalance continues. (…)[30]

In its Decision respecting NSPML's 2023 Cost Assessment Application, the Board increased the Holdback amount to $4 million per month and again stated the purpose for the Holdback was to provide some relief for ratepayers if NSPML did not achieve a substantial amount of the NS Block in any given month.[31]

In setting out the conditions for terminating the Holdback, the Board stated:

> The Board concludes that the recent short-term NS Block and Make-up Energy deliveries do not provide enough comfort to warrant an end of the holdback mechanism. In the Board's opinion, a much

[29] M07718, paragraphs 118 and 120.

[30] M10206 at paragraph 32.

[31] M11009 at paragraph 58.

> longer period of consistent performance is required to show that the Maritime Link is providing energy at levels which were originally contemplated. The Board finds that this period should be 12 consecutive months. Further, before the holdback ends, NSPML/NS Power must demonstrate that the balance of under-deliveries has been reduced to a level that is reasonable, as described below. Finally, the Board acknowledges that the holdback conditions should allow some margin for interruptions required due to good utility practice or exceptional circumstances.[32] [emphasis added]

Since commissioning of the LIL in April 2023, customers have been receiving what they bargained for, NSPML is delivering the promised benefits of the Maritime Link, and no intergenerational equity concerns arise from the pattern of energy deliveries. The substantially improved performance of the Muskrat Falls assets is evidenced by the significant energy deliveries since the LIL's commissioning, the reduction in and maintenance of the net balance of Deferred Energy to minimal amounts (e.g. nil in June 2024 and again in December 2024), and the substantial economic value for Nova Scotians generated by the Maritime Link beyond its cost assessment since 2022.

In the Board's Decision of January 31, 2024, the Board outlined the details and required conditions to end the Holdback:

> … NSPML can apply to the Board to end the holdback whenever it believes that it has met both conditions, namely: (1) at least 90% of the NS Block measured in MWh (excluding Make-up Energy) has been received for 12 consecutive months, and (2) the net outstanding balance of undelivered energy is less than 10% of the contracted annual amount of the NS Block.[33]

As of the end of April 2024, following the first full 12 months after the LIL's commissioning, and subject to the Board agreeing to grant the relief sought for outages necessitated by Good Utility Practice and exceptional circumstances as outlined above, NSPML submits that both required conditions were met. Accordingly, the time has come

[32] M11009 at paragraph 93.

[33] M11009, Decision following the NSPML Compliance Filing on the process respecting disposition of the Holdback, paragraphs 18-19.

to terminate the Holdback and return to reliance on traditional regulatory oversight mechanisms.

NSPML respectfully requests that the Board issue an Order directing that:

a) The Holdback shall be vacated as at the end of April 2024 given that:

   i. At least 90% of the NS block was received during each of the previous 12 consecutive months (with relief granted for July and September 2023 as well as March and April 2024); and

   ii. The net outstanding balance of Undelivered Energy became less than the 10% of the contracted annual amount of the NS Block threshold in March 2024.

b) Direction to release all Holdback amounts accumulated since the Compliance Period.

APPENDIX A

Compliance Period NS Block Delivery Levels

Year	Month	NS Block Contract Amount	Base Contract Delivered	Base Contract Delivery (%)	Make-up Delivered	Total NS Block (%)	Make-up Balance	Make-up Balance (%)
2023	May	83,742	82,998	99%	41,674	149%	571,759	47%
	June	81,041	75,761	93%	29,691	130%	547,348	45%
	July	83,742	68,507	82%	46,766	138%	515,818	42%
	August	83,742	83,265	99%	62,197	174%	454,098	37%
	September	81,041	53,804	66%	20,904	92%	460,431	38%
	October	83,742	83,742	100%	71,399	185%	389,033	32%
	November	128,922	128,834	100%	64,026	150%	325,095	27%
	December	133,014	128,987	97%	69,236	149%	259,886	21%
2024	January	132,461	132,188	100%	28,565	121%	231,595	19%
	February	123,915	121,542	98%	65,005	151%	168,962	14%
	March	132,264	115,454	87%	75,111	144%	110,661	9%
	April	80,820	48,301	60%	36,318	105%	106,862	9%

APPENDIX B

Holdback Amounts Since Compliance Period

Month	Holdback Retained	WACC*
24-May	-	-
24-Jun	-	-
24-Jul	1,092,306	6,117
24-Aug	4,000,000	28,517
24-Sep	3,791,208	49,748
24-Oct	1,324,945	57,167
24-Nov	-	57,167
24-Dec	-	57,167
25-Jan	1,084,196	64,672
25-Feb	-	64,672
25-Mar	-	64,672
25-Apr	700,101	67,878
25-May	-	67,878
25-Jun	-	67,878
25-Jul	-	70,082
25-Aug	-	70,082
25-Sep	3,360,000	88,702
25-Oct	-	88,702
25-Nov	-	88,702
25-Dec	-	88,702
Total	**15,352,756**	**1,148,502**

*Weighted Average Cost of Capital ("WACC") is based off of NS Power's WACC of 6.75% (April 2024-March 2025) and 6.65% (April 2025-present)

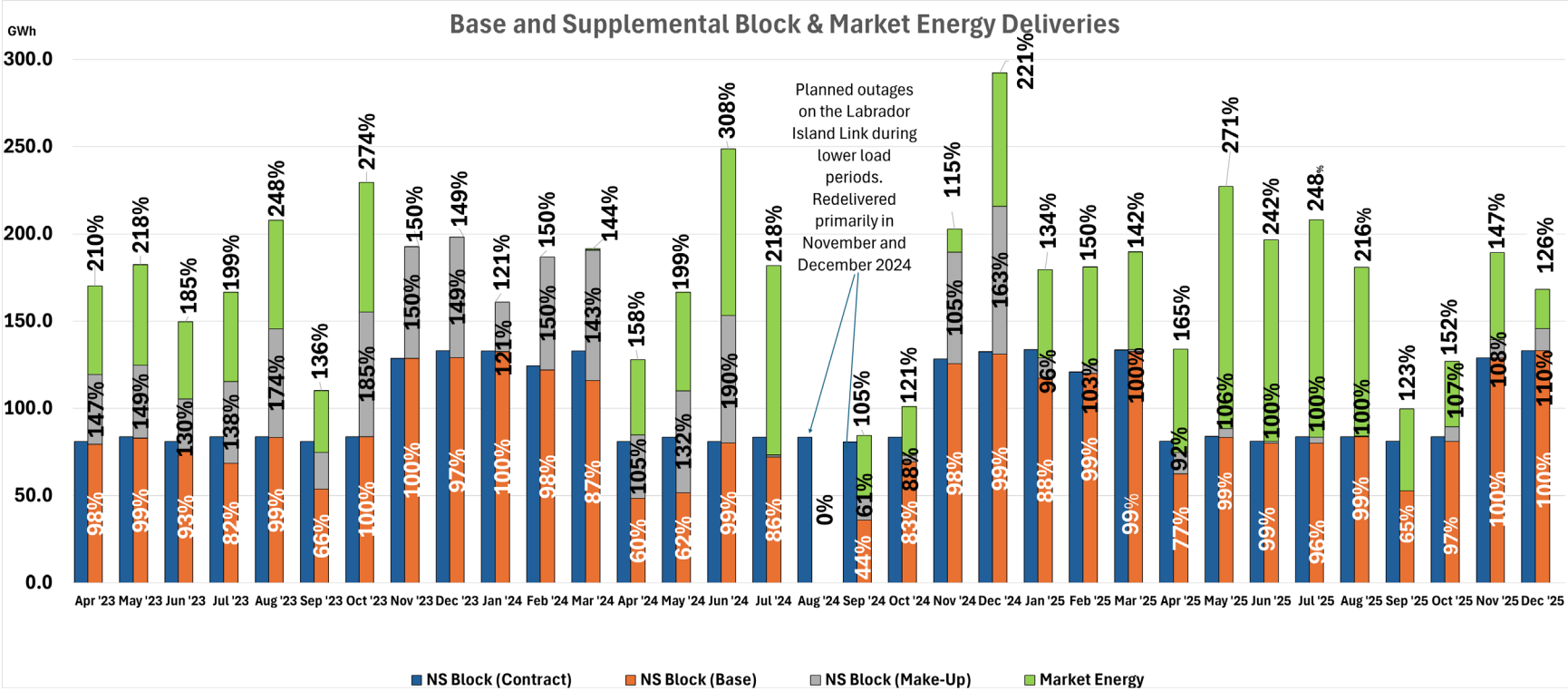
APPENDIX C

Delivery Details from Acceleration Agreement through 2025

The spreadsheet on the following page and chart on the page after provides details regarding:

i. meeting the Board's monthly 90 percent threshold,
ii. monthly NS Block delivery levels,
iii. Make-up Energy status, and
iv. total energy delivery levels (includes Purchased Energy).

