

NOVA SCOTIA UTILITY AND REVIEW BOARD

IN THE MATTER OF THE PUBLIC UTILITIES ACT

- and -

IN THE MATTER OF AN APPLICATION by **NOVA SCOTIA POWER INCORPORATED**
for approval of its **Annual Capital Expenditure Plan for 2018**

BEFORE: Roberta J. Clarke, Q.C., Panel Chair
Murray E. Doehler, CPA, CA, P.Eng., Member
Richard J. Melanson, LL.B., Member

APPLICANT: **NOVA SCOTIA POWER INCORPORATED**
Brian Curry, LL.B.

INTERVENORS: **CONSUMER ADVOCATE**
William L. Mahody, Q.C.

SMALL BUSINESS ADVOCATE
E.A. Nelson Blackburn, Q.C.
Melissa MacAdam, LL.B.

INDUSTRIAL GROUP
Nancy Rubin, Q.C.

PORT HAWKESBURY PAPER LP
James MacDuff, LL.B.

PROVINCE OF NOVA SCOTIA
Department of Energy
Peter Craig
Scott McCoombs
Noemi Westergard

BOARD COUNSEL: S. Bruce Outhouse, Q.C.

HEARING DATE: February 26, 2018

FINAL SUBMISSIONS: March 28, 2018

DECISION DATE: April 25, 2018

DECISION: Terms of Consensus approved.

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I INTRODUCTION

[1] Nova Scotia Power Inc. (NSPI, Company, and Utility) filed an application (Application) with the Nova Scotia Utility and Review Board (Board) for approval of its 2018 Annual Capital Expenditure (ACE) Plan. The Application was filed electronically on November 22, 2017.

[2] The Application included a detailed description of NSPI's capital expenditure program for 2018, responses to Board directives from prior ACE Plan proceedings, and reports on discussions with stakeholders.

[3] In its covering letter, NSPI requested that the Board:

1. Establish a process for review of its 2018 ACE Plan;
2. Approve the Confidentiality Undertaking, and confidential treatment of certain information filed in support of the 2018 ACE Plan, as described in the Application, and in accordance with Board Rule 12;
3. Approve 105 capital items with 2018 budget spending of approximately \$92 million, and total project spending of approximately \$120 million;
4. Approve capital routine programs with 2018 budget spending of approximately \$84 million.

[4] The Hearing Order, issued by the Board on November 22, 2017, provided a timetable for this proceeding.

[5] The Board reviewed and approved the Confidentiality Undertaking filed with the Application on November 22, 2017. NSPI's request for confidential treatment of certain information and attachments, as set out in its Confidentiality Matrix, was approved by the Board on November 30, 2017.

[6] As required in the Hearing Order, a Notice of Public Hearing was published in the Chronicle Herald on November 25 and 30, 2017, and in the Cape Breton Post on November 25, 2017. Notices of Intervention were filed by the Consumer Advocate (CA),

the Small Business Advocate (SBA), the Industrial Group, Port Hawkesbury Paper LP (PHP), and the Nova Scotia Department of Energy (NSDOE).

[7] The Board issued a Preliminary Issues List on December 4, 2017. The List included specific issues that would be discussed as a part of NSPI's 2018 ACE Plan hearing, in addition to the usual review of capital expenditures for which approval is requested. Taking into consideration comments on the Preliminary Issues List received from the SBA on December 8, 2017, the Board, on December 12, 2017, issued the following Final Issues List:

1. Hydro Generation Investment
2. Decommissioning Costs Generally
3. Project Management
4. Overall Capital Expenditure Level
5. Topics from the Stakeholder Engagement Process:
 - a) Revenue Requirement Model
 - b) Replacement Energy Calculation

[8] Information Requests (IRs) to NSPI were issued on December 15, 2017, by the CA, the SBA, and Board staff. The Industrial Group, PHP, and NSDOE did not file IRs.

[9] In its letter dated January 8, 2018, NSPI requested that the due date for the filing of IR responses be extended by one week, and proposed an amended timeline for the balance of the proceeding. In the Amended Hearing Order dated January 9, 2018, the Board approved NSPI's extension request, and the proposed changes to the timetable for the remainder of the 2018 ACE Plan proceeding.

[10] NSPI provided its responses to the IRs on January 16, 2018, and asked the Board to approve its request for the confidential treatment of certain information filed in support of the 2018 ACE Plan IR responses. The Board granted the requested approval on January 22, 2018.

[11] In its letter of January 16, 2018, enclosing responses to IRs, NSPI also advised the following:

Pursuant to NS Power's response to UARB IR-79, NS Power requests CI 52143 – LM6000 – 191-332 Hot Section Engine Refurbishment be withdrawn from the 2018 ACE Plan application. Accordingly, the overall amount of capital being sought for approval, including the routine capital program, is reduced from \$203,981,987 to \$202,205,712 (a difference of \$1,776,275 which is the forecasted capital costs associated with CI 52143).

[12] The Board notes that, unless otherwise indicated in this Decision, the references to the 2018 spending amounts are those in the original Application.

[13] On February 1, 2018, evidence was filed by John Athas of Daymark Energy Advisors, on behalf of the SBA, and by Paul Chernick of Resource Insight Inc., on behalf of the CA. No IRs were issued to Intervenors. NSPI submitted its Reply Evidence on February 20, 2018, to which it made corrections on February 23, 2018.

[14] There were no requests to speak, and the Board received one letter of comment.

[15] NSPI filed Terms of Consensus (Consensus document) with the Board on February 23, 2018, signed by the CA, the SBA, and NSPI. In an email received by the Board the same day, PHP confirmed that it did not intend to participate in the hearing and, as such, did not participate in or sign the Terms of Consensus.

[16] The Industrial Group, the SBA, NSPI, and the CA filed opening statements on February 23, 2018.

[17] The public hearing took place at the Offices of the Board in Halifax on February 26, 2018. As no requests to speak were received, an evening session was not held.

[18] NSPI was represented at the hearing by Brian Curry, Regulatory Counsel, and Judith Ferguson, Executive Vice President, Regulatory & Business Planning. The

witness panel for NSPI was comprised of Mike Sampson, Director of Generation Asset Management; Jamie MacDonald, Senior Director of Power Production; Paul Casey, Vice-President of Transmission, Distribution and Delivery; Nicole Godbout, Director of Regulatory Affairs; Craig Flemming, Senior Manager of Finance; Tony Folkins, Senior Director of Information Technology; and Mark Sidebottom, Chief Operating Officer.

[19] William Mahody, Q.C., appeared at the hearing on behalf of the CA, and Melissa MacAdam, LL.B., appeared on behalf of the SBA. Nancy Rubin, Q.C., appeared on behalf of the Industrial Group, and Peter Craig on behalf of NSDOE. PHP's representative did not appear at the hearing. S. Bruce Outhouse, Q.C., acted as Board Counsel.

[20] NSPI provided responses to Undertakings U-1 to U-7 on March 7, 2018.

[21] Written closing submissions were received on March 19, 2018, from the CA, and on March 21, 2018, from NSPI and the SBA. A reply to closing submissions was filed by NSPI on March 28, 2018.

II 2017 ACE PLAN STATUS

[22] In its 2017 ACE Plan Decision [2017 NSUARB 50], the Board approved certain capital expenditures and issued a number of directives to NSPI. The Board also approved a Terms of Consensus document filed by NSPI on February 23, 2017, signed by the CA, the SBA, and NSPI.

[23] NSPI's capital expenditures approved by the Board in its 2017 ACE Plan Decision included 71 individual capital items with the total cost estimate of \$72,601,321, and additional \$80,167,979 for routine capital expenditures in 2017. According to NSPI's

2018 ACE Plan Application, all these individual capital projects had been completed or initiated.

[24] In Section 3.4 of the Application, titled “2017 ACE Capital Items Deferred / Cancelled”, NSPI notes it has cancelled or deferred 65 projects that were originally included in the 2017 ACE Plan, with a forecasted spending of \$31 million in 2017. Seventeen of these projects were cancelled, while 48 were deferred to future years.

[25] NSPI provided a list, and a short justification, for the deferral or cancellation of each of these projects. Out of the 65 projects listed, 28 were to be filed separately as individual capital items, and the remaining 37 were projects under \$250,000.

[26] The Board notes the following two very large 2017 ACE Plan projects were deferred, and are now included in the 2018 ACE Plan subsequent submittal list:

- CI 39472, HYD Mersey System Re-Development (\$84.0 million); and
- CI 46075, IT - Work and Asset Management (\$45.5 million).

[27] The Board also notes that a significant number of 2017 Information Technology (IT) projects were deferred to 2018 and 2019, some of them due to lack of internal human resources to initiate and complete these projects.

[28] Prepared by the Board, and attached as Schedule “A” to this Decision, for information purposes only, is a status report as of March 28, 2018, of all 2017 ACE Plan capital items that NSPI had intended to submit after the 2017 ACE Plan submission, and therefore not approved as a part of the 2017 ACE Plan hearing process.

[29] In accordance with the 2017 ACE Plan Decision Directive 3, NSPI conducted a consultative process with stakeholders, and on September 5, 2017, submitted its 2017 ACE Plan Stakeholder Engagement Report (Report). NSPI’s submission included a detailed summary of its consultations with the 2017 ACE Plan

stakeholders, and copies of the revised Capital Expenditure Justification Criteria (CEJC) documents for Board information and approval.

[30] Following a review of the Report as a separate matter (M08278), the Board in its letter of October 24, 2017, approved the revised CEJC Summary document and accepted the Detailed CEJC document.

[31] NSPI in its 2018 ACE Plan Application provided responses to a number of directives issued by the Board in prior ACE Plan Decisions, as well as to several commitments it made to interested parties. NSPI also provided reports on a number of matters canvassed during its discussions with stakeholders.

[32] The Board confirms NSPI has complied with all the directives from the 2017 ACE Plan Decision.

III 2018 ACE PLAN

[33] The *Public Utilities Act*, R.S.N.S. 1989, c. 380, as amended (*Act*), gives the Board broad regulatory oversight over public utilities and their capital expenditures. Sections 35 and 35A (1) of the *Act* read as follows:

Approval of improvement over \$250,000

35 No public utility shall proceed with any new construction, improvements or betterments in or extensions or additions to its property used or useful in furnishing, rendering or supplying any service which requires the expenditure of more than two hundred and fifty thousand dollars without first securing the approval thereof by the Board.

35A (1) Notwithstanding Section 35, a public utility may submit to the Board for approval an annual capital expenditure program.

[34] NSPI's ACE Plans provide the Board, stakeholders and customers with a detailed overview of all capital projects and expenditures NSPI plans for a given calendar year. The Summary CEJC document, which requires Board approval, provides

necessary principles and guidelines to NSPI for managing all phases of the capital approval process.

[35] In its opening statement, NSPI stressed the importance of its ACE Plan filing:

The ACE Plan is a foundation of our capital program and provides the Board, customers, and other stakeholders with a thorough and transparent view of the Company's planned capital projects and expenditures for 2018 in the areas of generation, transmission, distribution, and general plant. It is focused on projects that enable us to meet customer expectations of affordability, safety and reliability.

[Exhibit N-13, p.1]

[36] NSPI's 2018 ACE Plan submission and public review process is consistent with the approval process implemented by the Board for the review of NSPI's 2011 ACE Plan. The ACE Plan hearing for 2018 represents the eighth year in which the ACE Plan has been presented in a public forum with participation by stakeholders. In the Board's view, this format provides interested parties and the public with greater certainty and transparency with respect to processing NSPI's capital work orders, including the ACE Plan.

[37] The Consensus document, signed on February 23, 2018, revealed that the signatories had reached agreement on a number of matters raised through the 2018 ACE Plan proceeding. The stakeholder engagement process they are proposing clearly indicates their readiness to find mutually acceptable solutions for outstanding issues.

1. Content of the 2018 ACE Plan

[38] NSPI's 2018 ACE Plan submission includes:

- An overview of its capital expenditure program;
- Descriptions of capital projects for which NSPI is seeking approval;
- Details regarding capital routines for which NSPI is seeking approval;
- A list of capital projects planned for subsequent approval;

- Lists of capital items for which approval is not required; and
- Responses to stakeholder engagement commitments and the Board ACE Plan Decision directives from prior proceedings.