Year		Month	NS Block Contract Amount	Base Contract Delivered	Base Contract Delivery (%)	Make-up Delivered	Make-up Balance	Make-up Balance (%)	Total Purchased Energy	Total Energy	Total Energy (%)
2021		August	45,923	6,131	13%	256	39,536	3%	805	7,192	16%
		September	81,041	18,855	23%	1,188	100,534	8%	3,962	24,005	30%
		October	83,742	-	0%	-	184,277	15%	-	-	0%
		November	128,922	37,289	29%	33	275,876	23%	-	37,323	29%
		December	133,014	48,852	37%	325	359,713	29%	-	49,177	37%
2022		January	133,014	90,842	68%	8,601	393,285	32%	1,080	100,522	76%
		February	120,142	97,547	81%	12,091	403,789	33%	1,240	110,878	92%
		March	132,815	30,670	23%	2,923	503,011	41%	8,750	42,343	32%
		April	81,041	66,904	83%	37,790	479,358	39%	2,489	107,183	132%
		May	83,742	71,455	85%	37,967	453,679	37%	1,258	110,680	132%
		June	81,041	34,152	42%	16,370	484,198	39%	14,357	64,878	80%
		July	83,742	75,349	90%	4,178	488,413	40%	23,829	103,356	123%
		August	83,742	33,853	40%	3,541	534,762	44%	26,405	63,799	76%
		September	81,041	37,183	46%	7,592	571,028	47%	13,559	58,334	72%
		October	83,742	77,013	92%	19,874	557,883	46%	35,716	132,603	158%
		November	128,922	102,992	80%	33,426	550,387	45%	3,460	139,878	108%
		December	133,014	66,915	50%	20,366	596,120	49%	584	87,865	66%
2023		January	133,014	78,247	59%	21,686	629,201	51%	-	99,933	75%
		February	120,142	114,062	95%	12,940	622,340	51%	-	127,002	106%
		March	132,815	78,435	59%	25,636	651,084	53%	-	104,072	78%
		April	81,041	79,352	98%	40,085	612,688	50%	50,622	170,059	210%
	Compliance Period	May	83,742	82,998	99%	41,674	571,759	47%	57,672	182,343	218%
		June	81,041	75,761	93%	29,691	547,348	45%	44,210	149,663	185%
		July	83,742	68,507	82%	46,766	515,818	42%	51,275	166,547	199%
		August	83,742	83,265	99%	62,197	454,098	37%	62,428	207,890	248%
		September	81,041	53,804	66%	20,904	460,431	38%	35,464	110,172	136%
		October	83,742	83,742	100%	71,399	389,033	32%	74,291	229,432	274%
		November	128,922	128,834	100%	64,026	325,095	27%	-	192,860	150%
		December	133,014	128,987	97%	69,236	259,886	21%	-	198,222	149%
2024		January	132,461	132,188	100%	28,565	231,595	19%	-	160,753	121%
		February	123,915	121,542	98%	65,005	168,962	14%	-	186,547	151%
		March	132,264	115,454	87%	75,111	110,661	9%	906	191,471	145%
		April	80,820	48,301	60%	36,318	106,862	9%	43,228	127,847	158%
		May	83,514	51,612	62%	58,412	80,352	7%	56,478	166,502	199%
		June	80,820	80,161	99%	73,036	7,975	1%	95,486	248,683	308%
		July	83,514	72,038	86%	1,194	18,256	1%	108,608	181,840	218%
		August	83,514	-	0%	-	101,770	8%	-	-	0%
		September	80,820	35,923	44%	12,992	133,675	11%	35,643	84,557	105%
		October	83,514	69,196	83%	3,889	144,104	12%	27,925	101,010	121%
		November	128,385	125,449	98%	64,049	82,991	7%	13,282	202,780	158%
		December	132,461	131,047	99%	84,601	(196)	0%	76,692	292,340	221%
2025		January	133,014	116,641	88%	12,319	3,858	0%	50,400	179,360	135%
		February	120,142	119,333	99%	5,143	(476)	0%	56,404	180,880	151%
		March	132,815	131,809	99%	1,770	(1,240)	0%	56,089	189,668	143%
		April	81,041	62,414	77%	12,249	5,139	0%	59,149	133,812	165%
		May	83,742	83,154	99%	5,310	417	0%	138,743	227,207	271%
		June	81,041	79,912	99%	1,036	510	0%	115,562	196,510	242%
		July	83,742	80,008	96%	3,575	670	0%	124,510	208,093	248%
		August	83,742	83,679	100%	421	312	0%	96,679	180,779	216%
		September	81,041	52,751	65%	10	28,582	2%	46,893	99,654	123%
		October	83,742	80,901	97%	8,493	22,941	2%	37,531	126,925	152%
		November	128,922	128,906	100%	10,434	12,523	1%	49,943	189,283	147%
		December	133,014	133,014	100%	12,661	(139)	0%	22,480	168,155	126%


Base and Supplemental Block & Market Energy Deliveries
GWh
300.0
250.0
200.0
150.0
100.0
50.0
0.0
Planned outages on the Labrador Island Link during lower load periods. Redelivered primarily in November and December 2024
Apr '23 May '23 Jun '23 Jul '23 Aug '23 Sep '23 Oct '23 Nov '23 Dec '23 Jan '24 Feb '24 Mar '24 Apr '24 May '24 Jun '24 Jul '24 Aug '24 Sep '24 Oct '24 Nov '24 Dec '24 Jan '25 Feb '25 Mar '25 Apr '25 May '25 Jun '25 Jul '25 Aug '25 Sep '25 Oct '25 Nov '25 Dec '25
NS Block (Contract)
NS Block (Base)
NS Block (Make-Up)
Market Energy

NOVA SCOTIA ENERGY BOARD

NSPML APPLICATION TO REVIEW THE HOLDBACK MECHANISM

TESTIMONY OF
DANIELLE S. POWERS

Date: February 3, 2026

TABLE OF CONTENTS

I. INTRODUCTION

Q1. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A1. My name is Danielle S. Powers. My business address is 293 Boston Post Road West, Suite 500, Marlborough, Massachusetts 01752.

Q2. BY WHOM ARE YOU EMPLOYED AND IN WHAT POSITION?

A2. I am the Chief Executive Officer of Concentric Energy Advisors, Inc. ("Concentric").

Q3. PLEASE DESCRIBE CONCENTRIC.

A3. Concentric is a management consulting and economic advisory firm focused on the North American energy and water industries. Concentric provides regulatory, economic, market analysis, and financial advisory services to a large number of energy and utility clients across North America. Our market analysis services include energy market assessments, market entry and exit analyses, and energy contract negotiations. Our financial advisory activities include merger, acquisition and divestiture assignments, due diligence and valuation assignments, project and corporate finance services, and transaction support services. Our regulatory and economic services include regulatory policy, utility ratemaking (e.g., cost of service, cost of capital, rate design, alternative forms of ratemaking), and the implications of regulatory and ratemaking policies.

Q4. WHAT ARE YOUR RESPONSIBILITIES IN YOUR CURRENT POSITION?

A4. As a consultant, my responsibilities include assisting clients in identifying and addressing business issues. My primary areas of focus are wholesale electric market design, generation and transmission planning, and operation and resource planning.

Q5. PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND.

A5. I have a Bachelor of Science in Mechanical Engineering from the University of Massachusetts Amherst and a Master of Business Administration from Bentley University.

Q6. PLEASE SUMMARIZE YOUR PROFESSIONAL QUALIFICATIONS.

A6. I have over 35 years of direct experience in the public utility industry. I have worked for an investor-owned utility, an independent system operator, and most recently as a consultant. I have managed and/or participated in a wide variety of consulting engagements as an expert in wholesale market design, power system operations, as well as resource planning. A copy of my CV and testimony listing is attached as Attachment DSP-1.

Q7. HAVE YOU PREVIOUSLY TESTIFIED IN ANY REGULATORY PROCEEDINGS?

A7. Yes. I have provided expert testimony or reports before the Indiana Utility Regulatory Commission, the Federal Energy Regulatory Commission ("FERC"), the Illinois Commerce Commission, the Connecticut Siting Council, the Massachusetts District Court, the Regulatory Commission of Alaska, the New York Public Service Commission, the United States Bankruptcy Court, the Missouri House Utilities Commission, and the Indiana Senate Utilities Committee. My previous testimony has typically addressed issues related to wholesale energy market design, transmission policy, and resource planning.

Q8. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS PROCEEDING?

A8. I am testifying on behalf of NSP Maritime Link Incorporated ("NSPML," "Maritime Link" or the "Company"). NSPML is a subsidiary of Emera Newfoundland & Labrador Holdings, Inc. ("ENL"), and an affiliate of Nova Scotia Power Inc. ("NS Power").[1]

[1] NS Power is a subsidiary of Emera, Inc. ("Emera").

II. PURPOSE OF TESTIMONY AND EXECUTIVE SUMMARY

Q9. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A9. I have been asked by NSPML to provide evidence on the expected challenges during early operation of large infrastructure projects, good utility practice as it relates to the maintenance of high voltage and undersea transmission lines, and the importance of reflecting good utility practice in performing scheduled maintenance and preventative maintenance to ensure reliability.

Based on the importance of good utility practice in maintaining a reliable and resilient system, I provide my opinion that the period of May 2023 to April 2024 is the appropriate period over which to assess the performance of the Labrador Island Link ("LIL") and that the failure to grant relief to NSPML for the outages taken in July and September of 2023 and March of 2024, and an extreme weather event impacting the LIL in April of 2024, which directly affected the delivery of energy over the Maritime Link, would be inappropriate as a matter of regulatory policy.

Q10. PLEASE PROVIDE A SUMMARY OF YOUR TESTIMONY.

A10. Section III of my testimony describes the holdback mechanism and my understanding on why it was put in place by the Nova Scotia Utility and Review Board ("Board"). Section IV reviews and provides details surrounding the maintenance of the generation and transmission assets needed to support the delivery of Muskrat Falls energy and the complexity behind maintaining a safe and reliable system. I focus on the concept of good utility practice and how planned outages and unplanned outages are a normal part of electric production and delivery and should be expected every year. Section V provides an overview of the planned and unplanned outages that the LIL has faced from May 2023 through April 2024 and after the compliance period. I explain the necessity of these outages and their significance. Finally, Section VI explains why NSPML should be granted outage relief in the calculation of its monthly performance metrics.

Q11. WHAT ARE YOUR OVERALL CONCLUSIONS?

A11. Good utility practice is critical to ensure that the bulk power system is able to generate and deliver energy to customers and should be encouraged. NSPML should not be penalized for planned outages on its own facilities, nor should it be held accountable for planned outages on another transmission line over which it has no operational control. With allowance for planned maintenance activities and extreme weather events, the conditions imposed by the Board for termination of the holdback mechanism have been satisfied, and NSPML has qualified for relief from the holdback mechanism.