[39] The proposed 2018 ACE Plan spending is \$354.9 million. A summary of the proposed spending by category follows:

Category	Cost	
	2018 Spending	Total Spending
Individual capital items whose approval is requested through the 2018 ACE Plan process	\$ 92,042,914	\$120,120,344
Routines (approval requested)	\$ 83,861,643	
APPROVAL REQUESTED	\$175,904,557	\$203,981,987
CAPITAL ITEMS FORECAST FOR SUBSEQUENT APPROVAL	\$29,765,423	\$152,270,257
Carryover capital items (previously approved)	\$119,815,742	\$246,517,694
Capital items less than \$250,000	\$ 17,925,586	\$ 18,012,462
Pending 2017 Capital Items	\$ 864,059	\$ 1,070,940
Capital expenditures associated with Point Aconi Generating Station	\$ 10,640,551	\$ 16,364,575
APPROVAL NOT REQUIRED	\$149,245,938	\$281,965,672
2018 ACE Plan	\$354,915,918	\$638,217,916

[40] The Board notes that, as part of this Application, NSPI is requesting Board approval for 2018 capital expenditures in the amount of \$175.9 million. This figure includes capital spending of \$92.0 million for 105 new 2018 ACE Plan individual capital projects, and \$83.9 million for routine capital projects.

[41] The budgeted amount of \$29.8 million covers the estimated cost in 2018 for 24 capital items that were not ready for submission to the Board at the time of filing. NSPI anticipates that these capital items will be filed for approval throughout 2018. There are

24 such projects and, if approved, the total forecasted spending on these items would amount to \$152.3 million.

[42] The remaining amount of \$149.2 million does not require Board approval. This figure includes \$119.8 million for carryover spending in 2018, \$17.9 million for individual capital items less than \$250,000, \$0.9 million for pending 2017 capital items, and capital expenditures associated with Point Aconi of \$10.6 million.

[43] While the budgeted 2018 ACE Plan amount is much lower than the 2017 ACE Plan actual spending, as reported in the 4th Quarter Overview (Exhibit N-16), the Board observes the proposed spending is still higher than actual annual capital spending in any other year since 2011.

[44] The Board notes the number of projects requested for approval as part of the ACE Plan proceeding increased from 71 in 2017 to 105 in 2018, or by 48%. At the same time, the number of projects for subsequent approval decreased by 71%, from 83 in 2017 to 24 in 2018. In its Application, NSPI explained the reversal in the capital project approval approach:

...In an effort to reduce the number of filings throughout 2018, and increase the transparency of the Company's 2018 planned capital expenditures, NS Power included a larger number of capital projects for approval in the 2018 ACE Plan. The 2017 ACE Plan included 71 projects for approval, compared to 105 in the 2018 ACE Plan. This reduces the number of projects forecast for subsequent approval throughout 2018. This effort will create better regulatory efficiency for the Board, regulatory participants and NS Power. ...

[Exhibit N-1, p. 10]

The increase in capital projects submitted for approval over the 2017 ACE Plan amount of projects submitted is due to NS Power's efforts to advance scoping of these projects that may have otherwise been previously included in the ACE Plan as subsequent submittal items. ...

[Exhibit N-1, p. 16]

[45] In its Application, NSPI provided an overview of the proposed 2018 capital expenditures segregated by the investment type. The following table compares these

2018 ACE Plan estimates with the estimates for 2018 that were provided in the 2017 ACE Plan Application:

Investment Type	Estimated 2018 Spending	
	2018 ACE Plan Estimate	2017 ACE Plan Estimate
Sustaining Capital	\$207.0 million	\$223.4 million
Customer Driven	\$ 23.9 million	\$ 29.7 million
Regulatory / Compliance	\$ 50.0 million	\$ 23.0 million
Enterprise Resource Planning	N/A	\$ 4.7 million
LED Streetlight Replacement	\$ 4.8 million	\$ 4.8 million
Right-of-Way Widening	\$ 15.1 million	N/A
Maritime Link Transmission	\$ 5.8 million	\$ 5.0 million
Metro Transmission Upgrades	\$ 3.5 million	\$ 0.0 million
T&D Work & Asset Management	\$ 14.5 million	N/A
AMI / Smart Grid	\$ 29.0 million	\$ 48.3 million
Hydro Infrastructure Investment	\$ 1.2 million	\$ 19.0 million
Total Annual Budget	\$354.9 million	\$357.8 million

[46] In its 2017 ACE Plan Decision, the Board observed a significant shift in the proposed spending, largely from the Metro Transmission Upgrades and the Advanced (formerly Automated) Metering Infrastructure projects, towards the General Property, specifically IT, projects.

[47] The Board notes that, compared with the 2017 ACE Plan estimate, NSPI in its 2018 ACE Plan Application lowered its estimated investment in Sustaining Capital, AMI / Smart Grid, and Hydro Infrastructure, for a total of \$53.5 million. This amount was offset by the proposed spending increase of \$56.6 million on Regulatory / Compliance, Right-of-Way Widening, and T&D Work & Asset Management projects.

[48] The Routine and Point Aconi capital budgets are similar to the budgeted amounts in recent years.

2. Items for Which Board Approval is Sought

[49] As part of the 2018 ACE Plan approval process, NSPI requested Board approval for \$203,981,987. This amount includes \$120,120,344 for 105 individual capital items. NSPI plans to spend \$ 92,042,914 on these projects in 2018, and an additional \$28,077,430 in 2019, and beyond. NSPI also requested approval of \$83,861,643 for routine capital expenditures in 2018.

[50] Board approval was requested for three projects with a total cost estimate over \$5 million each, 25 projects with a total cost estimate between \$1 million and \$5 million, and 77 projects between \$250,000 and \$1 million.

[51] The following three projects have a total cost estimate that exceeds \$5 million:

CI#	Project Title	2017 Budget	Project Total
51236	HYD - WRC Tailrace Rock Bolting	\$ 8,677,118	\$ 8,861,996
51969	2018 Transmission ROW Widening 69kV	\$ 5,487,686	\$ 5,487,686
C0001950	New Distribution Rights-of-Way Ph 3	\$ 6,870,749	\$ 9,822,493

[52] As noted previously in this Decision, in its response to UARB IR-79, NSPI requested that CI 52143, LM6000 - 191-332 Hot Section Engine Refurbishment, be withdrawn from the 2018 ACE Plan Application. Accordingly, NSPI reduced its approval request from \$203,981,987 to \$202,205,712 (a difference of \$1,776,275 which is the forecasted capital costs associated with CI 52143).

[53] The revised approval amount includes \$83,861,643 for routine capital expenditures, and \$118,344,069 for 104 individual capital items. NSPI plans to spend \$90,266,639 on these projects in 2018, and an additional \$28,077,430 in 2019, and beyond.

[54] The Intervenors did not oppose any of the projects NSPI submitted for Board approval.

Findings

[55] The Board approves the projects and capital expenditures set out in Schedule "B". Should any of them be either cancelled or deferred, NSPI is required to resubmit them for Board approval.

[56] Routine capital expenditures are discussed separately in this Decision.

3. Items Which NSPI Intends to Submit for Later Approval

[57] In its Application, NSPI identified 24 projects that were not ready for submission to the Board, and anticipated they would be filed for approval throughout 2018. Three of these projects have a total cost estimate of \$5 million each.

[58] The 2018 ACE Plan budget for these projects is \$29,765,423, while the total forecasted spending amounts to \$152,270,257. Capital costs related to the following two projects represent 85% of the spending on 2018 capital items for subsequent submission:

- CI 39472, HYD Mersey System Re-Development (\$84.0 million); and
- CI 46075, IT - Work and Asset Management (\$45.5 million).

[59] The Board notes these two capital items were originally included in the 2017 ACE Plan, among projects for subsequent approval. NSPI decided to defer both projects to 2018.

[60] In its response to NSUARB IR-35, NSPI advised that CI 51481, IT CMS Upgrade, which had been incorrectly listed as carryover item, was a subsequent submittal item.

[61] The Board, in its 2017 ACE Plan Order of April 4, 2017, issued the following directive:

9. The Board directs NSPI to include, as part of their annual ACE Plan submissions, a list of projects which appear as items for subsequent submission in a prior years' ACE Plan filing, which have not been submitted for approval at the time of an ACE Plan filing, but which NSPI intends to submit by the end of the calendar year.

[62] In accordance with the above Directive, NSPI in its Application identified the following two projects as "Pending 2017 Capital Items":

- CI 49940, LM6000 TUC5 Control System Upgrade (\$811,559); and
- CI 48837, AMO Fleet Environmental Data Management (\$259,380).

[63] The forecasted spending on these projects in 2018 was \$864,059. While NSPI anticipated to file these projects for approval in late 2017, applications have not yet been received by the Board. According to information provided in NSPI's 2017 Fourth Quarter Capital Report, CI 49940 was deferred to 2019.

[64] The total spending on projects NSPI anticipates to file later, which includes CI 51481 and "Pending 2017 Capital Items", is \$31,154,656 in 2018, with a total budget of \$153,905,259.

[65] The Board has prepared Schedule "C", which lists the projects NSPI intends to submit later. The Board makes no findings with respect to projects listed in Schedule

“C”. The Board notes that, based on the nature and cost of these projects, all, or some, of them may be subject to a hearing process.

4. Carryover Projects

[66] Carryover projects are those which have already received Board approval in previous capital expenditure filings, but have not yet been completed. Board approval is not required for these items as part of the 2018 ACE Plan, although the expenditures will be made during this and following years.

[67] In 2018, NSPI expects to spend \$119,815,742 on carryover capital items, exclusive of Point Aconi projects, and an additional \$126,701,952 in following years.

[68] These amounts will be reduced by the costs related to CI 51481, as per paragraph [60].

[69] The Board observes that certain capital expenditures included in the 2018 carryover spending have not received Board approval. In its response UARB IR-35, NSPI identified those carryover projects that have not been approved by the Board, and projects with forecasted overspending which exceed the Board approved amount by more than \$250,000.

5. Items Less Than \$250,000

[70] In accordance with s. 35 of the *Act*, Board approval is not required for capital expenditures of less than \$250,000. The proposed spending on such projects in 2018 is \$17,925,586.

[71] During the 2017 ACE Plan Hearing, the CA raised a concern related to the increase in the number and total cost of capital projects estimated at \$250,000 or less. Pursuant to the agreement reached with stakeholders, NSPI in its 2018 ACE Plan Application provided additional information regarding these projects, including their brief descriptions and rankings.

6. Point Aconi Generating Station

[72] Pursuant to s. 36 of the *Act*, the Board has no jurisdiction to consider expenditures related to the Point Aconi Generating Station. Details of these costs provided in the 2018 ACE Plan are for information purposes only.

[73] The proposed 2018 capital spending on the Point Aconi Generating Station includes \$7,959,798 for new individual projects, \$486,824 for Routines, and \$2,193,929 on carryover spending, for a total of \$10,640,551.

7. Routine Capital Expenditures/Program

[74] As outlined in the Application, Routine capital expenditures include:

...recurring annual expenditures of like-for-like replacement of equipment, additions to existing equipment base resulting from system growth, and addition of customers to the system. ...

[Exhibit N-1, p. 106]

[75] NSPI requested Board approval for its Routine capital program in the amount of \$83,861,643, exclusive of Point Aconi Routine spending of \$486,824. This amount is split between Generation, Transmission, Distribution, and General Plant.

[76] The proposed Routines budget in 2018 is similar to NSPI's forecasted level of spending in 2017, and that of other recent years. The Board notes that there were no significant fluctuations within subroutines from 2017 to 2018.

[77] In his evidence, Mr. Chernick raised a concern about the level of spending in the Meter Routine:

NS Power has proposed to replace nearly all of its meters with AMI meters. If that proposal is approved, NS Power should be minimizing its purchases and replacements of the existing meters. Yet NS Power is proposing to spend more on routine meter replacements in 2018 than it did in ACE 2017. This increase results from the scheduling of an additional 4,000 meter purchases forecast for 2018. (CA IR-16). Increasing meter replacements prior to the AMI deployment will increase risks to customers of stranded assets.

NS Power promises to increase the number of meters replaced with refurbished ones (which should be readily available if even a pilot AMI program is implemented), "purchase new meters where refurbishment is not possible, and "engage Measurement Canada to examine whether conditional temporary permission may be granted to use in-service electricity meters without the requirement for re-verification in 2019 and beyond, when AMI meter deployment is project to occur." (CA IR-32) In light of those plans, NS Power's proposal to increase (rather than decrease) purchases of conventional meters remains unexplained.

[Exhibit N-7, p. 10]

[78] In its reply evidence, NSPI explained the requirements related to meter replacement:

Measurement Canada enforces the rules established under the Weights and Measures Regulations (referred to in NS Power's response to CA IR-32 as "guidelines"), which dictate that meter sampling is to be undertaken a year before the seal is due on a particular lot of meters. Seals are used to indicate that a lot of meters fall within acceptable measurement accuracy. The initial seal on new meters is typically effective for 8 to 10 years depending on the meter.

If the representative sample passes testing, then the seal is extended and that lot of meters may remain in use. Seal extensions can occur multiple times in the life of a meter. (Seals are distinct from the useful life of the meters. As seals can be extended multiple times, meters can stay in service so long as they remain accurate based on testing. Some meters on NS Power's system are greater than 40 years old.) If they do not pass, then the seal has expired and NS Power must remove the lot of meters from service. A "lot" of meters is defined by meter manufacturer and the specifications of the meters; lots of meters can number from a few hundred to a few thousand. According to section 15 (2) of the *Electricity and Gas Inspection Act*, "no meter on which the seal has been broken [expired] shall be put into service or continued in use until it has been re-verified and resealed."

The increase in meters in 2018 compared to 2017 is driven by the meter lot sample tested in 2017. More meters were deemed to fall outside of measurement accuracy in 2017 than prior years, resulting in the increase of meter replacements year-over-year. In compliance with the Weights and Measures Regulations and the *Electricity and Gas Inspection Act*, NS Power must replace the lot of meters with expired seals. In light of this, NS Power is

not able to reduce D009 Meter Routine and corresponding replacements on the prospective basis of AMI replacements.

[Exhibit N-8, pp. 18-19]

[79] In light of this explanation, the Board deems the Meter Routine budget to be acceptable.

[80] The Board approves NSPI's 2018 Routine capital expenditures in the amount of \$83,861,643.

IV TERMS OF CONSENSUS

[81] The Consensus document was signed by all parties except PHP, NSDOE, and the Industrial Group. PHP advised the Board, after NSPI filed the Consensus document, that it did not intend to participate in the hearing and had not participated in or signed the Terms of Consensus. Counsel for the Industrial Group, in her opening statement, said:

...While the Industrial Group is a formal Intervenor in these proceedings, it did not issue IRs or retain a consultant to review the detailed technical information and submit evidence. Accordingly, while the Industrial Group commends NS Power, the Consumer Advocate and Small Business Advocate for having reached a settlement, its position is such that it neither consents to the Agreement nor opposes it.

[Exhibit N-11, p. 1]

[82] The Consensus document, which is Attachment 1 to this Decision, is a resolution of all issues between the signatories related to the 2018 ACE Plan. NSPI confirmed at the hearing that projects submitted for approval, which none of the parties to the Consensus document opposed, do not include one capital work order originally included in the Application (CI 52143), and subsequently withdrawn in the Response to NSUARB IR-79.

[83] NSPI has agreed, within 30 days of the Board issuing its decision, to start a stakeholder consultation process on several matters. These matters are identified as Items 4, 6, 7, 8 and 9 in Appendix A to the Consensus document.

[84] In that document, NSPI also agreed to advance the comprehensive study of its hydro generation assets, with a goal of completing it by December 31, 2018. It agreed to keep interested stakeholders apprised of the progress of the study, and to file a report with the Board if that date cannot be met. At the hearing, Mr. Sidebottom agreed that the progress reports would be filed with the Board as well.

[85] In response to a concern raised by Mr. Athas, NSPI also agreed, in Item 5 of Appendix A to the Consensus document, to "...investigate and evaluate the merits of instituting a distribution pole life extension program..." and address its findings in the 2019 ACE Plan. If it is merited, it committed to bringing an implementation plan forward in that application.

[86] Mr. Chernick had opined that two projects, which appeared to be related to the Advanced Metering Infrastructure application before the Board in M08349, require improvement in reporting methodology from NSPI. Both projects (CI 50112 Customer Web Portal and CI 0002130 ADMS Distribution Fault Location System) are listed in the Application for subsequent submittal to the Board. NSPI agreed in Item 9 of Appendix A to the Consensus document to provide more information when these projects are submitted to the Board for approval.

[87] Mr. Sidebottom, in NSPI's opening statement, said:

The ACE Plan process continues to benefit from collaboration with stakeholders. Nova Scotia Power was able to arrive at a Terms of Consensus with the Consumer Advocate and the Small Business Advocate on the 2018 ACE Plan which was submitted to the Board for approval on February 23, 2018. The Terms of Consensus serves to address all outstanding concerns raised by stakeholders with respect to specific projects and defers

some issues to subsequent discussions. This demonstrates the positive outcomes that can be achieved by working together for the benefit of customers. We look forward to continuing this collaboration in future ACE Plans.

[Exhibit N-13, p. 2]

[88] Mr. Mahody, in his opening comments, noted:

In advance of this hearing, the Consumer Advocate and other interested parties held discussions with Nova Scotia Power in an attempt to reach a common position regarding the recommendations contained in Mr. Chernick's evidence. Those discussions led to a Terms of Consensus that has been filed with the Board and is available for review.

The proposed Terms of Consensus address all of the concerns expressed in Mr. Chernick's testimony. The Consumer Advocate draws specific attention to Nova Scotia Power's commitment to undertake a comprehensive study of NS Power's hydro assets as outlined in the 2010 Depreciation Settlement that was approved by Board Order on May 11, 2011. Undertaking this study addresses concerns raised in the evidence of both the Consumer Advocate and the Small Business Advocate.

The Consumer Advocate commends the Terms of Consensus for adoption by the Board.

[Exhibit N-15, p. 1]

[89] Ms. MacAdam, in the SBA's opening statement, confirmed the SBA's support of the Consensus document, and said:

The SBA submits each year that the classes of businesses that we represent; namely Classes 10 – small business; 11 – small industrial; and 21 – general, are concerned about the costs and the timing of capital projects. Stakeholder involvement in reviewing the ACE plan, submitting Information Requests and filing evidence are essential to ensure that ratepayers are protected. The focus must be not only on the projects being submitted, but how those projects impact on past and future investments.

As part of the stakeholder process, settlement discussions are an important way to confirm that NSPI is taking all necessary steps to act prudently and in the best interests of ratepayers, without unnecessary litigation. The SBA considers the agreements reached on the issues identified by Mr. Athas are in the best interests of the ratepayers it represents.

[Exhibit N-12, p. 2]

Findings

[90] The Consensus document provides that several matters which were raised by the CA and the SBA, through the evidence of Mr. Chernick and Mr. Athas, are referred to a stakeholder consultation process. It states:

3. For the issues the Parties have agreed to review through a subsequent 2018 capital stakeholder engagement process, NS Power will provide a report to the UARB in writing (with copy to the remaining Parties) on the outcome of any such process by no later than **August 3, 2018** or as otherwise directed by the UARB.

[Exhibit N-14, p. 1]

[91] This includes Items 4, and 6-9 inclusive, from Appendix A in the Consensus document.

[92] In the hearings on the 2016 and 2017 ACE Plans, the Board canvassed the trend of deferring matters to stakeholder consultation with the NSPI panel (see paragraphs 124 to 136 [2016 NSUARB 95] and paragraphs 73 to 78 [2017 NSUARB 50]). In the 2017 hearing, Mr. Casey said that NSPI viewed "...the current process including all of the stakeholder engagement [as] very positive..." and "transparent...certainly in the best interest of customers" (M07745, Transcript, p. 105).

[93] Based on the opening statements of the CA and SBA in particular, the Board considers that it should not be concerned about the deferral of matters to a stakeholder engagement and consultation at this time.

[94] The Board has previously set out the principles that apply in consideration of settlement agreements/consensus documents in many of its decisions (see, for example, [2008 NSUARB 140]).

[95] The Consensus document represents resolution of issues identified in the Final Issues list and by the parties. It is a negotiated agreement between the signatory parties who were represented at the hearing. Although the Consensus document was not executed by the Industrial Group, it was not opposed (or supported). As noted above, PHP did not participate in the process leading to the Consensus document or the hearing.

[96] The Board has accepted such agreements where it has been satisfied that the agreement is properly supported and in the public interest.

[97] In this Application, the Board notes, as it did in the 2017 ACE Plan proceeding, that the matters to be addressed in the stakeholder consultation process are

generally complex and broad topics which lend themselves to detailed discussion and dialogue that may not be possible during a hearing.

[98] The Board is satisfied that transparency of its proceedings is not compromised by such a process.

[99] In its previous ACE Plan decisions, the Board encouraged the parties to continue the consultative process they suggested. In the Board's view, the discussions between stakeholders have resulted in continued improved quality in NSPI's ACE Plan filings and, generally, have allowed for more efficient review. Consequently, the Board agrees with the parties' decision to continue collaboration in finding mutually acceptable solutions.

[100] The Board has considered the evidence and the Consensus document. The Board accepts the recommendations of the signatories and approves the Consensus document as filed. The Board has, however, made observations about certain elements of the Consensus document elsewhere in this Decision. In particular, the issue of hydro generation investment is discussed more fully later in this Decision.

[101] With respect to the comprehensive study of NSPI's hydro assets discussed in Item 1 of Appendix A of the Consensus document, the Board reminds NSPI of the commitment made by Mr. Sidebottom to provide progress reports on the status of the study to the Board as well as to interested stakeholders.

[102] NSPI has committed to reporting on the matters on which discussion is to occur by no later than August 3, 2018, and the Board directs it to do so. The Board encourages NSPI to report at an earlier time if agreement has been reached on any of the issues so that any necessary or appropriate action can be taken expeditiously.

V OTHER MATTERS

1. Hydro Generation Investment

[103] The Application reveals the Company is planning major investments in its hydro generation assets over the next several years. The Board therefore included this topic on the Issues List.

[104] NSPI submitted sixteen individual capital work orders, associated with hydro generation assets, for approval in this ACE Plan, in the total amount of \$29,517,209.

[105] Four projects, which relate to the Wreck Cove Hydro Generating Station, valued at \$16,276,190, represent approximately 55% of the total. The Wreck Cove facility, the Company's largest hydro generator, provides approximately 330 GWh of renewable energy annually.

[106] A project on the Lequille generating system is projected to cost \$4,472,369. The Lequille system produces approximately 26 GWh of renewable energy annually.

[107] One capital work order, in the amount of \$378,248, is for the replacement of renewable energy generation meters across NSPI's entire fleet.

[108] The remaining 10 projects, with a total combined cost of \$8,390,402, relate to various smaller hydro generating facilities.

[109] In addition, NSPI has provided initial details on major capital expenditures related to the Mersey Hydro System, its second largest hydro system, with a total generating capacity of 45 MW and an average annual generation of approximately 299 GWh.

[110] The current plan is to commence work on this project in 2018. NSPI describes the scope of the project as follows:

The broad scope of this re-development will include:

- Replacement of the six powerhouses on the Mersey System
- Replacement of the 12 generating units within those six powerhouses
- Refurbishment of the dams and water retaining structures
- Refurbishment of the water control structures (spillways and sluiceways)
- Refurbishment of five switchyards

[Exhibit N-1, p. 35]

[111] The Mersey redevelopment is expected to increase its installed generating capacity by approximately 1%. The available annual renewable energy will increase by approximately 24%.

[112] NSPI anticipates the redevelopment will take place over a 10 to 12 year period, at a cost of “approximately \$500-\$600 million, based on a Class 5 estimate.”

[113] In addition to the work contemplated in the current ACE Plan, NSPI is also proposing to undertake a further large-scale Life Extension and Modernization (LEM) project at the Wreck Cove Hydro Generating Station.

[114] NSPI discussed the scope of work and objectives of the project as follows:

The objective of the LEM initiative is to enable the Wreck Cove Generating station to continue to provide renewable generation and system stability value from a fleet portfolio perspective for the next 40 years. This will be done through:

- Upgrades, refurbishments and replacements necessary to retain existing MW peak capacity at minimum initial capital outlay.
- Upgrades, refurbishments and replacements necessary to maximize the energy output while maintaining the geographic footprint of the system within the watershed and staying within current environmental regulatory constraints;
- Maintaining and/or exceeding typical annual generation profile with stable, reliable and smooth operation range from low to full load (0-110MW). Today, the units have a minimum operating limit of 45MW to mitigate turbine runner cavitation issues, but greater operating range would assist system operators in wind integration and load following activities;
- Investigating various turbine runner options to increase maximum peak output (MW) with an acceptable efficiency curve and favorable operating range.

[Exhibit N-1, pp. 33-34]

[115] Due to constraints on the size of the footprint, primarily related to the environmental concerns, the Wreck Cove LEM project will only have a nominal impact on energy output.

[116] Further details related to hydro generation investments are found in NSPI's response to NSUARB IR-55, which sets out anticipated expenditures for the years 2018-2022. The Board notes the list includes significant costs related to the Tusket Dam refurbishment project, which is currently before the Board (CI 29807), and the Gaspereau Lake Dam project (CI 26374), which was approved by the Board, where a significant Authorization to Overspend application is anticipated.

[117] Mr. Athas was concerned about NSPI's approach to hydro investment justification, and the large percentage of projects which were justified either under the Safety criteria, or a combination of the Safety and Reliability criteria, in the CEJC. Mr. Athas said:

...I do not dispute the impact in restoring safety and reliability, however the recurring nature of these investments throughout the generating stations of the NS Power hydroelectric system should be considered in their entirety. Moreover, when units require more investments for safety than reliability, it suggests that NSPI lacks an overall hydrogeneration investment strategy that addresses whether these units are near the end of their useful life and a full replacement analysis is required.

...