Furthermore, for the months of May 2023 to April 2024 (the "Compliance Period"), Nova Scotians received approximately 140% of the contractual volumes agreed to between NSPML and Nalcor Energy ("Nalcor") defined as the Nova Scotia Block ("NS Block"), with winter deliveries being slightly higher at more than 140%. Total deliveries, including Purchased Energy, served approximately 19% of Nova Scotia Power sales and increases total delivery levels to over 170% of NS Block contractual amounts. NS Power customers have received the expected benefits and more from the Maritime Link. The energy delivered over the Maritime Link over 2023 and 2024 has an estimated value of $495MM (exceeding NSPML's assessment costs of approximately $325MM by over $165MM) with the added benefit of energy being renewable. It is clear that the facts that existed at the time of the Board adopting the present holdback mechanism no longer exist – it is no longer the case that customers are paying for the Maritime Link but not receiving anything close to the full benefit. At this time, it is appropriate to rely on the traditional regulatory oversight mechanisms to ensure prudent management of assets and energy procurements (including the NS Block) in accordance with good utility practice and the applicable agreements.

III. THE HOLDBACK MECHANISM

Q12. PLEASE DESCRIBE THE HOLDBACK MECHANISM.

A12. The holdback mechanism was implemented by the Board in a September 11, 2017, decision regarding the application of NSPML for approval of an interim cost assessment and

approval to commence recovery of the interim assessment from NS Power starting January 1, 2018. At that time, the Board established a $10 million annual amount for the holdback mechanism, based on a threshold of achieving that level of benefits for customers through trading activities that were expected prior to the commencement of the NS Block. Prior to commissioning of the LIL, NSPML and Nalcor entered into the Acceleration Agreement which started the NS Block on August 15, 2021. In February of 2022, the Board determined that it was appropriate to continue a form of the holdback mechanism. At that time, energy deliveries over the Maritime Link were averaging 19% of contracted monthly energy deliveries and the near future of energy deliveries remained uncertain. It is in this context that the Board determined that a holdback mechanism was required as customers were not receiving close to the full benefit of energy deliveries from Nalcor in any given month.

In this decision, the Board stated the following regarding the holdback mechanism:

> *[31] The Board has determined it is appropriate to continue a form of holdback to provide some continued protection to ratepayers. The holdback is as follows: Starting April 1, 2022, and in each subsequent month of 2022, NS Power is to holdback $2 million from the approved assessment. If in that month NSPML/NS Power achieve and receive 90% of the basic NS Block and Supplemental Energy, the holdback will be released to NSPML in the following month. If 90% of the basic NS Block and Supplemental Energy is not achieved, the holdback monies will be used to pay for the cost of any replacement energy that may be required as a result of the failure to achieve the 90%, to a maximum of $2 million per month. Any portion of the $2 million not utilized to pay for replacement cost energy would be paid over to NSPML. This holdback mechanism will continue in each and every month during 2022 and then will be reviewed by the Board in January of 2023.*[2]

Q13. DID THE BOARD PROVIDE A STATED PURPOSE FOR THE HOLDBACK MECHANISM?

A13. Yes. In 2019, the Board noted that the holdback was put in place "to provide an incentive to ensure that NSPML and NS Power achieved the promised benefits of the Maritime Link prior to delivery of the NS Block." [3] In proceedings to consider the disposition of the holdback in all months during 2022 and 2023 and to consider the administration of the holdback on a prospective basis, including any potential increase of the holdback and the end of the holdback, the Board stated the following:

---

2 2022 NSUARB 18, M10206, Decision, February 9, 2022, ¶ 31.

3 2019 NSUARB 156, M09277, Decision, November 27, 2019, ¶ 33.

The fact that today's customers are paying for the Maritime Link but not receiving anything close to the full benefit has caused intergenerational equity concerns. This holdback, in some small way, may ameliorate those concerns to the extent an imbalance continues.[4]

The prior holdbacks were imposed by the Board to address the "imbalance" between NSPML and ratepayers, who were facing annual cost assessments to pay for the Maritime Link but had to pay for replacement energy costs due to poor energy deliveries.[5][6]

Q14. WHAT CONDITIONS DID THE BOARD ESTABLISH FOR THE TERMINATION OF THE HOLDBACK MECHANISM?

A14. In its Decision dated October 4, 2023, in M11009, the Board stated that the Holdback Mechanism would continue until both of the following conditions were satisfied:

i) at least 90% of the NS Block, measured in MWh (excluding Make-up Energy), is received during each of 12 consecutive months, and

ii) the net outstanding balance of undelivered energy is less than 10% of the contracted annual amount of the NS Block.

Q15. DID THE BOARD PROVIDE GUIDANCE ON HOW THE 90% THRESHOLD COULD BE CALCULATED TO REFLECT PLANNED OUTAGES?

A15. Yes, the October 4, 2023, Decision stated that "…the Board acknowledges that the holdback conditions should allow some margin for interruptions due to good utility practice or exceptional circumstances."[7] The Board provided that "NSPML/NS Power may apply to the Board for relief if it considers that good utility practice or exceptional circumstances caused it to fail to meet the consecutive 12-month requirement."[8]

4 22 NSUARB 18, M10206, Decision, February 9, 2022, ¶ 32.
5 2023 NSUARB 175, M11009, Decision, October 4, 2023, ¶ 83.
6 Note that the recent $500M Guarantee from the Federal Government, which enabled NSPML to raise low-cost debt to pay for the current FAM balance, provides a level of mitigation relating to the effects of the delayed start in delivery of the NS Block.
7 2023 NSUARB 175, M11009, Decision, October 4, 2023, ¶ 93.
8 2023 NSUARB 175, M11009, Decision, October 4, 2023, ¶ 95.

Q16. PLEASE BRIEFLY DESCRIBE THE AMENDED AND RESTATED ENERGY & CAPACITY AGREEMENT.

A16. The Amended and Restated Energy & Capacity Agreement ("ECA") was one of the 13 original agreements executed by Emera and Nalcor and provides for the purchase of the Nova Scotia Block. The ECA ensures that any energy that Nalcor fails to deliver for both base NS Block and Supplemental Energy contractually entitles customers to receive equivalent volumes of make-up energy at a later time ("Make-Up Energy"). Specifically, any energy that was not delivered during any time, including planned and unplanned outage periods, has not been foregone. The ECA was for the "Entitlement of Energy" from Muskrat Falls with 0.986 TWh of Energy annually, plus Supplemental energy.[9]

Q17. HAVE DELIVERIES OVER THE MARITIME LINK IMPROVED SINCE THE HOLDBACK MECHANISM WAS IMPLEMENTED?

A17. Yes. Since the holdback mechanism restructuring in February of 2022, deliveries over the Maritime Link have improved significantly. For the 12 consecutive months of the Compliance Period, delivery over the Maritime Link exceeded the 90% monthly threshold in eleven of the twelve months, excluding planned maintenance outages.[10] In fact, for the entirety of the Compliance Period, NS Block deliveries were 140% of the NS Block Energy & Capacity Agreement contractual requirements, with winter deliveries (November 2023 through March 2024) being more than 140% when including Make-up Energy deliveries. Even without the inclusion of make-up energy and including planned outages, NS Block deliveries in the winter (2023/2024) were over 96% of the contracted levels.

In addition, shortfalls in NS Block amounts are being redelivered on a timely basis. As of March 2024, the net outstanding balance of undelivered energy fell below 10 percent

[9] As outlined in the ECA **"Nova Scotia Block"** is defined as: (a) the *Energy entitlement* of Emera from the Muskrat Falls Plant to be taken on a calendar year basis (and pro-rated during the first and last calendar years of the Initial Term if necessary to reflect the date on which First Commercial Power occurs), to be 0.986 TWh of Energy annually; and (b) Supplemental Energy.

[10] Delivery in April of 2024 was less than the 90% threshold due to extreme weather conditions causing unexpected damage to transmission facilities in Newfoundland. Including make-up energy, April 2024 NS Block deliveries exceeded contractual requirements.

of the contractual annual amount of the NS Block with that figure essentially being eliminated in June 2024. This sustained operational performance provides compelling evidence for the termination of the holdback mechanism.

While the holdback mechanism does not quantitatively provide forgiveness for planned outages and unplanned outages due to severe weather events, the Board qualitatively recognized the need to account for interruptions necessitated by good utility practice or exceptional circumstances. Planned outages, including those in July and September 2023 and March 2024, were conducted for necessary maintenance and system enhancements, aligning with industry standards and good utility practice. In addition, a severe ice storm at the end of March of 2024 resulted in an unplanned outage that carried into April of 2024.

Given the holdback mechanism's initial purpose, it is important to account for planned outages and unplanned outages due to severe weather events in order not to administer the holdback mechanism in a way that produces inequitable or unreasonable results. Neglecting to consider prudent and beneficial outages could raise concerns about the equity of the holdback mechanism, particularly in light of NSPML's commitment to maintaining its assets in a proactive and preventative manner in accordance with good utility practice. In fact, the Maritime Link has exceeded 99% monopole availability since 2020.

Without an allowance for planned outages, NSPML may never be able to achieve the conditions necessary for the termination of the Holdback Mechanisms and NSPML will continue to be subject to under-recovery of prudently incurred cost measures over the life of the asset while, at the same time, customers are receiving the associated redelivered energy on a timely basis and in accordance with the terms of the ECA. Appropriately accounting for outages should lead to the termination of the Holdback Mechanism, as NS Power will have met the required termination criteria: i) at least 90% of the NS Block, measured in MWh (excluding Make-up energy), is received during each of 12 consecutive months, and ii) the net outstanding balance of undelivered energy is less than 10% of the contracted annual amount of the NS Block.

Q18. HAS NSPML MET BOTH CONDITIONS OVER THE COMPLIANCE PERIOD?

A18. If the Board provides relief for planned outages and the extreme weather outage in March 2024/April 2024 (explained in more detail below), Concentric is confident that NSPML has met the conditions for termination of the holdback mechanism.

Q19. WAS THE HOLDBACK MECHANISM DESIGNED AS A HOLD HARMLESS PROVISION?

A19. No, that is not my understanding. The Board never referred to the holdback mechanism as a hold harmless provision. In its Decision in M10206 in February of 2022, after referencing the fact that customers were paying for the Maritime Link but not receiving close to the full benefit, the Board stated that *"this holdback,in some small way, may ameliorate those concerns to the extent an imbalance continues".*[11]

Q20. WAS THE HOLDBACK MECHANISM DESIGNED AS A PENALTY?

A20. No, that is not my understanding. The Board never framed the holdback mechanism as a penalty. Rather, the revised holdback mechanism was implemented during a period of time when the deliveries of the NS Block were materially below the contract levels to partially address intergenerational equity issues and to incent NSPML to work with Nalcor to help them to fulfill their end of the bargain. Given the strong delivery and redelivery levels and the resulting benefits for Nova Scotians, I believe that extending the holdback mechanism beyond the period of underperformance would be unreasonably punitive. No harm to customers has been evident since the LIL commissioning in April of 2023. Furthermore, Emera, as the equity investor, would have undertaken the Maritime Link project recognizing both its long-term cost benefits for Nova Scotians and inherent risks, but the continued holdback since LIL Commissioning adds an unexpected layer of risk to this and similar investments.

Just as the holdback mechanism was aligned with NSPML's motivations to work with, encourage and support Nalcor's efforts to achieve expected deliveries over the

[11] 22 NSUARB 18, M10206, Decision, February 9, 2022, ¶ 32.

Maritime Link, the holdback mechanism must also encourage and support the right behavior in terms of maintenance of the equipment necessary to deliver the NS Block to Nova Scotians.[12] A holdback mechanism that does not incent "good utility practice" and the proper maintenance of equipment cannot, in my opinion, be viewed as being consistent with sound regulatory policy.

Q21. DO THE CONDITIONS THAT EXISTED AT THE TIME THAT THE HOLDBACK MECHANISM WAS ESTABLISHED STILL EXIST?

A21. No. As stated above, delivery levels of the NS Block are high, and shortfalls are being redelivered on a timely basis.[13] This sustained operational performance, along with the importance of encouraging good utility practice through timely and regular maintenance of infrastructure, strongly supports the elimination of the holdback mechanism.

IV. MAINTENANCE OF THE GENERATION AND TRANSMISSION ASSETS NEEDED TO SUPPORT THE DELIVERY OF MUSKRAT FALLS ENERGY

Q22. PLEASE DESCRIBE THE ASSETS THAT ARE INVOLVED IN THE DELIVERY OF ENERGY FROM MUSKRAT FALLS TO NOVA SCOTIANS.

A22. The assets required to deliver energy from Newfoundland to customers in Nova Scotia includes a generating facility, over 1,000 km of overhead and undersea transmission lines/cables, converter stations, and several thousand pieces of supporting equipment ("Muskrat Falls Assets"), including the following:

1. Muskrat Falls Generating Facility
    - 824 MW hydroelectric generating facility
    - Two HVac transmission lines connecting to Churchill Falls
2. Labrador-Island Transmission Link (~1,100km)

[12] The NS Block is defined as a 20% share of Muskrat Falls energy and capacity plus Supplemental Energy for the first five years of operation of the Maritime Link.

[13] A zero balance of NS Block energy since the contractual start of the NS Block (triggered by the August 2021 Acceleration Agreement) was achieved in June 2024, while shortfalls post Compliance Period were fully made up prior to the end of 2024.

- Labrador (900 MW) Converter Station (ac/dc)
- Overhead HVdc transmission line from Muskrat Falls to Strait of Belle Isle
- Submarine cables across the Strait of Belle Isle (30 km)
- Overhead HVdc transmission line from the Strait of Belle Isle to Soldiers Pond
- Soldiers Pond (900 MW) Converter Station (dc/ac)
- Electrode sites in Labrador and Newfoundland

3. Maritime Transmission Link from the Island of Newfoundland to Nova Scotia (~550km)

- Overhead HVac transmission connecting to the Island transmission grid
- Bottom Brook (500 MW) Converter Station (ac/dc)
- Overhead HVdc transmission from Bottom Brook to Cape Ray
- Submarine cables across the Cabot Strait to Lingan, Nova Scotia (170 km)
- Cape Breton (500 MW) Converter Station (dc/ac) tying into the existing Nova Scotia transmission grid

Each of these assets and associated components are critical in delivering Muskrat Falls energy to Nova Scotians. In addition to the role that each of these assets play in the delivery of the Muskrat Falls energy, there are other integrated network assets and factors that can impact NSPML's ability to receive the NS block, including many that are beyond the control of NSPML such as wildfires in the Province and neighboring regions, and extreme weather events such as the March 2024 ice storm.

Q23. WHAT IS INVOLVED IN MAINTAINING THESE FACILITIES?

A23. Asset owners adhere to good utility practice in maintaining assets by implementing a structured and proactive approach that encompasses regular inspections, preventive maintenance, and timely repairs. This involves establishing and following detailed maintenance schedules based on manufacturer recommendations and industry standards, ensuring all equipment and infrastructure are routinely checked and serviced. Asset owners employ advanced diagnostic tools and monitoring systems to detect potential issues early, allowing for preemptive action to avoid failures. Staff are trained to maintain a high level of technical expertise, and safety protocols are rigorously followed to protect both

personnel and equipment. Additionally, asset owners stay updated on regulatory requirements and industry best practices, incorporating them into their maintenance programs to enhance reliability, efficiency, and safety. Effective asset management strategies, including life cycle analysis and risk management, are employed to optimize the performance and longevity of these assets.

Q24. DOES THE AMENDED AND RESTATED JOINT OPERATING AGREEMENT ("JOA") GOVERNING THE OPERATION AND MAINTENANCE OF THE ASSETS NEEDED TO DELIVER THE NS BLOCK INCLUDE A DEFINITION OF GOOD UTILITY PRACTICE?

A24. Yes. The definition of good utility practice is contained in the JOA as follows:

> *"Good Utility Practice" means those project management, design, procurement, construction, operation, maintenance, repair, removal and disposal practices, methods, and acts that are engaged in by a significant portion of the electric utility industry in Canada during the relevant time period, or any other practices, methods or acts that, in the exercise of reasonable judgment in light of the facts known at the time a decision is made, could have been expected to accomplish a desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be the optimum practice, method or act to the exclusion of others, but rather to be a spectrum of acceptable practices, methods or acts generally accepted in such electric utility industry for the project management, design, procurement, construction, operation, maintenance, repair, removal and disposal of electric utility facilities in Canada. Notwithstanding the foregoing references to the electric utility industry in Canada, in respect solely of Good Utility Practice regarding subsea HVdc transmission cables, the standards referenced shall be the internationally recognized standards for such practices, methods and acts generally accepted with respect to subsea HVdc transmission cables. Good Utility Practice shall not be determined after the fact in light of the results achieved by the practices, methods or acts undertaken but rather shall be determined based upon the consistency of the practices, methods or acts when undertaken with the standard set forth in the first two sentences of this definition at such time:*[14]

This definition is consistent with the FERC's definition of Good Utility Practice.

[14] Amended and Restated Joint Operations Agreement between Nalcor Energy and Emera, Inc. July 31, 2014, p. 6.

Q25. PLEASE DESCRIBE GOOD UTILITY PRACTICE AS IT RELATES TO THE PLANNED MAINTENANCE OF GENERATION AND TRANSMISSION ASSETS.

A25. Maintaining a large hydroelectric generating unit involves a comprehensive set of tasks aimed at ensuring its optimal performance and longevity. This process includes regular inspections and servicing of key components such as turbines, generators, transformers, and control systems. Technicians must monitor and maintain the structural integrity of dams and reservoirs, ensuring there are no leaks or weaknesses. Lubrication of mechanical parts, testing and replacement of electrical insulation, and calibration of control systems are crucial to prevent wear and malfunction. Additionally, water flow must be managed to avoid sediment buildup, which can damage equipment. Environmental considerations are also essential, requiring adherence to regulations to minimize ecological impact and ensure safe water management practices. Overall, the maintenance of a hydroelectric unit is a complex, multidisciplinary effort that demands coordination, technical expertise, and continuous monitoring.

A transmission system consists of numerous physical components designed to transport bulk electric power. Electric power can be transmitted between geographical locations by overhead transmission lines, underground transmission lines, or a combination of the two. The most common overhead transmission line voltages are 69kV, 115kV, and 345kV. In overhead transmission lines, the current-carrying conductors are supported by insulators. The conductors and insulators are mechanically supported by structures, which are made from different designs and materials such as wood or steel.

High Voltage Direct Current ("HVDC") transmission systems, like the undersea LIL and Maritime Link, involve the conversion of alternative current ("AC") power to direct current ("DC") for the purpose of transmitting power over long distances, typically hundreds of miles. Customarily, the HVDC cable connects substations at the origination and terminus points, requiring highly complex converter stations at each end of the HVDC line where it joins the AC system.

Once an asset achieves commercial operation, it is fully commissioned and capable of providing service in accordance with its design and operating requirements. Activities

undertaken after that point are appropriately characterized as post-commissioning enhancements. These enhancements are intended to improve operational performance, efficiency, or flexibility, such as expanding remote generation management capabilities, rather than to place the facility into service. Such enhancements are common for complex, software-driven assets and do not alter the fact that the facility had already been successfully commissioned and was providing service.

All of the numerous components of a transmission system require a program of routine inspections, condition monitoring and intrusive maintenance to ensure system reliability beyond the commissioning of the asset. These maintenance programs involve the following routine activities:

- Inspections performed at intervals based on age, deterioration, reliability history, and criticality;
- Foot patrols to allow visual inspection of both structural and electrical components;
- Helicopter/drone patrols to identify components that may be deteriorated or damaged;
- Wood pole inspection, testing and treating, typically performed on a frequency interval based on reliability indicators, such as failure rates, level of deterioration experience encountered, line criticality, and cost considerations;
- Wood pole replacement, typically performed after inspection / treatment activities; program typically starts with replacing those on critical lines with higher outages or older poles;
- Steel pole repainting;
- Infrared inspection to identify hot spots on splices and connectors;
- Maintaining designed cable protection levels through re-burial, or remedial rock placement;
- Maintaining rock berms at subsea asset crossings;
- Removing potential snagging risks;
- Rectification of free-spans;

- Remediation of threats to the cable system associated with mobile sediments; and removal of other threats to the cable system.