I conclude based on these findings that the hydroelectric capital improvements investments should not be only justified individually, as they are proposed in this and prior annual capital expenditure plans, but also need to be viewed as part of multi-year expectations for continued capital expenditures in order to appropriately test the economics of maintaining each unit in the NS Power system. I recommend that the Company conduct a full review of the hydrogeneration fleet to determine the cost of a sustainable life-cycle investment strategy.

[Exhibit N-6, p. 7]

[118] Mr. Chernick was also concerned about the manner in which NSPI justifies its hydro expenditures. He suggested:

For each life extension or rehabilitation of a major hydro facility or river system, the Board should review the projected expenditures in a comprehensive manner, rather than as piecemeal projects. This process would apply to the subsequent submittal for the Mersey

system later this year and the 2019 ACE consideration of the Wreck Cove life extension.

[Exhibit N-7, pp. 7-8]

[119] In responding to NSUARB IRs 45(a) and (b), which requested information related to a comprehensive study of the Company's hydro assets arising from a settlement agreement in NSPI's 2010 Depreciation Rates Application (M03665), NSPI stated:

- (a) As part of the Depreciation Settlement, NS Power agreed that it would not pursue additional future decommissioning costs for hydro generating assets until such time that the comprehensive system study work was completed. NS Power's approach to this comprehensive study work to date has been to undertake it on a system by system basis. The Company has been assessing its hydro system assets as major investment points are approached. NS Power continues to evaluate its hydro assets and a completed comprehensive study of the entire NS Power hydro system will inform the next Depreciation Study.
- (b) A major focus of this work to date has been the evaluation of NS Power's Mersey Hydro System. This work consisted of an evaluation of the future use of the Mersey system, and will be used to inform future capital investment and support capital item applications to the UARB. The first phase of the Mersey Hydro System Re-development (CI 39472) is included in the 2018 ACE Plan as a Capital Item Forecast for Subsequent Submittal.

[Exhibit N-3, IR-45, p. 2]

[120] In its reply evidence, NSPI confirmed its commitment to the comprehensive hydro study:

NS Power is committed to completing the study of the Company's overall hydro assets as outlined in the 2010 Depreciation Settlement. NS Power anticipates it will take approximately 1 year to complete the study and agrees to consult with interested stakeholders in advance regarding parameters of the study, including scope, objectives, timelines and other items of concern for stakeholders. Further, NS Power also commits to provide stakeholders with reports on the progress of the study.

The undertaking of the study does not impact the ability of the Board to proceed with the approval of the existing hydro projects included in 2018 ACE Plan. The hydro capital projects submitted in the 2018 ACE Plan for approval are required for near term reliability and sustainability of the hydro fleet, as well as to address health and safety issues, which are NS Power's top priority.

All projects in the 2018 ACE Plan have been recommended pursuant to the approved capital investment ranking and selection methodology set out in the Capital Expenditure Justification Criteria (CEJC). The hydro capital investments are justified either on sustaining the reliability of the hydro assets or because they are required to maintain the safe and reliable operation of NS Power's hydro generation fleet.

[Exhibit N-8, pp. 6-7]

[121] The Consensus document is intended to respond to the expressed concerns relating to NSPI's hydro generation investment strategy. NSPI has undertaken to advance "the comprehensive study of the Company's hydro assets as outlined in the 2010 Depreciation Settlement." As set out earlier in this Decision, the target date for completion of this study is December 31, 2018.

[122] In response to questions from the Board, NSPI confirmed the comprehensive study would look at all hydro assets, and not just the hydro assets which were the subject of the 2010 Depreciation study. The Company further confirmed the study should be available prior to the submission of the Wreck Cove LEM and the Mersey redevelopment capital work order applications.

[123] A second area of concern, discussed to some degree, in response to questions from the Board at the hearing, relates to the potential developments on the horizon related to battery storage in combination with renewable energy production. As previously discussed, a major advantage of hydro as a renewable source of energy is the firm dispatchable capacity it provides to the system. Similar benefits are not yet available for wind energy, the other predominant source of renewable energy in Nova Scotia.

[124] Mr. Sampson testified that NSPI is studying battery storage, and that there are significant challenges which continue to exist in this area. The Board agrees this is the present state of affairs. This said, technological advances, and associated decreases in costs, can happen rapidly. It would be unfortunate if major investments in hydro assets, which become sunk costs, limit NSPI's future ability to take advantage of cheaper renewable generation and battery storage capacity technology, if these become available in the relatively near term.

[125] Mr. Sampson's testimony suggests that, because of the relative magnitude of the capacity and energy produced by the existing coal fired plants, as compared with hydro generation, battery storage would more likely be of assistance in the future as an alternative in the move away from coal.

Findings

[126] The Board has approved the Terms of Consensus. None of the parties opposed any of the capital projects related to the hydro assets contained in this ACE Plan.

[127] While the CA had initially raised concerns related to the Lequille Headpond refurbishment (CI 48533) and Tidewater Facility refurbishment (CI 49942), the Terms of Consensus indicate the CA was satisfied with the additional explanations provided by NSPI in relation to these projects.

[128] Given the magnitude of the planned hydro expenditures relating to NSPI's two largest hydro facilities, the Board welcomes the priority now being placed on the comprehensive study of NSPI's hydro assets. This said, it is important for the Board to understand how the relative cost of maintaining smaller hydro facilities, with less capacity and annual production, impacts on the overall assessment of hydro assets.

[129] The Board understands the importance of NSPI's hydro systems, particularly as it relates to the Company's obligations with respect to renewable energy targets, and the need for renewable sources to provide firm dispatchable capacity. The hydro system represents approximately 20% of NSPI's installed capacity, and 9 to 10% of its annual energy output.

[130] The Board has become increasingly concerned about the manner in which individual hydro projects are being submitted for approval, without the benefit of a comprehensive analysis as to how each component fits into the hydro system as a whole.

[131] NSPI points to the Board approved CEJC as justification for the manner in which it seeks approval for projects on an individual basis, particularly in the case of economic justification.

[132] The Board notes that the economic justification procedure for hydro projects is set out in Section 17.5 of the CEJC, under the sub-heading “Hydro-Economic Justification Procedure”. It states, in part:

Hydro - Economic Justification Procedure

The following procedure is used to evaluate replacement, refurbishment or upgrades to NS Power’s hydro production assets.

The least cost option meeting all the requirements and constraints specified shall be selected.

...

- In all instances, it must be demonstrated that the value of energy to the system is greater than the cost of the capital project in question or the next most cost effective renewable energy option to replace the hydro generation. The latter is required to ensure NS Power remains compliant with Nova Scotia’s Renewable Electricity Standards.

[133] The CEJC does not specify how the parameters of a “project” are to be defined. In many cases, the components of a hydro system are submitted as a number of capital expenditures which are all required to benefit the hydro system as a whole. The Board sees nothing in the CEJC which prevents NSPI from classifying the expenditures for the component parts as a “project” for the purposes of economic analysis, nor anything that prevents the Board from requiring the Company do so. This would generally be consistent with the direction in Section 11.2 of the CEJC that multiple projects related to the same asset be submitted as a package.

[134] The conceptual difficulty with the segmented approach is that while capital costs related to only one “project” are included in the analysis, the same benefits related to avoided expenses are often included in a number of individual “project” submissions. This appears to the Board to fail to truly reflect a matching of capital expenditures to claimed benefits.

[135] A comprehensive analysis of hydro assets may help to address this issue. It should provide the Board and stakeholders with greater insight as to life cycle issues which proposed capital expenditures will address, and therefore, which capital expenditures, and matching benefits, are properly included in a “project”.

[136] The Board appreciates the current limitation and challenges related to battery storage. Given potentially rapid technological innovations, the possibility that renewable energy (other than hydro), combined with battery storage, will become a cost-effective way of providing firm dispatchable RES compliant energy, must be considered when assessing NSPI’s future generation mix. A more comprehensive assessment of this issue, as part of an overall assessment of hydro assets, would be of assistance to the Board.

2. Decommissioning Costs Generally

[137] The Board sought clarification related to decommissioning costs in NSUARB IR-3. After confirming a portion of NSPI’s depreciation expense incorporated in its revenue requirement is assigned to the Cost of Removal and Asset Retirement Accounts, NSPI responded:

...The net salvage methodology prospectively accrues for decommissioning and asset removal costs equally over the life of the asset. The recovery of net salvage is charged as depreciation expense. The Cost of Removal Regulatory liability account represents the

total of the net salvage collected through depreciation expense less the amount spent on removal costs for assets in place to date. The Asset Retirements Obligation liability account reports the present value of the future liability related to decommissioning costs for which a legal obligation exists, as required by US Generally Accepted Accounting Principles (USGAAP).

Depreciation and amortization rates, including net salvage allowances, are approved by the UARB based on periodic depreciation studies and/or settlement agreements filed with the UARB. The adequacy of depreciation expense collected to date in comparison to the undepreciated cost of capital and expected future decommissioning costs is assessed periodically as a part of this depreciation study process. The adequacy of depreciation expense collected to date and the average remaining life of the asset class is used to calculate a recommended depreciation and net salvage rate.

NS Power completed its last depreciation study in 2010. At that time, net salvage estimates included in the study for production plant reflect estimated decommissioning costs associated with each generating station or hydro system. The decommissioning cost estimates were based on the results of site-specific decommissioning studies.

For Steam and Other Production Plant, a Thermal Plant Site Remediation Study was conducted by Stantec Inc., an international engineering consulting firm. The results of this study were included in as Appendix C to NS Power's 2010 Depreciation Study.

For Hydro Production Plant, a Hydro Production Site Decommissioning Estimate Summary was prepared by J.B. Yates Engineering Limited. This was included as Appendix D to NS Power's 2010 Depreciation Study.

NS Power periodically assesses the remaining estimated cash flows required to remediate the remaining Transmission and Distribution equipment containing PCB contaminated oil and updates the carrying value of the Asset Retirement Obligation liability account in accordance with USGAAP.

[Exhibit N-3, IR-3, pp. 1-2]

[138] The Board has had occasion to observe and consider estimated decommissioning costs as part of capital work order applications. Recently, this has been primarily as part of applications related to smaller hydro generating facilities, where major refurbishment or replacement projects are proposed, and, when comparing alternatives, the amounts available to offset decommissioning costs are disproportionately low.

[139] The response to NSUARB IR-45 (c) and (d) provides NSPI's perspective on decommissioning costs associated with hydro generating assets:

(c) Whether NS Power has enough funds collected in order to cover the costs associated with the decommissioning of the Company's hydro assets depends upon a number of factors:

- How much longer the assets are in-service prior to decommissioning
- Which assets in the system are decommissioned and removed from service
- Net salvage depreciation rates in the future

NS Power's request to have decommissioning costs for hydro assets included in its proposed depreciation rates, and the assumed remaining useful lives/retirement dates of

these assets, was one of the most contested and controversial issues before the Board in the 2010 Depreciation Study proceeding. The Board Counsel's consultant and Intervenor filed evidence that challenged the inclusion of additional decommissioning costs and the retirement dates projected in NS Power's Depreciation Study. They filed evidence stating instead that NS Power's hydro generation life expectancies were most likely understated and that hydro is one resource where life expectancy should be maximized due to significant pressures to add or maintain renewable energy sources in Nova Scotia.

NS Power understands that consideration of appropriate depreciation rates in this jurisdiction should be considered in the context of full evaluation of all assets as part of a comprehensive depreciation study. NS Power anticipates that updated decommissioning estimates and asset retirement dates will be included in NS Power's next depreciation study application and that this study will also be informed by developments respecting federal and provincial carbon regulation as well as the Board's ongoing process to evaluate NS Power's utilization and optimization of its thermal assets as part of the Generation Optimization and Utilization Study process. The updated expectations for unit decommissioning costs and retirement dates will allow NS Power to reconsider whether the timing and cost for decommissioning assets being collected from customers is appropriate or should be updated to better align with expected costs and asset remaining useful lives.

- (d) As noted above, NS Power and stakeholders did not agree on the assumptions included in the 2010 Depreciation Study concerning hydro asset decommissioning dates. Instead, a "black box" settlement was reached in order to achieve an overall result. Using the Tusket Hydro System as an example, the 2010 Depreciation Study recommended a net salvage percentage (the future expected decommissioning costs as a percentage of current gross book value) of 129 percent. The 2010 Depreciation Study settlement resulted in a lower net salvage percentage of 15 percent, which has led to a lower amount being collected for decommissioning costs through depreciation expense.

Collecting lower amounts for decommissioning costs through depreciation expense for hydro assets was an expected and agreed upon outcome of the previous depreciation study settlement. Corresponding with stakeholder feedback from the 2010 depreciation study, NS Power continues to seek opportunities for optimization of the hydro system and potential extension of the useful lives of hydro assets. NS Power anticipates that updated forecasts for unit decommissioning costs and retirement dates will be included in the next depreciation study and will allow NS Power to reconsider whether the timing and amount of decommissioning costs being collected from customers is appropriate or should be updated to better align with expected costs and asset remaining useful lives.