Q26. ARE PLANNED OUTAGES PART OF GOOD UTILITY PRACTICE?

A26. Yes. Planned outages to address necessary repairs, upgrades, and maintenance that require the asset to be taken out of service are scheduled in advance through the system operator to ensure optimal coordination and notice to the power grid. By scheduling planned outages (both long lead time and short lead time) through the system operator or regional reliability coordinator, utilities and transmission operators can effectively coordinate maintenance activities with the broader grid operations, taking into account factors such as demand patterns, grid stability, and reliability requirements.

Furthermore, planned outages play a crucial role in preventing unplanned outages by allowing owners to proactively address potential issues and perform necessary maintenance tasks. These planned maintenance activities enable the identification and rectification of potential issues before they escalate into larger problems that could result in unplanned outages. Additionally, planned outages provide opportunities to implement preventive measures, which can mitigate the risk of future failures, increase the overall reliability of the equipment, and enhance operational performance. Overall, by strategically planning and executing scheduled maintenance activities, owners can reduce the likelihood of unplanned outages, improve grid reliability, and ensure the uninterrupted supply of electricity to consumers.

Q27. ARE UNPLANNED OUTAGES PART OF ELECTRIC PRODUCTION AND DELIVERY?

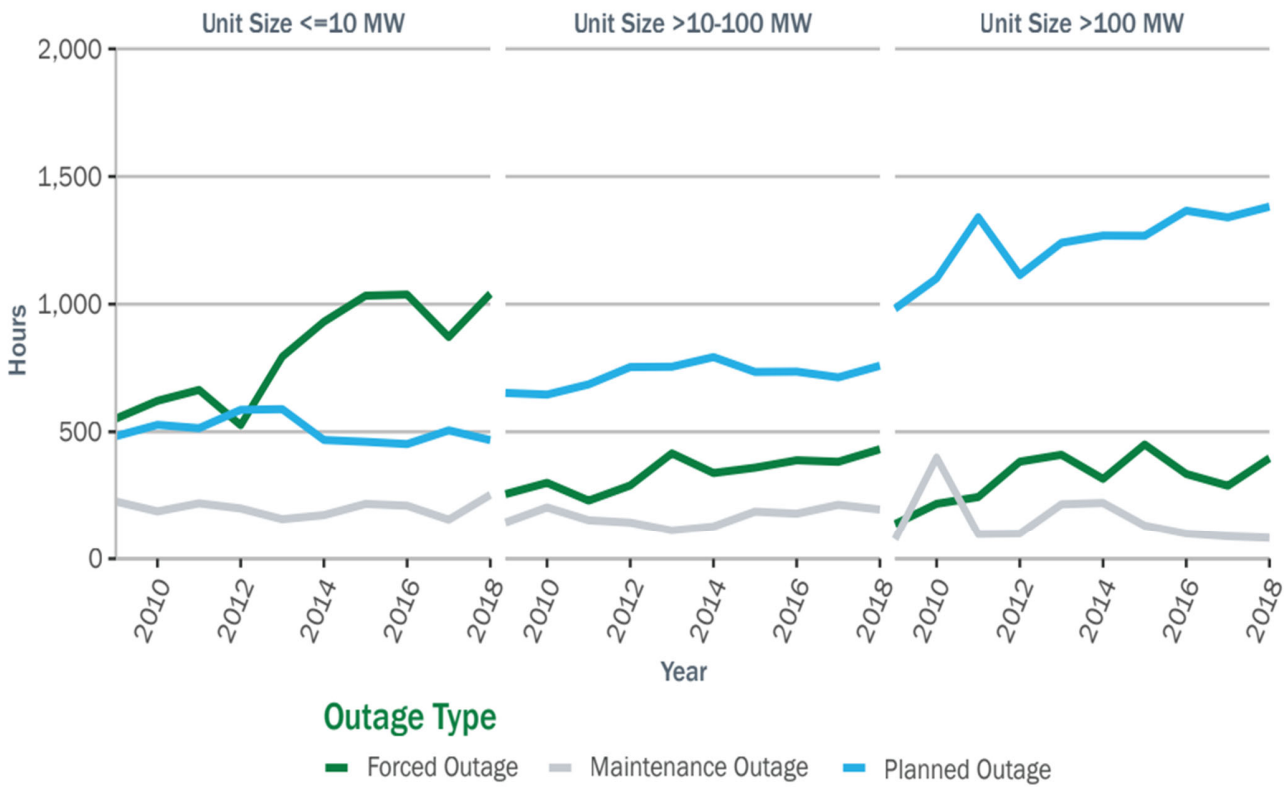
A27. Yes. Despite best practices in planning and maintenance, unplanned outages are a normal part of electric production and delivery. Unforeseen technical issues such as equipment malfunctions, insulation breakdown, conductor faults and unplanned outages primarily due to extreme weather conditions will occur despite rigorous maintenance and monitoring efforts. System safety mechanisms that are designed to protect the infrastructure and

system reliability will also result in unplanned outages. For example, protective devices are designed to reduce load on lines or temporarily disconnect certain lines during extreme weather events. While preventive measures and proactive maintenance strategies aim to minimize the occurrence of unplanned outages, their occasional inevitability underscores the complex nature of power systems.

Q28. CAN PLANNED OUTAGES BE EXPECTED TO OCCUR EACH YEAR TO ENSURE EQUIPMENT RELIABILITY?

A28. Yes. Planned outages for both the generation and transmission assets can be expected each year. Based on the U.S. Hydropower Market Report issued by the U.S. Department of Energy in January of 2021, hydroelectric units experience outages each year. Large units had the longest planned outage and the shortest forced outage periods, and the opposite is true for small units. For small and medium units, the average number of planned outage hours has remained stable during the past decade. However, average planned outage hours have increased by 41% for large units, from 982 in 2009 to 1,382 in 2018. All unit sizes display increases in average forced outages over the period considered in Figure 1; for medium and large units, the trend is slight, but average forced outage hours have almost doubled for small units.

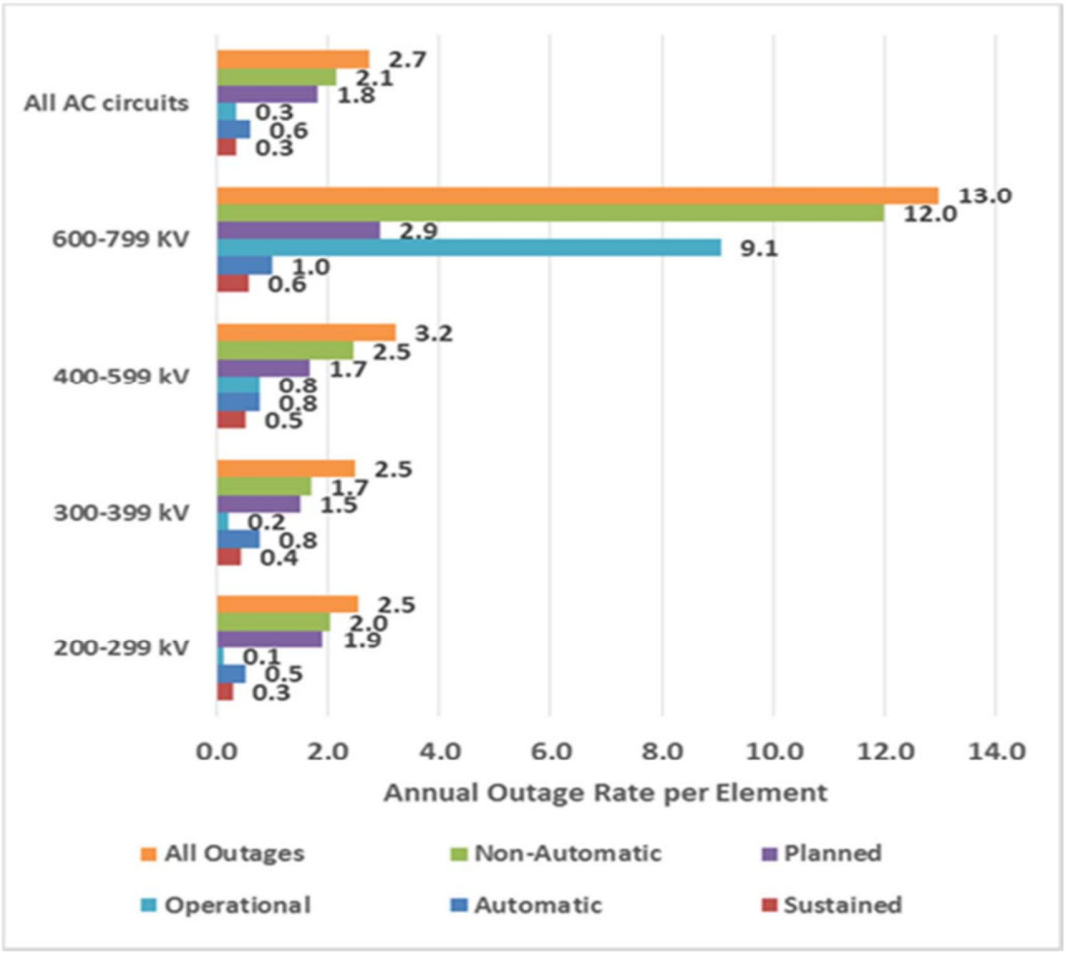
FIGURE 1: HYDROELECTRIC OUTAGE RATES [15]



In terms of transmission facilities, based on data collected by the North American Electric Reliability Corporation ("NERC") for alternating current circuits of 200kV and above from 2010 – 2013, the overall average outage rate per line is 2.7. This means that, on average, a transmission line experiences 2.7 outages per year. Of these outages, 1.8 outages are planned. These outage rates increase by line voltage, as shown in Figure 2 below.

[15] U.S. Department of Energy U.S. Hydropower Market Report, January 2021, pg. 106.

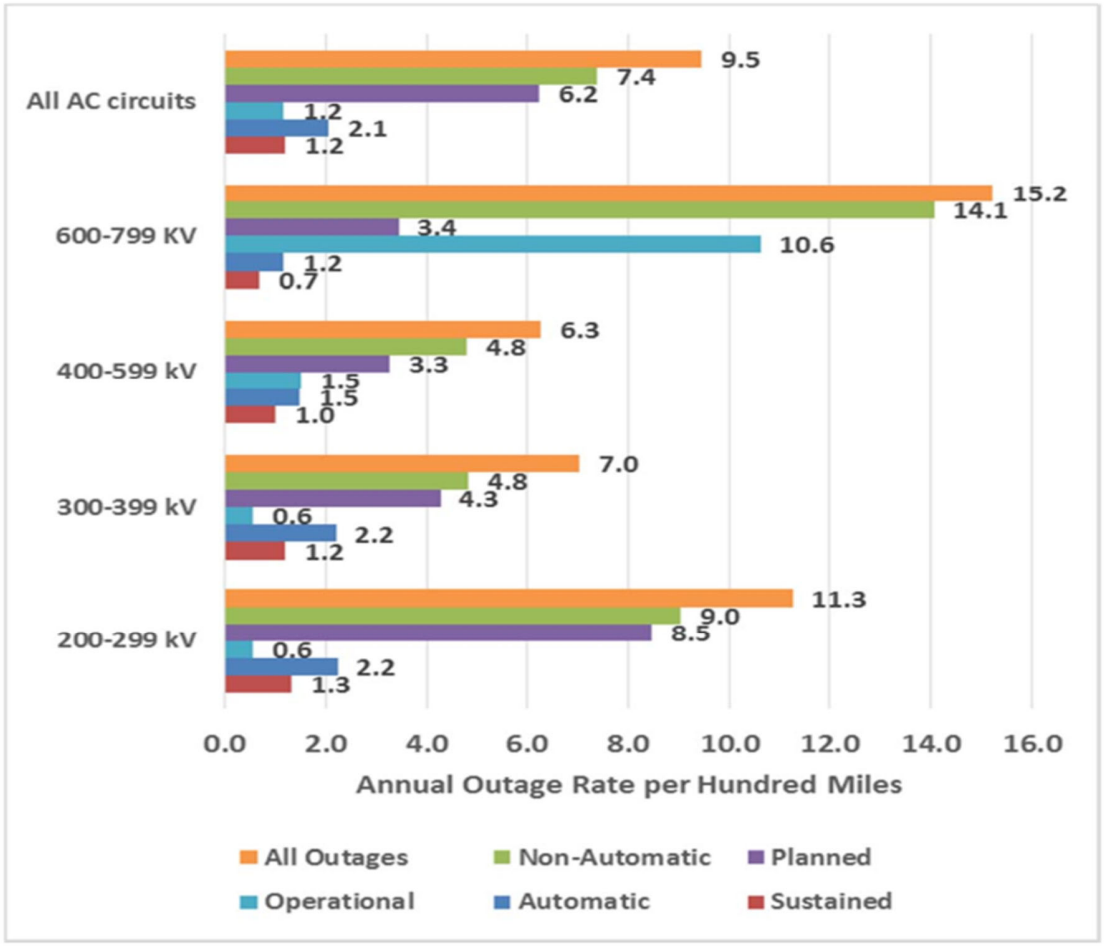
FIGURE 2: NERC ANNUAL OUTAGE RATES PER LINE[16]



As provided in the figure below, on an outage rate per hundred miles basis, a transmission line on average will experience 9.5 outages per year per hundred miles of transmission, with 1.2 operational outages and 6.2 planned outages per hundred miles on average in a year.

[16] North American AC Circuit Outage Rates and Durations in Assessment of Transmission System Reliability and Availability, IEEE, July 2015.

FIGURE 3: NERC ANNUAL OUTAGE RATES PER HUNDRED MILES[17]



To put this in perspective, the LIL is approximately 684 miles long. Based on an average outage rate of 9.5 annual outages per 100 miles for overhead lines, a line like the LIL will experience over 64 types of outages from one minute in duration to several hours or even days.

[17] Ibid.

Q29. HOW DOES THIS COMPARE TO THE FORCED OUTAGE RATE OF THE LIL?

A29. The equivalent forced outage rate on the LIL has been below 3% since its commissioning in April 2023.[18] Since the above data reflects the outage rates for overhead lines, the outage statistics shown above are not directly comparable to the LIL due to it having significant overhead plus subsea transmission, complex converter stations, electrode lines and stations and transition compounds. Operational data for subsea transmission is not publicly available; however, I expect that outage rates for converter stations would be comparable to or even higher than overhead transmission lines due to the complexity of the assets, which expected outages levels are increased further given the conditions under which the subsea lines operate. Therefore, the LIL equivalent outage rate of 3% is quite good compared to other transmission assets.

Q30. ARE THERE IMPORTANT BENEFITS TO PLANNED OUTAGES FOR PREVENTATIVE AND CORRECTIVE MAINTENANCE IN PREVENTING UNPLANNED OUTAGES?

A30. Yes. While it is not always possible to prevent outages, predictive and proactive maintenance practices can reduce the frequency and length of system outages and enable the achievement of expected asset lives. Just as you would change the oil in your car on a regular basis to prevent damage to your engine and minimize the chances of a breakdown, transmission systems also require a transmission owner to pay attention to preventative measures that minimize the risks of equipment failure in the future.

Q31. IS ADHERENCE TO GOOD UTILITY PRACTICE CRITICAL IN ENSURING RELIABILITY WITH INCREASED INTERMITTENT GENERATION AND MORE EXTREME WEATHER EVENTS?

A31. Yes. Good utility practice plays a pivotal role in ensuring the stability and resilience of the electrical grid, particularly in the face of more extreme weather events. Adhering to

[18] Please refer to Newfoundland & Labrador Hydro's July, 4, 2024, October 3, 2024 and January 10, 2025, Reliability and Resource Adequacy Study Review – Labrador Island Link Update(s) filed with Newfoundland & Labrador's Public Utilities Board.

established standards and best practices in transmission operation and maintenance is essential for minimizing the risk of disruptions, preventing equipment failures, and optimizing the performance of transmission infrastructure. Through routine inspections, proactive maintenance, and investment in modernization efforts, utilities can identify and address potential issues before they escalate into larger problems that could compromise grid reliability. By upholding good utility practice, utilities can enhance the integrity of transmission systems, mitigate the impact of unplanned outages, and ensure the continuous and efficient delivery of electricity to customers.

In addition, diligent adherence to good utility practice is important in accommodating increasing amounts of renewables needed to meet decarbonization goals. As renewable energy sources such as wind and solar power continue to expand, utilities must effectively integrate these variable and intermittent resources into the grid. This requires proactive planning, investment in grid modernization, and the implementation of innovative technologies. By optimizing grid flexibility and enhancing system reliability, utilities can ensure the seamless integration of renewables while maintaining grid stability and resilience. Overall, good utility practice is instrumental in harnessing the potential of renewables to meet growing energy demands while mitigating environmental impacts and advancing energy transition goals.

V. NLH PLANNED AND UNPLANNED OUTAGES

Q32. PLEASE DESCRIBE THE OUTAGES THAT TOOK PLACE ON THE LIL IN JULY 2023 AND SEPTEMBER 2023.

A32. The July of 2023 planned outage followed a June outage request from NLH to the Newfoundland Labrador System Operator ("NLSO") and the Nova Scotia Independent System Operator for a weeklong bipole outage on the LIL. This work was necessary to incorporate an updated version of LIL software, which included software backup/validation efforts verification, verification of several Supervisory and Data Acquisition ("SCADA") points to enable greater LIL visibility and control at the NLSO Energy Control Center and testing of the electrode line fault locator. Other work such as

testing of the grounding line fault locators and other punch list items were also undertaken given the duration of the outage required for the software updates.

The September 2023 outage, which had been planned for over a year, was mainly preventative in nature, with corrective actions taken as required to safeguard reliability through the winter and consistent with good utility practice. The work consisted of ten days of LIL bipole outages relating to Pole 1, Pole 2 and bipole area assets. There was also coordinated Maritime Link monopole outage work for regularly scheduled planned maintenance of Pole 1 and Pole 2 assets. These outages were planned when system loads were lower than they had been (in the shoulder season) and expected water flow in the Churchill River was lower than other times of the year. This timing also allowed for the preparation of the lines for operation during the winter months to ensure the reliability of energy supply for customers in Newfoundland and Nova Scotia. This maintenance included insulated gate bipolar transistor and gate unit replacements, valve inspections, circuit breaker, voltage divider, capacitor testing and inspections. Like the July outage, there was also an opportunistic punch list and warranty work that was completed during this period.

Q33. PLEASE DESCRIBE THE MARCH 2024 PLANNED AND UNPLANNED OUTAGES ON THE LIL.

A33. There were two days of planned outages (March 26-27) for corrective maintenance repairs on a variety of systems including the Optical Ground Wire ("OPGW"), electromagnetic interference mitigations on several DC current transformers, and installation of ground potential rise mitigations that have affected the cable switching sequence and have left the overload capability of the LIL out of service.

In addition, Southern Labrador experienced a serious ice storm at the end of March that resulted in significant ice accumulating on a four km long section of the LIL and damage to the upper portion of the towers, tower peaks and electrode wings. On March 30, 2024, both poles of the LIL tripped offline as a result of extraordinary damage caused by a significant ice accumulation event. Both electrode line conductors were severed, wings that

support them were damaged, and the OPGW was also damaged in an area of southern Labrador. The LIL was restored to service in monopole metallic return configuration on April 8, 2024.

Q34. WAS THE LIL DESIGNED TO WITHSTAND THE EXPECTED CLIMATE CONDITIONS IN NEWFOUNDLAND?

A34. Yes. The original basis of design for the Lower Churchill Project, which includes the LIL, specified a return period for the transmission system of 50 years, meaning that the LIL is designed to resist, without damage, a climatic event of severity seen once every 50 years. NL Hydro has stated that while the LIL was designed to withstand conditions based on the data available at the time the LIL was designed over 15 years ago, the climate is changing, and microclimates are being discovered. Microclimates are isolated areas along the line where weather may differ substantially from the general weather that was expected and included in the line design. This will require some issues to be resolved with longer-term solutions in order to ensure the reliability of the transmission assets.