[Exhibit N-3, IR-45, pp. 2-3]

Findings

[140] As the issue of decommissioning costs was not explored in great detail in the parties' evidence, submissions, or the Terms of Consensus, the Board makes no specific findings in relation to this subject.

[141] The Board notes NSPI's response in relation to the potential impact of the 2010 Depreciation Rate Settlement on the sufficiency of the amounts collected for potential future decommissioning of hydro assets. Given the size of potential decommissioning costs which the Board has observed in recent applications, it is not clear the magnitude of this impact would have been fully apparent in 2010.

[142] In any event, the comprehensive hydro study will assist in any review of the Company's depreciation rates at a later date. In this regard, the Board agrees that appropriate depreciation rates should be considered in a comprehensive manner, when looking at all of the Company's assets.

[143] There appears to be a potential disagreement as to the intent of the provision in the 2010 Depreciation Rate Settlement related to the hydro study, and the timing for its completion. Parties have reserved the right to discuss the consequences, if any, of the delay in completing this study. The Board will therefore make no comment on the subject in this matter, except to indicate its general concern that intergenerational equity issues arise, and consideration of alternative options may be limited, if depreciation rates are insufficient. Therefore, once the hydro study is completed, a determination will have to be made as to whether a full Depreciation Rate study is required.

3. Project Management

[144] Project management includes scoping, planning and execution. During scoping, some of the projects are classified as innovation. The acceptance of such projects has had a mixed response from the Board. The Board does not want to discourage innovation, especially when it is to the benefit of ratepayers. It may be

beneficial to define innovative projects in such a way that they are unlikely to be challenged. This would help to minimize the chances that such projects would be rejected and make the process more efficient.

[145] The Board has noted that, at times, for planning and execution, there appears to be a shortage of in-house project managers. NSPI is aware of this and is focused on achieving:

... the most long-term economic mix between internal and external personnel completing projects.

[Exhibit N-3, IR-87, p. 2]

[146] This is particularly relevant for areas of specialized knowledge, such as IT, where:

... leveraging the consultant market is the most economic means to meet resource requirements when specific capabilities and knowledge are required.

[Exhibit N-3, IR-119, p. 2]

[147] As stated by Mr. Sidebottom:

... So all of that put together, we pull together what I would call as it's a busy year. But I think we are -- we are comfortable that we have the resources to execute on the work plan. Mr. Folkins spoke to the IT side; Mr. Casey puts together, with his plan, a full work plan for the transmission, distribution, and delivery side of the business; and Mr. MacDonald has his arms wrapped around the thermal side of the business.

[Transcript, p. 174]

Findings

[148] The Board suggests that NSPI may want to develop a definition of innovation to be included in the CEJC.

[149] The Board is concerned that project management expertise is not adequately retained within the Company. The Board will monitor the use of outside project managers on projects submitted for approval over the coming year.

4. Economic Analysis Model

[150] An economic analysis model is a proven and accepted tool to assist in selecting an optimum solution from two or more alternatives. The Board has observed that NSPI is starting to use this tool in a perfunctory manner, and in cases where it may not be warranted.

[151] A case in point is the discussion about the analysis of the cost to remediate part of the tailrace at the Wreck Cove generating plant (NSUARB IR-56). In this case, some of the numbers used were not consistent with the cost analysis, and the end result was meaningless. This was explored by Board counsel:

Q. And that's the real question; is that an appropriate way to go about it? Because I suggest, sir, that this document assumes that Wreck Cove is going to continue and it's just a question of whether this unit is a profitable investment. That's what this demonstrates. That it is a profitable investment, if you assume Wreck Cove is going to continue.

A. (Sidebottom) I think when you take a look at economic analysis, if you get paybacks -- extraordinarily short paybacks -- with replacement energy only, the consideration of decommissioning becomes less relevant, because you're dealing with uncertainty -- sorry; you're dealing with paybacks in a relatively certain period of time in the near term.

[Transcript, p. 63]

[152] In this case, one component was measured against the total value of Wreck Cove, when the analysis should have been done on the whole plant, not a component.

As stated by Mr. Sidebottom:

... I know the 38 million -- and again, still I'd have to go back to make sure that's the exact number -- is still comfortably justified at Wreck Cove, and maybe there's an opportunity for us to explore the approach to that. Because I don't think projects need a full lifecycle analysis under every circumstance; that seems too much.

...

... But there is a moment, and I do take your point, where we should do it.

And what we've done so far is we feel in fact the case of the Mersey, Wreck Cove, and Tusket, the full lifecycle are being contemplated. We did look at Harmony in the same way.

And so I think there'd be some benefit in exploring where the line exists between the two.

[Transcript, pp. 130-131]

[153] Once a facility has been proven to be the best economic option, and a component is necessary for its operation (e.g., shoring up the tailrace), then an economic analysis of the component part against the total revenue loss for the whole facility is superficial. The economic analysis only makes sense if there is a choice between two or more options that would accomplish the same thing (e.g., buying a new component vs. enhancement, or life extension, of the in-service component).

[154] The response to NSUARB IR-38 stated that:

... A guidebook was initially created for economic analysis, but due to updates made to the EAM over the years, it is no longer in use. ...

The users of the EAM, typically project managers/capital engineers, are trained by experienced EAM users in the Capital Finance and Capital Planning groups in order to properly understand the inputs required to complete a proper economic analysis. ...

[Exhibit N-3, IR-38, p. 1]

Findings

[155] The economic analysis model should only be used when it provides insights into alternatives. NSPI is encouraged to update its guidebook for the economic analysis model and ensure it is used appropriately.

5. Overall Capital Expenditures

[156] At the request of the SBA, the issue of the level of overall capital expenditures by NSPI was added to the Final Issues List. In its request to have this item added, the SBA said in its letter of December 8, 2017, to the Board: "Specifically, the SBA

would like to address the overall capital expenditure level, in view of the apparent consistent expenditure levels over the past few ACE Plans.”

[157] This issue did not attract significant discussion at the hearing, undoubtedly in light of the Consensus document which did not result in recommendations to deny approval of any particular project or capital item.

[158] The Board observes that the number of projects for approval in the 2018 ACE Plan is considerably higher than in each of the past four years (2014-2017 inclusive), and the associated spending is correspondingly higher. In contrast, the number of projects to be submitted for subsequent approval is significantly lower, although the estimated cost is lower than each year in the same period, except 2014. NSPI explained in its Application that the larger number of projects submitted for approval is intended to increase transparency of its planned capital expenditures and to “...create better regulatory efficiency for the Board, regulatory participants and NS Power”. (Exhibit N-1, p. 10)

[159] The Board notes that while the proposed spending in the 2018 ACE Plan is lower than in the 2017 ACE Plan, it is higher than the actual spending in any of the years from 2011 to 2016. Additionally, forecasted spending from 2019 to 2022 is also higher than the spending in those years. The most significant areas of increased spending are in the Generation and Distribution functions. This includes large forecasted expenditures for hydro generation infrastructure investment, which is discussed elsewhere in this Decision, and investment in Advanced Metering Infrastructure/Smart Grid.

[160] During the hearing, Mr. Sidebottom explained that it is a normal practice to see the estimates for future years to vary as the nature and scope of work is developed, and ultimately refined in the year that approval for a project is sought.

[161] In response to IRs from the SBA regarding capital planning in general, NSPI described how it prioritizes its spending. Mr. Athas described, in his evidence on behalf of the SBA, his concerns with the proposed capital expenditures for transmission system projects. He concluded that the capital expenditure budget for such projects from 2020-2022 "...appears to be level funded". He said:

- A. I observed from Figure 8 that NS Power plans to spend between \$57 million and \$59 million in each of the three years between 2020 and 2022, inclusive, despite the fact that in prior years they needed to spend much more and plan to spend more this year. Figure 8 shows that through the third quarter of 2017 NS Power was on course to spend \$90 million dollars in this category. And for 2018, NS Power plans to spend \$65 million dollars. Bearing in mind my concern that NS Power may be viewing replacements in a narrow context, as discussed above, I am concerned that this effort to show budget restraint may result in important reliability upgrades being postponed.
- Q. What do you recommend for your concern that NS Power may be delaying important transmission upgrades as a result of apparent level-funding?
- A. I recommend that NS Power review the composition of its transmission related capital expenditures to make sure that they do not exclude necessary additional upgrades or replacements, and provide an explanation in its compliance filing for the reason for the similar level of projected spend given the higher spend in recent years.

[Exhibit N-6, p. 14]

[162] NSPI responded to this concern in its reply evidence:

The apparent levelization of transmission expenditures in the years 2020 to 2022 perceived by Mr. Athas from his review of Figure 8 is not due to budget restraint or the deferral of important capital upgrades. Rather, as pointed out in the text preceding Figure 8, the comparatively larger transmission spend forecasted for 2017 is primarily due to Maritime Link transmission upgrades which were mostly complete by the end of 2017.³⁰ Likewise, as shown in Figure 9, approximately \$5.77 million of Maritime Link transmission upgrades are forecasted for 2018, inflating the spend above and beyond sustaining and other recurring transmission capital expenditures.³¹

Accordingly, once the Maritime Link transmission upgrade expenditures cease in 2019, NS Power's transmission expenditures return to historically average levels as shown in Figure 8. NS Power expects that the profile of transmission expenditures for 2019 to 2022 to be similar to those shown in Figure 9, less the Maritime Link transmission expenditures. That is, mostly sustaining capital investments, bolstered by significant capital investments in right-of-way widening, with the purpose of maintaining the reliability of the system.

NS Power continually assesses the level of funding in its transmission and distribution assets to confirm whether additional expenditures are required to maintain reliability, and does so on a risk basis according to the CEJC project ranking methodology and Section 10.1.7 of the 2018 ACE Plan. At present, NS Power's reliability is better than the Atlantic Canadian average.

In accordance with NS Power's practice and the SBA's recommendation, the Company will continue to assess levels of funding to confirm it is investing enough to at least sustain the reliability of its transmission system while balancing affordability for its customers.

[Exhibit N-8, pp. 30-31]

[163] At the hearing, the Board asked, in connection with hydro generation, and system issues generally, whether it is "...time to look at another Integrated Resource Plan" (IRP). Mr. Sidebottom agreed, saying:

I think you took the words right out of my mouth, Mr. Doehler. I think when we look at 2019 we've always said that, yeah, we'll have a better framework for what's happening federally, what's happening provincially. We'll be informed on at least the latest round of legislative agenda. And we always thought this was a good moment in time with that clarity, and you know, something in that timeframe, you know that time or sometime not far from there, I think is useful.

[Transcript, pp. 132-133]

[164] The CA, in closing submissions, said:

The Consumer Advocate concurs with the view that a new IRP is warranted. An updated IRP would yield data that would be highly valuable in a number of important areas including capital expenditures and DSM.

[CA Closing Submission, p. 5]

[165] In its reply submission, NSPI agreed that another IRP would have value, but said "...it would be premature..." to undertake this in 2018. NSPI suggested that this should be deferred:

A decision regarding the timing of the next IRP should be deferred until after the Board has concluded its Generation Utilization and Optimization proceeding (M08059), which will provide stakeholders with a better understanding of the future of the Company's thermal fleet and is likely to identify areas of priority for further consideration. In addition, at that time there will be greater clarity on the Federal emissions requirements and the incoming Provincial cap and trade regime. ...

[NSPI Reply Submission, pp. 1-2]

Findings

[166] The Board has accepted the Consensus document which allows the level of capital expenditure sought by NSPI in its Application (less the project withdrawn prior to the hearing as noted earlier in this Decision). The fact that the amount is greater than in the 2017 ACE Plan does not cause the Board concern, because there are more projects, and further, the projects have been justified in accordance with the CEJC.

[167] Increased capital expenditures in future years are, at this point, forecasted estimates. Each capital item will need to be justified as required by the CEJC, and expenditures requiring Board approval will receive the scrutiny they warrant, either in individual submissions or future ACE Plan proceedings.

[168] With respect to the next IRP, the Board notes that it is currently engaged in a matter relating to Generation Utilization and Optimization (M08059) which relates to thermal plants. The Board agrees with the CA that there is value in developing a new IRP. However, the Board also agrees with NSPI that it would be premature to order an IRP at this stage. This is a matter which the Board considers best left to the outcome of that proceeding.

6. Topics for Stakeholder Engagement Process

a) Revenue Requirement Model

[169] During the 2017 ACE Plan proceeding, Mr. Chernick raised some concerns with respect to the presentation of the Revenue Requirement Table included in the ACE Plan application. As part of the 2017 Consensus document, the parties agreed to defer the issue to the stakeholder consultation process.