Q35. WERE ANY OF THESE OUTAGES PART OF THE COMMISSIONING OF THE LIL?

A35. No. The LIL was successfully commissioned as of April 14, 2023, meaning that the assets were turned over to the NLSO for regular operation.[19] The commissioning of the line involved extensive communication and collaboration between NLH's engineering and construction management teams, the NLSO, the Independent Engineer, representing the financing parties and the lender representative, acting on behalf of the financing parties to ensure the technical requirements outlined in the formal agreements would be met and verified through robust testing. First, NLH successfully completed a rigorous testing process which was developed in consultation with vendors and internal engineering staff with oversight by the NLSO and the Independent Engineer. NLH thoroughly tested the

[19] The definition for Commissioning in the Nalcor Energy and Emera, Inc Amended and Restated Joint Operations Agreement states the following: "Commissioning" means the start-up and testing activities required to demonstrate that a Transmission Asset is ready for commercial operation.

LIL, and the system performed as expected in each and every test, and on April 8, 2023[20] it passed the final high-power test. This was a necessary step to proceed with project commissioning in accordance with both the project financing and revenue agreements. Second, the NLSO, acting independently to witness testing and early operations, concluded that the LIL demonstrated acceptable performance to enable commissioning and was satisfied that the assets would support reliable system operation. Third, the Independent Engineer concluded a formal review process to confirm that the technical specifications outlined in the project financing agreements required to achieve commissioning had been achieved. This was a necessary part of the final commissioning process with project partners, including the Federal Government. The final step was acknowledged by the lenders representative that commissioning occurred on April 14, 2023, through the issuance of a Commissioning Confirmation Certificate. Following the last round of 700 MW tests, all parties confirmed that the requirements of the agreements were met, which culminated in the issuance of various commissioning and asset acceptance certificates.

As is typical with any major infrastructure project that is consistent with good utility practices, there are always a number of non-critical "punch list items" that are necessary to address at some point in the future but do not affect daily operation. As NLH noted in the quarterly report, "As the LIL is in its early operation, Hydro expects that there will be a higher frequency of issues that need to be addressed.[21]

In the case of the LIL, these items did not affect the functionality or reliability of the LIL, did not prevent commissioning, and did not affect the safe and reliable operation of the line.

Q36. PLEASE DESCRIBE THE OUTAGES ON THE LIL SINCE THE COMPLIANCE PERIOD ENDED.

A36. Since the Compliance Period ended, NLH has undertaken planned outages that were appropriately scheduled outside of the higher demand winter period, as shown in Table 1

[20] https://nlhydro.com/good-to-know/good-to-know-labrador-island-link-commissioning/

[21] Newfoundland Labrador Hydro Quarterly Report to the Board of Commissioners of Public Utilities, October 5, 2023, pg. 3.

below. The Company's application provides a full description of the outages on the LIL since the Compliance Period ended.

TABLE 1: LIL OUTAGE HISTORY

DATE	LIL EVENT	REASON FOR EVENT
May 2024	Bipole outage	troubleshoot, replace, and test DC current transformers
July 2024	Single pole outages	troubleshoot intermittent system alarms, replace faulty equipment
End of July 2024	Bipole outage	install, verify, and test a converter station software update
August 2024	Bipole outage	implement software and test it
September 2024	Bipole outage	software updating
September – October 2024	Planned annual maintenance shutdown	complete various preventative maintenance activities
October 2024	Bipole outage	complete testing on one of the three LIL marine cable transition sites
January 13, 2025	Bipole outage	Icing-related
April 13-19, 2025	1. Planned outage 2. additional single pole outage	1. load an updated version of control and protection software 2. maintenance
September 21 -30, 2025	Planned bipole outage	NLH's planned annual maintenance outage in advance of the winter period

Q37. WERE THE OUTAGES AFTER THE COMPLIANCE PERIOD BELIEVED TO BE A SUCCESS?

A37. Yes. NLH reported that the outages were successful. Furthermore, any deferred energy that accumulated during these outages has been entirely redelivered and customers have received 100% of the annual NS Block Contract Amount, plus all of the Make-up energy that was owed. Nova Scotia customers should feel confident that the LIL is delivering safe and reliable power and that planned outages are typically taken during times when replacement costs are generally lower, as planned outages are typically taken when capacity and the associated energy is not needed due to lower seasonal loads. In addition, make-up energy is consistently being delivered shortly after its accumulation, as per the original commercial agreements.

Q38. ARE THE LIL OUTAGES TYPICAL FOR THE EARLY YEARS OF OPERATION FOR HIGH-VOLTAGE TRANSMISSION LINES?

A38. Yes, they are. For instance, undersea HVDC transmission lines have numerous complex components. The early years of operating a highly complex HVDC system present a crucial period for working out any unforeseen challenges or "kinks" in the extensive system. For instance, NSPML had an issue within its first few months after commissioning the ML with the installed bushings which led to a month of outages. Despite rigorous testing and preparation prior to deployment, the dynamic underwater environment and complex technical factors can sometimes lead to unexpected issues during initial operation.

For example, the Baltic Cable is a 450kV DC cable connecting Sweden and Germany that was commissioned in 1994. As shown in Table 2 below, the availability of the line was quite variable in the first ten years of operation, with availability ranging from 68.01% to 98.76%. In addition, it is important to note that each year of the first 13 years of operation, the cable was unavailable for scheduled maintenance, with unavailability due to scheduled maintenance between 0.96% and 8.88%. This corresponds to between 84 hrs. and 778 hrs. per year that the cable was out of service for scheduled maintenance.

TABLE 2: AVAILABILITY OF BALTIC CABLE LINK[22]

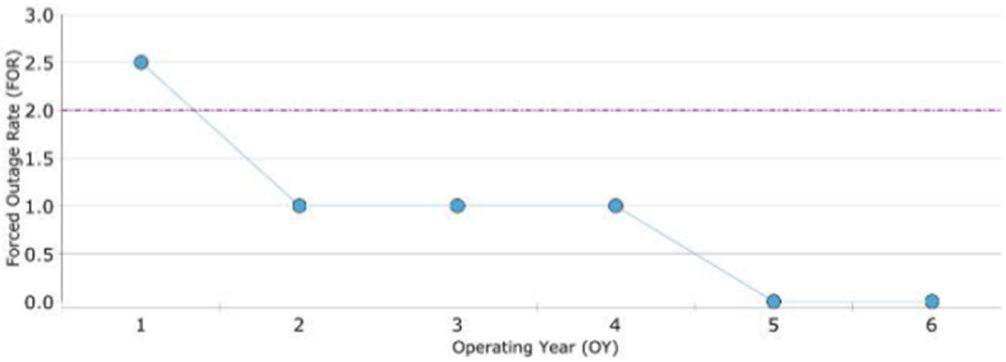
Year	Scheduled unavailability (%)	Forced unavailability (%)	Availability (%)
1995	3.14	0.82	96.04
1996	6.00	1.24	92.76
1997	1.49	1.40	97.11
1998	1.50	2.29	96.21
1999	1.29	7.67	91.04
2000	1.23	30.76	68.01
2001	1.23	0.78	97.99
2002	0.96	14.08	84.96
2003	1.23	0.01	98.76
2004	8.88	0.04	91.08
2005	1.23	0.61	98.16
2006	1.23	1.52	97.24
2007	1.23	0.14	98.63

In a filing with the Board of Commissioners of Public Utilities investigating the reliability of the LIL, Nalcor stated that "with the LIL in its early operation, the early level of reliability is anticipated to be lower than the long term level of reliability, due to expected sources of potential failures associated with new assets, such as defective components or manufacturing issues".[23] Reliability during the early years of operation for HVDC lines typically reflects a "bathtub" curve, where the number of outages is higher in the first few years, decreases to a relatively low and constant level for a majority of its operating life, and increases again with the impending end of life due to age related effects, the first six years of which are shown in Figure 4 below.

[22] Submarine Power Cables Design, Installation, Repair Environmental Aspects, Thomas. Worzyk, 2009, pg. 246.

[23] Reliability and Resource Adequacy Study Review Summary of Findings from L3501/2 Failure Investigations, October 4, 2023, pg. 6.

FIGURE 4: FORCED OUTAGE RATES IN VSC HVDC LINES[24]



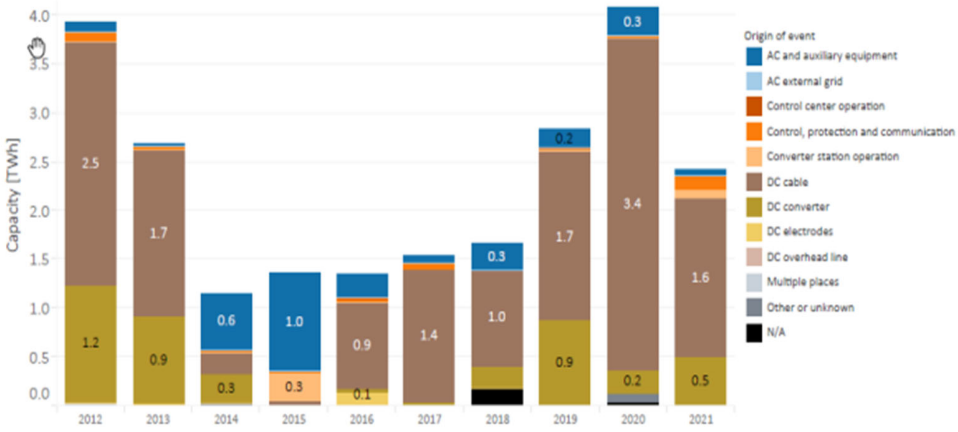
During the initial operating period, it is essential to closely monitor the cable's performance and reliability, including factors such as transmission efficiency, insulation integrity, and environmental resilience. This monitoring may involve advanced sensing technologies and data analytics to detect and diagnose any anomalies or degradation in real-time, allowing for prompt intervention and corrective actions. Moreover, early operation provides invaluable learning opportunities for refining maintenance protocols, enhancing operational procedures, and informing future cable design and deployment strategies, thereby contributing to the long-term sustainability and success of undersea transmission infrastructure. By diligently addressing and resolving issues encountered during this critical initial phase, operators can ensure the reliability, resilience, and optimal performance of high-voltage undersea and above ground cables.

Early operation of a high-voltage transmission line following commissioning involves the resolution of numerous "punch list" items identified during the final stages of construction and initial operational testing that require resolution but do not affect the ability of the line to begin operation. These items often include minor yet critical fixes such as software updates and supplementary equipment testing and safety checks. Completing these tasks post-commissioning allows for the operation of the transmission line while refining equipment performance.

[24] J. Lange et al., Innovative Converter Testing Technology and Overall Reliability and Availability Performance of HVDC Solutions, 2021, IEEE.

Beyond the early years of operation, HVDC transmission lines should be expected to experience both planned and unplanned outages every year in order to maintain the integrity of the equipment and ensure the reliability of the system. As shown in Figure 5 below, outages on HVDC transmission lines occur in every year of operation involving the numerous pieces of equipment that are required to transmit power over these lines. A majority of the outages, both planned and unplanned, involve the DC cable itself, with other components making up the balance of the unavailability.

FIGURE 5: HVDC ANNUAL UNAVAILABLE CAPACITY[25]



Q39. DOES THE LIL'S PLANNED MAINTENANCE WORK REFLECT GOOD UTILITY PRACTICE?

A39. Yes. The LIL is a new and complex asset. It is typical and expected that during the initial operation period these types of projects will require a myriad of operational adjustments. Technical hurdles such as equipment failures, conductor issues, and voltage fluctuations can disrupt the smooth flow of electricity, requiring short-term measures to maintain uninterrupted service and planning to prevent extreme weather events from leading to outages and service disruptions. These types of challenges in the early years of operation are typical and did not prevent the LIL from being turned over to the NLSO for dispatch.

[25] ENTSO-E HVDC Utilization and Unavailability Statistics 2021, The Operational and Market Benefits of HVDC to System Operators, August 16, 2022.

Q40. SHOULD THE HOLDBACK MECHANISM INCLUDE PROVISIONS THAT SUPPORT ADHERENCE TO GOOD UTILITY PRACTICE?

A40. Yes. Regardless of the provisions of the holdback mechanism, NSPML and NS Power will continue to operate their assets in accordance with good utility practice.

The conditions established for the termination of the Holdback Mechanism leave it to the Board to consider whether an allowance for planned maintenance and extraordinary events should be made in calculating the performance of the Maritime Link. It is my opinion that the Board should grant NSPML's request for such an allowance and determine that the conditions for the termination of the Holdback Mechanism have been met. It is important to recognize that planned and proactive maintenance are an important element of good utility practice and regulatory oversight. The Board should encourage such practices and not allow these outages to detract from recognizing that the Maritime Link's performance has been more than sufficient to grant the termination of the holdback mechanism.

Q41. HAS NSPML PREVIOUSLY REQUESTED RECOGNITION OF THE REASONABLENESS OF THESE RECENT OUTAGES?

A41. Yes. In a Compliance Filing in Matter M11009, NSPML requested that the Board issue an order confirming planned outage relief for the months of March, July, and September 2023 and that planned outages or extreme circumstances be considered going forward in both the calculation of the monthly delivery threshold and the annual delivery requirements.[26]

[26] Pursuant to a Board Decision ruling on the March outage, NSPML is no longer seeking relief for the March 2023 outage.

VI. NSPML SHOULD BE GRANTED ITS REQUEST FOR OUTAGE RELIEF IN DETERMINING WHETHER THE HOLDBACK CAN NOW BE TERMINATED

Q42. DO YOU BELIEVE THE JULY 2023 AND SEPTEMBER 2023 PLANNED OUTAGES SHOULD BE EXCLUDED FROM THE CALCULATION OF THE 12-MONTH RELIABILITY THRESHOLDS?

A42. Yes, I do. As discussed above, the 2023 outages were performed using good utility practice in the normal course of operation, were scheduled to perform required and preventative maintenance and were not part of commissioning. Regularly scheduled maintenance is critical in maintaining the reliability of the Maritime Link and the LIL and should be encouraged.

Q43. LIKEWISE, DO YOU BELIEVE THE LIL'S MARCH/APRIL 2024 PLANNED AND UNPLANNED OUTAGE SHOULD BE EXCLUDED FROM THE CALCULATION OF THE 12-MONTH RELIABILITY THRESHOLDS?

A43. Yes, I do. As discussed above, the event was the result of damage related to an extreme weather event. This event was clearly not within the control of NSPML or NLH, and NLH responded to the event in a highly competent manner by restoring service to NSPI in only eight days, which is remarkable given that the storm caused both conductors to be severed. This outage did not cause NSPI's ratepayers to be denied the "benefits of the bargain" that they were entitled to under the ECA; the event is one that any utility can experience as a result of extreme weather.

Q44. DO YOU EXPECT THAT NSPML WILL BE ABLE TO MEET THE 12-MONTH REQUIREMENT FOR THE TERMINATION OF THE HOLDBACK MECHANISM WITHOUT AN ADJUSTMENT TO THE PERFORMANCE THRESHOLDS FOR PLANNED OUTAGES?

A44. No, it is unlikely that NSPML will ever be able to meet the 12-month requirement for the termination of the holdback mechanism without recognition of and an adjustment for planned and unplanned outages. For economic and reliability reasons, the customers and

the Board should welcome planned maintenance outages. As stated above and consistent with Nova Scotia's Independent System Operator's outage coordination procedures, planned outages are part of normal operation and good utility practice and can be expected to occur annually on the LIL and/or Maritime Link. In addition, NSPML stated in its October 2023 Compliance Filing that any outage of more than three days in an individual month will automatically reduce NS Block deliveries below the 90% threshold for that month.[27] Considering that there will be planned outages at least once a year for both Maritime Link and LIL, that will lead to an inability to achieve the 90% level for every month of a 12-month period. Without recognition of and an allowance for planned outages, the Maritime Link cannot be expected to ever meet the requirements for the termination of the holdback mechanism and this, despite, customers receiving what was bargained for in the ECA.

Fortunately, the Board has anticipated and recognized that it is important to encourage good utility practice and to make allowances for planned outages that reflect such practice. The LIL and Muskrat Falls have provided their contractually agreed to energy and capacity as directed by the Board for at least 12 consecutive months (April 2023 through May 2024). With a full year of successful operation, monthly oversight is no longer necessary, and the Board should recognize this by determining that the criteria for the termination of the holdback mechanism have been achieved.

Q45. WHEN THE PROJECT EXPERIENCED PLANNED OUTAGES, WAS THE MAKE-UP ENERGY EQUIVALENT OF DELIVERY SHORTFALLS RELATED TO THE OUTAGES?

A45. Yes. For each month where the delivery of make-up energy was requested, an amount of make-up energy actually in excess of delivery shortfalls related to the outages was either provided within the month or early the following month. The only time monthly NS Block deliveries were less than 100% during the Compliance Period was September 2023 and the equivalent of that underage was made up in the first few days of October 2023.

[27] NSPML Maritime Link Review of the Holdback Mechanism (M11009), Compliance Filing, October 27, 2023, pg. 9.

Q46. SINCE THE LIL COMMISSIONING IN APRIL OF 2023 HAVE NSPI'S CUSTOMERS BEEN HARMED BY UNDER DELIVERIES OF THE NS BLOCK?

A46. No, they have not. For the Compliance Period, Nova Scotians have received approximately 170% of the contractual volumes agreed to in the ECA once Purchased Energy is included. As discussed in the Company Testimony, the Maritime Link provided additional economic value (net of annual assessment costs) of more than $90 million in 2022, $45 million in 2023 and $125 million in 2024. NS Power customers have received the expected benefits and more from the Maritime Link during this period and there has been no continued financial harm to customers. Customers are getting what they bargained for with the NS Block deliveries. Furthermore, the Muskrat Falls assets have demonstrated clear value to customers considering the increases in energy prices and will only be more beneficial in the coming years.

Q47. SHOULD THERE BE AN ALTERNATE REGULATORY MECHANISM THAT THE BOARD COULD IMPLEMENT IF NALCOR DOES NOT ABIDE BY ITS CONTRACTUAL OBLIGATIONS?

A47. The Company proposes that if the Board does not eliminate the holdback mechanism in this matter, that it implements a separate process to assess what changes should be made to the existing holdback mitigation mechanism. To be clear, Concentric believes that the Company has met the conditions set forth by the Board and that the holdback mechanism should be eliminated but agrees with the Company that a separate process should be established to determine the best path forward if the mechanism is not eliminated.

If the Board determines that it is appropriate to continue the holdback mechanism, I agree with the Company's position that the Board take the following into consideration in the design of a continuing mechanism: 1) planned outages near the end of a calendar month are likely to result in a holdback disallowance despite the fact that the associated energy is subject to redelivery in accordance with the terms of the ECA and that such redelivery is what customers are entitled to under the Agreement; 2) given the scope of assets that can impact deliveries and that planned outages should be expected as part of good utility practice, there is a scenario where the holdback mechanism lasts until the end

of the ECA term. 3) the holdback mechanism measures impact in time periods that are not consistent with the terms of the ECA; 4) although there are many alternate remedies available in energy purchase and sale transactions, we are not aware of any contract where the purchaser would be compensated for costs relating to replacement energy and also receive the energy at a later date; 5) remedies under standard master energy trading agreements (i.e., ISDA, EEI, and NAESB) generally compensate for costs of replacing the energy; however, as per the terms of the ECA, the negotiated remedy was redelivery of the energy in priority to other new opportunities; and 6) in addition to considering the negotiated remedies for redeliveries when shortfalls occur, it would be appropriate to consider contractual terms that support flexibility in delivery patterns.

Q48. DOES THIS CONCLUDE YOUR TESTIMONY?

A48. Yes.