[170] The Revenue Requirement Table was updated in the 2018 ACE Plan Application to include the revisions agreed upon during the consultative process. This issue was not raised by any of the parties during the 2018 ACE Plan process. In his evidence provided as part of this proceeding, Mr. Chernick noted that he considers all issues carried over from the 2017 ACE Plan to have been addressed. Therefore, the Board concludes this matter has been addressed to the satisfaction of all parties.

b) Replacement Energy Calculations

[171] The issue of replacement energy costs (REC) calculation methodology formed part of the stakeholder consultation process established pursuant to the 2017 ACE Plan Terms of Consensus.

[172] In this Application, NSPI reported as follows:

NS Power and interested parties have not reached agreement on the overall REC calculation methodology. NS Power maintains its position as set out in Section 8.1.9 of the 2017 ACE Plan: NS Power's current Variable Dispatch REC calculation methodology is best suited for today's power system based on years of refinement and experience with other methodologies. NS Power is committed to further discussion on this topic with stakeholders as part of the 2018 ACE Plan proceeding.

NS Power proposed revisions to the calculation of the hydro generation component of the REC calculation methodology, which replaces hydro energy with only dispatchable Renewable Energy Standards (RES) compliant sources of electricity. NS Power submits that the proposed change to the hydro REC calculation methodology reflects the reality of RES compliance and is consistent with the stated approach filed with the 2017 ACE Plan engagement report. No parties have expressed opposition to the Company's proposed hydro generation replacement energy methodology.

[Exhibit N-1, p. 53]

[173] In response to NSUARB IR-23, NSPI said that it was appropriate to utilize only RES compliant sources for replacement of hydro energy, stating:

The RES compliance assessment set out in the annual 10 Year System Outlook report assumes the full typical energy production of all available intermittent renewable energy sources together, with a fully dispatched Port Hawkesbury biomass cogeneration unit.

In any given year, it will vary as to whether NS Power would need all available renewable energy for compliance, given the variable nature of wind and weather. In general, the forecast leaves only a small compliance margin with full expected production. Therefore,

in a low wind or hydro production year all of the available RES compliant energy could be needed in order to comply.

[Exhibit N-3, IR-23, p. 2]

[174] NSPI further said the Port Hawkesbury Biomass plant (PHBM) was “currently NS Power’s only non-hydro dispatchable renewable generation source; therefore, it is the only option that can be considered when replacing hydro generation due to outages.”

[175] In response to Board questions relating to the perceived fluctuations in the cost of energy from the PHBM facility in recent Fuel Adjustment Mechanism reports, it was indicated the cost of biomass fuel, which is not traded in a transparent market, had not shown the same volatility as the price of natural gas, which is also utilized at the PHBM facility.

[176] NSPI confirmed biomass is the only fuel component in the hydro REC calculations. In response to U-4, NSPI provided further details on the methodology:

The Replacement Energy Cost (REC) for the Economic Analysis Models (EAM) used for hydro capital projects assumes replacement with renewable electricity from the Port Hawkesbury Biomass plant (PHBM). PHBM energy production cost forecast is calculated consistent with the methodology and inputs used in the Plexos model FAM forecasting. PHBM energy production cost forecast is calculated using the expected fuel mix (a ratio of bark and chips), the corresponding moisture content (based on both fuel content and time of year), and the forecasted fuel prices for these materials. NS Power uses a 75 percent bark and 25 percent chip fuel mix for forecasting purposes. The forecasted electricity production costs represent an annual average.

[Exhibit N-18, p. 6]

[177] Mr. Chernick recommended that the REC for hydro projects should reflect a mix of renewable and non-renewable energy.

[178] Mr. Athas’ evidence suggested further discussions were needed to refine the REC calculation methodology.

[179] The Terms of Consensus indicates:

Parties agree no further amendments to the replacement energy cost calculation methodology are required for the purposes of 2018 ACE Plan. As part of a 2018 capital

stakeholder engagement process, NS Power will consult with interested stakeholders on its replacement energy cost price for use in planning beyond 2018. The 2018 capital stakeholder consultation process will begin within 30 days of the Board issuing its decision in this matter.

[Exhibit N-14, p. 7]

[180] At the hearing, NPSI indicated that meant the REC calculation methodology utilized by NSPI as part of the 2018 ACE Plan should be followed in assessing the Application. No party provided a contrary interpretation.

Findings

[181] In approving the Terms of Consensus, the Board has agreed with the parties to remit REC calculation methodology issues to the stakeholder consultation process.

[182] Given the position of the parties, the Board has accepted the REC calculations as presented for the purposes of this Application. This does not mean that the Board adopts the use of renewable energy only in the REC calculations for hydro projects for all future submissions, pending the outcome of the stakeholder consultation. This will have to be considered if capital work orders are filed before the outcome is known.

[183] The issue of how to account for the potential development of other lower cost dispatchable renewable generation sources in the future, such as wind in combination with battery storage, was briefly discussed at the hearing.

[184] The PHBM energy costs are considerably higher than what has been used in the hydro REC calculation in the past. The Board's concern relates to the fact that REC calculations look at long time horizons, including those for the timing of expenditures and probability of failures.

[185] How to incorporate the potential for future lower cost sources of dispatchable renewable energy into current projections creates conceptual difficulties; however, the Board requests that stakeholders turn their minds to this issue.

[186] Since biomass fuel is not traded in a transparent market, the Board would further request that stakeholders review in detail the inputs used to derive the final proposed replacement energy cost figures in NSPI's hydro REC calculation.

VI SUMMARY

[187] NSPI filed its 2018 ACE Plan Application seeking approval of capital spending of \$204.0 million. This amount includes \$120.1 million for individual capital items, of which \$92.0 million will be spent in 2018, and the remainder in 2019 and beyond. NSPI also requested approval of \$83.9 million for routine capital expenditures in 2018.

[188] As a result of the withdrawal of one capital item, the spending for individual capital items was reduced to \$118.3 million, of which \$90.3 will be spent in 2018.

[189] Prior to the public hearing held on February 26, 2018, NSPI and the Intervenor, with the exception of PHP, NSDOE, and the Industrial Group, filed a Consensus document with the Board which outlined an agreement resolving the issues. The Consensus document provided that no signatory party objected to any of the projects NSPI submitted for approval in the 2018 ACE Plan. It also provided that stakeholders will engage in a consultative process regarding: guidelines for the use of splices; a possible distribution pole life extension program; documenting alternatives to the "like for like" replacement approach; asset management criteria for advancing transmission projects; and replacement energy cost price for use in planning beyond 2018.

[190] The Consensus document also provided that NSPI will move forward with the comprehensive study of its hydro assets, using all reasonable efforts to complete the study by December 31, 2018. NSPI has committed to report to interested stakeholders and the Board on the progress of the study and to provide the Board with a written report if that date will not be met.

[191] The Board has prepared Schedule "A" which shows the status of the 2017 ACE Plan projects which NSPI intended to submit later. Schedule "C" lists the projects for 2018 which NSPI intends to submit for later approval. Both Schedules are for information purposes only.

[192] The Board approves the projects and capital expenditures set out in Schedule "B". Should any of them be cancelled or deferred, NSPI is required to resubmit them for Board approval.

[193] The Board also approves the 2018 Routine capital expenditures.

[194] The Board approves the Consensus document as filed. NSPI should lead the consultative process, and Board staff and Counsel will participate as appropriate. NSPI is to provide a report to the Board no later than August 3, 2018, advising on the status of stakeholder discussions, including matters where agreement has, and has not, been achieved.

[195] The Board awaits the comprehensive study of NSPI's hydro assets. It anticipates that it may help to address concerns about matching capital expenditures to benefits. As well, it may provide insight into life cycle issues for these assets, and around battery storage.

[196] Further, the Board considers that, once the study is completed, a determination will need to be made on whether a Depreciation Study is required.

[197] The Board suggests NSPI may wish to consider developing a definition of “innovation” in the CEJC.

[198] Due to a concern about the adequacy of project management expertise within NSPI, that Board will monitor the use of external project managers on capital projects submitted during the coming year.

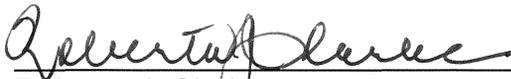
[199] The Board encourages NSPI to update the guidebook for its economic analysis model, which the Board understands is not presently in use.

[200] The Board, while agreeing there is value in a new Integrated Resource Plan, considers this matter best left to the outcome of the Generation Utilization and Optimization matter currently before the Board.

[201] As the stakeholder consultation process will review the replacement energy costs calculation, the Board requests that consideration be given to how the potential for future lower cost sources of dispatchable renewable energy might be incorporated into projections. Additionally, the Board requests that the inputs for the hydro REC calculation be reviewed in detail during that process.

[202] An Order will issue accordingly.

DATED at Halifax, Nova Scotia, this 25th day of April, 2018.



Roberta J. Clarke



Murray E. Doehler



Richard J. Melanson



SCHEDULE "A"

Status of the 2017 ACE Plan Projects

Projects NSPI Intended to Submit Later (2017 Schedule "C")

CI Number	Title	Status
Generation		
39472	HYD Mersey Hydro System Re-Development	Deferred to 2018
29807	HYD - Tuskett Falls Main Dam	Submitted
47654	HYD - Gulch Penstock & Surge Tank Replacement	APPROVED
48533	HYD - Lequille Headpond Water Retaining Structures Refurbishment	Deferred to 2018
48052	HYD - Annapolis HVAC Upgrade	APPROVED
47648	HYD - Lequille Pipeline Replacement	APPROVED
47876	HYD - Lequille Overhaul	APPROVED
38931	HYD - Harmony Partial Decommissioning	APPROVED
49596	HYD - Hells Gate 2 Overhaul	APPROVED
47678	HYD - Prince Mine Dam Decommissioning	Point Aconi project
47682	HYD - Lequille Switchgear Replacement	APPROVED
48913	HYD - Tuskett Facility Refurbishment	Review deferred (M08362)
49835	HYD - Dive Site Risk Mitigation	Cancelled
49598	HYD - Gisborne Switchgear Replacement	APPROVED
47166	HYD - McAskill Brook Decommissioning	Deferred to 2019
48914	HYD - Malay Falls Facility Repair	APPROVED
48396	HYD - Bridge Remediation	APPROVED
47660	HYD - Dickie Brook Controls Upgrade	Deferred to 2018
49039	HYD - Lequille Controls Upgrade	APPROVED
44776	CT - TUC#5 LM6000 Generator Stator Re-wedge	APPROVED
49273	CT - BGT2 Engine Refurbishment	Review deferred (M08176)
49940	LM6000 TUC5 Control System Upgrade	Pending 2017 Capital Item
49594	LM6000 TUC5 - Airhouse Upgrade	Deferred to 2018
49926	LM6000 TUC4 - Airhouse Upgrade	Awaiting Submission
49949	LM6000 TUC4 - Control System Replacement	Deferred to 2019

47118	CT - Tusket Hydraulic Starter	Cancelled
46499	Stator Rewind Kit Capital Spare	APPROVED
48893	TUC3 - IP Turbine Refurbishment	APPROVED
47531	TRE6 - Turbine Refurbishments	APPROVED
49438	LIN - A Gallery Floor Replacement	APPROVED
49499	PHB - Boiler Refurbishment 2017	APPROVED
49111	POT - Air Heater Refurbishment	APPROVED
49538	TRE6 - Generator Refurbishment	APPROVED
47553	TRE6 - Turbine Main Valves	APPROVED
49674	TUC2 - Boiler Selective Waterwall Tube Replacements	APPROVED
49060	POT - Condenser Dog Bone Expansion Joint Replacement	Submission no longer required*
48868	AMO Fleet TWIP Upgrades	Cancelled
Transmission		
43678	Separate L8004/L7005 on Canso Crossing Double Circuit Tower (DCT)	Awaiting Submission
45053	69kV Structure Replacements West	Deferred to 2019
50342	Western Transmission System Voltage Support	Cancelled
49922	Western Switching Upgrades	APPROVED
49879	77V-T52 Replacement	APPROVED
50021	91H Tufts Cove Bus and Line Upgrades	Deferred to 2019
49928	3S Gannon Road Bus Reconfiguration	APPROVED
49929	Tap Changer Replacements	APPROVED
Distribution		
50343	Advanced Metering Infrastructure	Combined with CI 47124
47124	Advanced Metering Infrastructure - Pilot Project	Submitted
47776	111S Prime Brook Feeder Exits & Feeders	APPROVED
47787	2H Armdale New Feeders	APPROVED
47760	85S-402 Re-Insulate	APPROVED
44749	Tiverton Tower Refurbishment	APPROVED
50341	2017 Substation Recloser Replacements	APPROVED
49899	10H Halifax 4kV Conversion Year 4	Submission no longer required*

General Plant		
46075	IT - Work and Asset Management	Deferred to 2018
43202	Replace Mobile Radio System	APPROVED
49857	IT - Storage Infrastructure Upgrade	APPROVED
49860	IT - SharePoint Upgrade	Submitted
49093	IT - Security Operations Center (SOC) and Security Information Event Monitoring (SIEM)	Deferred to 2019
49787	Intelligent Feeder/Storage Project (SDTC)	APPROVED
49859	IT - Windows Server 2008 Upgrade	Deferred to 2019
49855	IT - Window 10 Migration Project	APPROVED
50153	Customer Experience Self Serve Development Phase 2	APPROVED
49094	IT - Identity Access Management Infrastructure	Deferred to 2018
49858	IT - Microsoft Exchange Upgrade	Deferred to 2018
48773	IT - VOIP Expansion to NS Power Sites	APPROVED
49480	IT - Disaster Recovery	Deferred to 2018
49601	IT - Data Loss Prevention	Deferred to 2019
49600	IT - Network Architecture Redesign	Deferred to 2019
49876	Real Time Economic Dispatch	Deferred to 2019
50112	Customer Experience Consolidated Customer Web Portal	Deferred to 2018
50113	Customer Experience - Streetlight Improvements	Approval request denied by the Board
47751	Dynamic Transmission Limits	Deferred to 2019
49603	IT - Patch Management	Cancelled
48238	Customer Experience Customer Billing Experience Improvements	APPROVED
48044	Bentley Nevada Upgrade and Integration to Fleet Monitoring	Deferred to 2019
48155	2016 SCADA Application Upgrade	APPROVED
50295	Electric Vehicle Infrastructure Deployment	Approval request denied by the Board
50132	Joint Regulation	Deferred to 2019
49953	IT - CIS High Availability	APPROVED
50292	FAC - Kempt Road Depot Truck Bay	Approval request denied by the Board
50115	Customer Support System Enhancement	Cancelled

48837	AMO Fleet Environmental Data Management	Pending 2017 Capital Item
49856	IT - ITSM Replacement	Cancelled



SCHEDULE "B"

2018 ACE Plan Approved Projects

CI Number	Title	2018 Budget	Project Total
Generation			
1236	HYD - WRC Tailrace Rock Bolting	\$8,677,118	\$8,861,996
48533	HYD Lequille Headpond Refurbishment	\$4,209,710	\$4,472,369
49033	HYD WRC Tunnel T-2 Intake Replacement	\$2,525,419	\$2,851,582
51235	HYD - WRC Main Access Rd Refurbishment	\$2,574,654	\$2,686,075
51234	HYD - WRC HVAC Upgrade	\$266,738	\$1,876,537
49943	HYD - Ruth Falls Facility Refurbishment	\$1,217,177	\$1,234,931
49942	HYD - Tidewater Facility Refurbishment	\$1,230,442	\$1,234,178
49946	HYD - Fourth Lake Overhaul	\$978,404	\$1,025,769
49945	HYD - Malay Falls Switchgear Replacement	\$957,136	\$958,631
52262	HYD - Hells Gate 1 Overhaul	\$854,993	\$854,993
51972	HYD Nictaux Canal Embank Refurbishment	\$779,686	\$789,918
51866	HYD - 4th Lake Penstock Refurbishment	\$663,326	\$696,963
47655	HYD - Paradise Controls Upgrade	\$218,179	\$639,991
49944	HYD - Dickie Brook Penstock Refurbishment	\$478,820	\$478,820
48712	HYD - Dam Instrumentation Upgrade	\$395,505	\$476,207
52018	HYD - RES Revenue Meter Replacement	\$368,897	\$378,248
51802	TRE5 Boiler Refurbishment 2018	\$1,212,228	\$1,212,228
51805	LIN4 Boiler Refurbishment 2018	\$739,657	\$739,657
47684	LIN3 Boiler Refurbishment 2018	\$739,657	\$739,657
51825	POT Boiler Refurbishment 2018	\$568,740	\$568,740
52252	LIN1 SH5 Tube Replacement	\$521,259	\$521,259
52253	LIN3 Economizer Header Refurbishment	\$499,951	\$499,951
51821	TRE5 Air Heater Refurbishment	\$487,376	\$487,376
51824	LIN3 ID Fan Damper and VIV Refurbishment	\$443,311	\$443,311
51818	PHB Boiler Refurbishment 2018	\$440,315	\$440,315
51807	TUC2 Boiler Lower Vestibule Refurbishment	\$412,872	\$412,872
51849	LIN3 RH Tube Replacement	\$399,546	\$399,546
51850	LIN4 RH Tube Replacement	\$399,546	\$399,546

49547	TRE5 5-1 BFP Refurbishment	\$345,523	\$345,523
51857	TRE5 Burner Refurbishments 2018	\$332,497	\$332,497
49534	TRE6 EHG/Turbine Controls Upgrade	\$2,507,264	\$2,725,344
51820	TRE5 Reheat Turbine Valves	\$450,408	\$450,408
51862	TRE6 Lube Oil Cooler Refurbishment	\$341,769	\$341,769
43429	TRE5 Lube Oil Cooler Retube	\$338,398	\$338,398
51853	LIN3 Turbine Valve Refurb 2018	\$295,709	\$295,709
51803	TUC2 Generator Flux Probe Installation	\$840,158	\$840,158
50577	TRE6 CEMS Replacement	\$715,562	\$715,562
49676	TUC2 CEMS Replacement	\$380,140	\$380,140
51806	LIN Mill Refurbishment 2018	\$673,153	\$673,153
52093	ICP Rail Crossing Refurbishment	\$592,402	\$592,402
51811	LIN Reclaim Refurbishment Phase 2	\$534,666	\$534,666
51815	LIN CW Pump Refurbishment 2018	\$520,436	\$520,436
51861	TRE6 CW Screen Replacement 2018	\$513,192	\$513,192
51816	TRE Asbestos Abatement 2018	\$509,035	\$509,035
51835	TUC2 H2 Panel Upgrades	\$454,886	\$454,886
51836	TRE5 Mill Refurbishments 2018	\$409,458	\$409,458
47871	LIN Stack Re-Coating	\$381,034	\$381,034
51839	LIN Coal Plant Structural Refurbishment	\$354,067	\$354,067
51851	LIN CW Screen Refurbishment 2018	\$350,534	\$350,534
C0001419	TRE HFO Refurbishment Phase 1	\$340,618	\$340,618
51804	LIN3&4 ACW Duplex Strainer Replacement	\$333,808	\$333,808
51852	POT Mill Refurbishment 2018	\$327,267	\$327,267
52156	LIN Vacuum Pump Upgrades	\$302,714	\$302,714
51860	TRE5 PF Mill Line Replacement	\$258,761	\$258,761
Transmission			
51969	2018 Transmission ROW Widening 69kV	\$5,487,686	\$5,487,686
51975	5P Mobile Substation Replacement	\$3,225,405	\$4,829,458
52258	2018/2019 Isolated Structure Replacement	\$1,094,899	\$4,818,521
51403	2018 PCB Removal Program	\$1,478,161	\$4,402,342
51402	2018/2019 Sacrificial Anode Installation	\$703,416	\$3,023,668

C0001900	Mount Hope 69-25kV Substation	\$1,397,158	\$2,982,338
52314	1C-GT1/UT1 Replacement	\$1,162,188	\$2,032,393
51398	2018/2019 Steel Tower Refurbishment	\$461,426	\$1,992,692
52320	L6549 2018 Replacements & Upgrades	\$657,710	\$1,406,535
51406	2018/2019 Transmission Switch & Breaker Replacement	\$1,311,498	\$1,405,891
51405	2018 Wood Pole Retreatment Program	\$680,538	\$1,361,076
48131	48H-T1 Replacement	\$648,122	\$1,281,449
52328	56N-T1 Transformer Upgrades	\$703,817	\$1,279,271
49779	L6537 Replacements and Upgrades	\$587,041	\$1,255,220
49777	L7002 Replacements and Upgrades	\$437,128	\$926,777
52241	16V-T2 Weymouth Hydro Transformer Replacement	\$889,253	\$889,253
52102	L5014-2018 Replacements and Upgrades	\$849,700	\$849,700
49788	L5564 Replacements and Upgrades	\$691,417	\$738,853
52059	L5039 - 2018 Replacements and Upgrades	\$719,825	\$719,825
49783	L5027A Replacements and Upgrades	\$648,292	\$648,292
52119	L5054 2018 Replacements and Upgrades	\$560,143	\$560,143
52238	2018/2019 Capacitor Bank Breaker Replacement	\$243,830	\$433,719
43268	9W-B53 Tuskett Replace Structure	\$375,523	\$375,523
51797	2018 Oil Containment Program	\$331,507	\$331,507
52305	2018 Substation Insulator Replacement	\$316,348	\$316,348
51863	2018 Tap Changer Replacements	\$306,102	\$306,102
Distribution			
C0001950	New Distribution Rights-of-Way Ph 3	\$6,870,749	\$9,822,493
52271	2018 Padmount Replacement	\$1,286,340	\$1,657,205
51493	2018 PCB Pole Top Transformer Replacement	\$842,163	\$1,360,354
52184	37N-412-Glooscap Trail Rebuild Phase 2	\$858,046	\$858,046
52224	532N-Elm Street Conversion Phase 2	\$433,695	\$722,113
C0001802	54C-211 Queen Street Conversion	\$705,316	\$705,316
52185	50N-410 Rebuild Phase 2	\$695,098	\$695,098
43218	88W-323A Tuskett Islands Phase 3	\$347,162	\$654,721
51400	2018 Sub Recloser Replacements	\$644,710	\$644,710
52194	6S-223 Harold Street Conversion	\$642,368	\$642,368

52200	65V-301 Brickton Reconductor	\$288,048	\$594,362
52205	30N-412 Hwy 242 Fundy Shore Rebuild	\$536,670	\$536,670
51744	30N-411 Maccan River Rebuild	\$473,044	\$473,044
52204	87W-312G-Tancook Island Replacement	\$208,236	\$454,096
52267	16W-302H-Brenton Rd Rebuild	\$258,839	\$387,767
52207	678H-211 McNab's Island Replacement	\$162,232	\$350,176
51500	2018 Pin Insulator Replacements	\$329,944	\$350,100
52192	54H-303 Underground Device Replacement	\$289,957	\$309,230
52206	20V-311-Bishop Ville Rd	\$303,533	\$303,533
52186	4S Feeder Exit Cable Replacement Phase 1	\$276,129	\$293,509
52208	3S Feeder Exit Cable Replacement Phase 2	\$293,228	\$293,228
52201	55V-314GA-Welsford Reconductor	\$275,161	\$275,161
General Plant			
52308	2018 RTU Replacement Program	\$298,792	\$988,056
52233	2018 Telecom Building Replacement	\$314,929	\$314,929
TOTAL APPROVED AMOUNT		\$90,266,639	\$118,344,069



SCHEDULE "C"

2018 ACE Plan Projects NSPI Intends to Submit Later

CI Number	Title	2018 Budget	Project Total
Generation			
39472	HYD Mersey System Re-Development	\$1,223,368	\$83,595,607
48791	HYD - WRC Safety Standards Upgrades	\$440,182	\$1,019,928
51775	HYD Fixed Ladder & Machine Guard	\$906,249	\$999,149
47660	HYD - Dickie Brook Controls Upgrade	\$228,354	\$885,586
52017	HYD ANN Exciter Replacement	\$465,855	\$473,350
51772	HYD Arc Flash Mitigation	\$262,654	\$403,175
47659	HYD - Fall River Controls Upgrade	\$104,320	\$302,867
C0002978	CT's Motor Control Centre Upgrades	\$1,199,221	\$1,199,221
49594	LM6000 TUC5 Airhouse Upgrade	\$830,287	\$916,391
51808	TUC HFO Piping Refurbishment	\$1,291,933	\$1,291,933
52107	TUC6 CW Screen Replacement	\$1,000,676	\$1,029,787
52321	TUC3 Air Heater Refurbishment	\$535,728	\$570,623
Distribution			
47794	Heckman Island Underwater Cable Replacement	\$762,186	\$1,524,923
General Plant			
46075	IT - Work and Asset Management	\$14,498,734	\$45,509,963
49480	IT - Disaster Recovery	\$494,282	\$6,312,277
49858	IT - MS Exchange Upgrade	\$1,555,597	\$1,555,597
50112	Customer Experience Consolidated Customer Web Portal	\$654,004	\$1,190,588
49094	IT - Identity Access Mgmt Infrastructure	\$800,000	\$977,498
C0002241	IT-Generation Operation Upgrade	\$511,673	\$511,673
52335	IT-Automate Manual Billing	\$506,403	\$506,403
52337	IT-Group Billing Experience	\$505,823	\$505,823
C0002130	ADMS Distribution Fault Location	\$473,660	\$473,660
C0002106	Vegetation Inventory System Upgrade	\$260,172	\$260,172
C0002254	IT- MV90 Upgrade	\$254,062	\$254,062

BUDGETED AMOUNT		\$29,765,423	\$152,270,257
51481	IT CMS Upgrade*	\$525,174	\$564,063
49940	LM6000 TUC5 Control System Upgrade**	\$811,559	\$811,559
48837	AMO Fleet Environmental Data Management***	\$52,500	\$259,380
TOTAL AMOUNT		\$31,154,656	\$153,905,259

* According to the response to IR-35, this project is a subsequent submittal item.

** Pending 2017 Capital Item; according to information provided in NSPI's 2017 Fourth Quarter Capital Report, CI 49940 was deferred to 2019.

*** Pending 2017 Capital Item.

Attachment 1 – Terms of Consensus

NOVA SCOTIA UTILITY AND REVIEW BOARD

IN THE MATTER OF Section 35A of *The Public Utilities Act*, R.S.N.S. 1989, c.380, as amended

- and -

IN THE MATTER OF an Application by Nova Scotia Power Incorporated for Approval of the 2018 Annual Capital Expenditure Plan - M08350

TERMS OF CONSENSUS

WHEREAS:

- A. On November 22, 2017, Nova Scotia Power Inc. ("NS Power") filed with the Nova Scotia Utility and Review Board ("UARB") its 2018 Annual Capital Expenditure Plan under Matter No. M08350 ("2018 ACE Plan").
- B. NS Power, the Consumer Advocate ("CA") and the Small Business Advocate ("SBA") have agreed to an approach for resolution of issues as among them related to the proceeding before the UARB for the approval of the 2018 ACE Plan as reflected in this Terms of Consensus (collectively, NS Power, the CA and the SBA will be referred to as the "Parties").

NOW THEREFORE, the Parties agree as follows:

1. The Parties have reached agreement on matters relating to the 2018 ACE Plan as represented by the terms set out in **Appendix "A"** attached hereto.
2. Based on the terms set out in **Appendix "A"**, and the record currently before the UARB, including NS Power's responses to Information Requests from the CA, SBA and the UARB dated January 16, 2018, the evidence of the CA dated February 1, 2018, the evidence of the SBA dated February 1, 2018 and NS Power's Reply Evidence dated February 20, 2018, the Parties do not oppose any of the projects submitted for approval by NS Power in the 2018 ACE Plan.

The Parties reserve the right to amend their position based on any new evidence submitted in the 2018 ACE Plan proceeding.

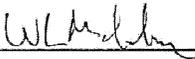
3. For the issues the Parties have agreed to review through a subsequent 2018 capital stakeholder engagement process, NS Power will provide a report to the UARB in writing (with copy to the remaining Parties) on the outcome of any such process by no later than **August 3, 2018** or as otherwise directed by the UARB.

4. The Parties expressly and fully reserve their rights to make submissions to the UARB (in a future proceeding) respecting the timing of the completion of the comprehensive study of hydro assets as outlined in the 2010 Depreciation Settlement, which was approved by Board Order dated May 11, 2011 (M03665).
5. This agreement may be executed by the Parties in counterparts, each of which when so executed and delivered shall be deemed to be an original and when taken together shall be deemed to be one and the same instrument. The electronic delivery, including, without limitation, by email or facsimile transmission, of any signed original of this agreement shall be the same as the delivery of an original.

All of which is hereby agreed to by the Parties effective as of the 23rd day of February, 2018.

CONSUMER ADVOCATE

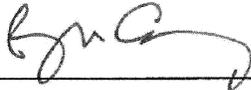
SMALL BUSINESS ADVOCATE



Per:

Per:

NOVA SCOTIA POWER INC.



Per: Brian Cuddy
SR REGULATORY COUNSEL



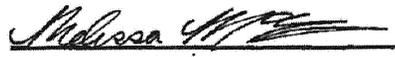
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All of which is hereby agreed to by the Parties effective as of the 23 day of February, 2018.

CONSUMER ADVOCATE

SMALL BUSINESS ADVOCATE

Per:


Per: FOR E.A. NELSON BLACKBURN, Q.C.

NOVA SCOTIA POWER INC.

Per:

Intervenor Issue	Agreed Settlement Position
<p>1. Hydro Investment Plan</p> <p>The SBA raises a concern that NS Power lacks an overall hydrogenation unit investment strategy that addresses whether hydro units are at end of life and a full replacement analysis is required. The SBA recommends NS Power conduct a full review of the hydro-generation fleet to determine the cost of a sustainable life-cycle investment strategy.</p> <p><i>Ref.: 2018 SBA Evidence, February 1, 2018, pages 13-17.</i></p> <p>The CA also recommends that for each life extension or rehabilitation of a major hydro facility the UARB should review the projected expenditures in a comprehensive manner, rather than as separate projects.</p> <p><i>Ref.: 2018 ACE Plan CA Evidence, February 1, 2018, pages 7-8.</i></p>	<p>NS Power will advance the comprehensive study of the Company's hydro assets as outlined in the 2010 Depreciation Settlement, which was approved by a UARB Order dated May 11, 2011 (M03665). While NS Power estimates that it will take approximately 1 year to complete the study, NS Power will make all reasonable efforts to the extent such efforts do not compromise the integrity of the results nor raise the costs of the study prohibitively, to complete the study by December 31, 2018. NS Power agrees to provide interested stakeholders with reports on the progress of the study and file a written report to the Board if it determines the December 31, 2018 completion date will not be met.</p>
<p>2. CI 48533 – HYD Lequille Headpond Refurbishment</p> <p>The CA raises concern that NS Power lacks planning criteria for its hydro facilities, and recommends the Board not approve this project until NS Power clarifies and justifies its planning criteria for Lequille and hydro facilities more generally.</p> <p><i>Ref.: 2018 ACE Plan CA Evidence, February 1, 2018, pages 15-16</i></p>	<p>The CA is now satisfied with the additional explanation provided for the project and withdraws its objection to CI 48533 – HYD Lequille Headpond Refurbishment. The Parties do not oppose the approval of this project.</p>

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Intervenor Issue	Agreed Settlement Position
<p>3. CI 49942 – Tidewater Facility Refurbishment</p> <p>The CA raises concern that NS Power based its costs estimate and scope of CI 49942 on the separate Ruth Falls hydro facility, and recommends the Board not approve this project until NS Power completes a detailed cost analysis specific to the Tidewater facility and file a request for the capital spending amount in a subsequent 2018 filing or in the 2019 ACE Plan.</p> <p><i>Ref.: 2018 ACE Plan CA Evidence, February 1, 2018, page 16.</i></p>	<p>The CA is now satisfied with the additional explanation provided for the project and withdraws its objection to CI 49942 – Tidewater Facility Refurbishment. The Parties do not oppose the approval of this project.</p>
<p>4. Distribution - Splices</p> <p>The SBA raises a concern with respect to how NS Power addresses line performance and recommends the following:</p> <ul style="list-style-type: none"> a. NS Power should establish written guidelines around the use of splices wherein criteria would be provided to guide their use and limitations; b. NS Power should inventory their system to identify and prepare a plan to address proactively all circuits that currently rely upon a large numbers of splices; and c. NS Power should develop a remediation plan for incorporation in the 2019 ACE Plan. <p><i>Ref: 2018 SBA Evidence, February 1, 2018, pages 8-9.</i></p>	<p>NS Power agrees to establish written guidelines regarding the use of splices. Review of splices will be added to NS Power's distribution inspections, enabling a full view of splices and their condition every two years. Feeders that exceed the guidelines will be flagged and corresponding capital investments to remediate will be incorporated into future ACE Plans. The parameters of these guidelines will be discussed as part of a 2018 capital stakeholder engagement process. The 2018 capital stakeholder engagement process will begin within 30 days of the Board issuing its decision in this matter. NS Power will complete a draft of the guidelines and provide an opportunity for stakeholders to provide feedback on such draft guidelines prior to August 3, 2018.</p>

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Intervenor Issue	Agreed Settlement Position
<p>5. Distribution - Pole Life Extension Protocol</p> <p>SBA raises a concern about NS Power's pole life extension protocol and recommends NS Power investigate and evaluate the merits of instituting a distribution pole life extension program as part of its pole inspection testing procedure update and includes its findings to the Commission as part of the 2019 ACE Plan filing.</p> <p><i>Ref: 2018 SBA Evidence, February 1, 2018, page 10.</i></p>	<p>NS Power will investigate and evaluate the merits of instituting a distribution pole life extension program as part of its pole inspection testing procedure update and include its findings in the Company's 2019 ACE Plan Application. In the event the investigation confirms to NS Power the merits of undertaking such a program, NS Power commits to pursuing the program and including an implementation plan for the program in the 2019 ACE Plan.</p>
<p>6. Transmission – Asset Management</p> <p>The SBA raises a concern with respect to NS Power's approach to transmission asset management, and in particular like-for-like replacements. The SBA recommends NS Power evaluate alternative solutions to the "like for like" replacement approach with a focus toward mitigating risk.</p> <p><i>Ref: 2018 ACE Plan SBA Evidence, February 1, 2018, pages 11-13.</i></p>	<p>The SBA's concern for this Application has been addressed based on the additional information provided by NS Power. NS Power agrees to discuss the issue of documenting alternative options to "like for like" replacements approach with interested stakeholders as part of a 2018 capital stakeholder engagement process. The 2018 capital stakeholder engagement process will begin within 30 days of the Board issuing its Decision in this matter.</p>

Ref

Intervenor Issue	Agreed Settlement Position
<p>7. Transmission Expenditures</p> <p>The SBA raises a concern with respect to the level of transmission capital funding for “out-years” 2020 through 2022, and that this represents “budget restraint” resulting in the postponement of important reliability upgrades. The SBA recommends that NS Power assess whether the apparent level of funding of Transmission capital expenditure budget reflects the deferral of important capital upgrades, including but not limited to foregone upgrades due to limitations of the “like-for-like” replacement approach.</p> <p><i>Ref.: 2018 ACE Plan SBA Evidence, February 1, 2018, pages 13 - 14.</i></p>	<p>The SBA’s concern for this Application has been addressed based on the additional information provided by NS Power. NS Power agrees to discuss the asset management criteria for advancing transmission projects as part of a 2018 capital stakeholder engagement process. The 2018 capital stakeholder engagement process will begin within 30 days of the Board issuing its decision in this matter.</p>
<p>8. Replacement Energy Cost (REC) Calculation Methodology for Hydro</p> <p>The CA recommends the REC used in economic evaluations of hydro projects should reflect a mix of renewable and non-renewable energy.</p> <p><i>Ref.: 2017 ACE Plan CA Evidence, February 1, 2018, page 17.</i></p> <p>The SBA would like to continue discussions with NS Power about further improvements to the REC calculation methodology.</p> <p><i>Ref.: 2017 ACE Plan SBA Evidence, February 1, 2018, pages 14-16.</i></p>	<p>Parties agree no further amendments to the replacement energy cost calculation methodology are required for the purposes of 2018 ACE Plan. As part of a 2018 capital stakeholder engagement process, NS Power will consult with interested stakeholders on its replacement energy cost price for use in planning beyond 2018. The 2018 capital stakeholder consultation process will begin within 30 days of the Board issuing its decision in this matter.</p>

see

Intervenor Issue	Agreed Settlement Position
<p>9. Advanced Metering Infrastructure (AMI)</p> <p>The CA states that NS Power should improve its reporting methodology for the following projects that appear related to NS Power's proposed AMI deployment:</p> <ul style="list-style-type: none"> a. CI 0002130 ADMS distribution fault location system b. CI 26496 Routine Meter Replacement c. CI 50112 Customer Web Portal <p>The CA also states that unless NS Power can justify its CI 26496 Routine Meter Replacement in the event NS Power's AMI application (M08349) gets approved, the metering routine should be reduced as far as possible.</p>	<p>CI 50112 (Customer Web Portal) is a 2018 subsequent submittal item. The CA's concern has been addressed based on NS Power's confirmation that the scopes of work for NS Power's AMI application (M08349) and CI 50112 (Customer Web Portal) are separate and distinct. At the time of submission for approval, NS Power will provide an explanation as to why it is required if the proposed AMI project is approved.</p> <p>CI 0002130 ADMS distribution fault location system is a 2018 subsequent submittal item. At the time of submission to the UARB for approval, NS Power will provide additional clarification as to why NS Power needs to add fault detection to ADMS.</p> <p>NS Power agrees to provide an update to interested stakeholders on the status of the Company's meter purchasing under CI 26496 Routine Meter Replacement as part of the 2018 capital stakeholder engagement process in the event NS Power's AMI application (M08349) is approved by the UARB. In 2018, NS Power will only replace under the meter routine those meters which it is required to replace to comply with the Weights and Measures Regulations and the Electricity and Gas Inspection Act.</p>

see